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Aristotle's Theory of Dynamics:
Examining the Ancient Greek Roots of Process Philosophy

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Abstract:

Henri Bergson's interpretation of Aristotle has not been adequately considered in scholarship. Bergson was greatly inspired by Aristotle's method and discoveries in psychology and metaphysics, but Bergson also accused Aristotle of having reduced philosophy to an analysis of language. Beneath the apparent rigid formalism of Aristotelian logic, he had in fact described life in a dynamic and qualitatively rich way that is consonant with Bergson's "qualitative multiplicity." I show the commonalities between their philosophies and suggest ways of interpreting Aristotle from a Bergsonian perspective. In tracking all Bergson's discussions of Aristotle—some very critical and reductive; others quite favorable and generous—it becomes evident that Aristotle's dynamic sense of being describes qualitative multiplicity. This becomes clear when we examine the interrelated problems of movement, force, life, intuition, the soul, embodiment, time, ethics, and art. The theory of dynamics, or the dynamic sense of being, is the underlying thread which weaves these topics together in both Aristotelianism and Bergsonism. This dissertation demonstrates how effort and energy, constituting a hylomorphic unity of experience, provides phenomenological evidence grounding the theory of dynamics.

The work of Bergson's mentor, Félix Ravaisson, is decisive in this historical reconstruction. Ravaisson's dynamic interpretation highlights Aristotle's own critiques of logical formalism and presents an intuitive knowledge of life which is inexpressible in language. Bergson clearly borrows insights from Ravaisson's interpretation but also discredits the validity of them. The burgeoning field of phenomenological interpretations of Aristotle contribute to the dynamic interpretation. I use this scholarship to refute aspects of Bergson's logical interpretation.

In sum, I show that Aristotle's theory of dynamics is the central paradigm for his whole philosophy, tying together his physics, biology, psychology, epistemology, aesthetics and ethics. Bergson built further upon dynamics, evolving it endogenously, in order to create his qualitative multiplicity, flowing of duration, and *élan vital*. After critiquing the logical interpretations of Aristotle for their reliance on a metaphysics of presence, it becomes clear Aristotle had already described intensity, continuity, sympathy, and developmental progression as qualitative multiplicity, along the lines of Bergson.

Key Words: Dynamism, Continuity, Virtual, Intensity, Development, Analogy, Integral, Concrete, Presence, Time, Energeia, Entelecheia, Movement, Invention, Intuition, Derivation, Habit, Intelligence, Indivisibility, Number, Qualitative, Multiplicity, Auto Affection, Phenomena, Aesthetics, Life.

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Abbreviations:

Aristotle :

<i>Cat.</i>	<i>Categories</i>	Κατηγορίαι
<i>DA</i>	<i>On The Soul</i>	Περὶ Ψυχῆς
<i>Eco.</i>	<i>Economics</i>	Οἰκονομικά
<i>Eud.</i>	<i>Eudemian Ethics</i>	Ἠθικὰ Εὐδήμεια
<i>GC</i>	<i>On Generation and Corruption</i>	Περὶ γενέσεως καὶ φθορᾶς
<i>Hea.</i>	<i>On the Heavens</i>	Περὶ οὐρανοῦ
<i>Int.</i>	<i>On Interpretation</i>	Περὶ Ἑρμηνείας
<i>Mem.</i>	<i>On Memory and Recollection</i>	Περὶ μνήμης καὶ ἀναμνήσεως
<i>Meta.</i>	<i>Metaphysics</i>	Τὰ μετὰ τὰ φυσικά
<i>Mete.</i>	<i>Meteorology</i>	Μετεωρολογικά
<i>Mov.</i>	<i>On the Movement of Animals</i>	Περὶ ζῶων κινήσεως
<i>Nic.</i>	<i>Nicomachean Ethics</i>	Ἠθικὰ Νικομάχεια
<i>Phy.</i>	<i>Physics</i>	Φυσικὴ ἀκρόασις
<i>Poe.</i>	<i>On Poetics</i>	Περὶ ποιητικῆς
<i>Pol.</i>	<i>Politics</i>	Πολιτικά
<i>Post.</i>	<i>Posterior Analytics</i>	Ἀναλυτικά Ὑστερα
<i>Pri.</i>	<i>Prior Analytics</i>	Ἀναλυτικά Πρότερα
<i>Prob.</i>	<i>Problems</i>	Προβλήματα
<i>Rhe.</i>	<i>Rhetoric</i>	Ῥητορική
<i>Sens.</i>	<i>On Sense and the Sensible</i>	Περὶ αἰσθήσεως καὶ αἰσθητῶν
<i>Sleep.</i>	<i>On Sleep and Waking</i>	Περὶ ὕπνου καὶ ἐγρηγόρσεως
<i>Top.</i>	<i>Topics</i>	Τοπικά

Henri Bergson :

ASP	<i>What is Aristotle's sense of Place</i>	<i>Quid Aristoteles de Loco Senserit</i>
CM	<i>Creative Mind</i>	<i>La Pensée et le Mouvant.</i>
CE	<i>Creative Evolution</i>	
HIT	<i>Histoire de l'idée de temps. Cours au Collège de France 1902 -1903**</i>	
HTM	<i>Histoire des theories de la mémoire. Cours au Collège de France 1903-1904**</i>	
IM	<i>An Introduction to Metaphysics</i>	
L	<i>Laughter</i>	
ES	<i>Mind-Energy</i>	<i>L'Énergie spirituelle.</i>
MM	<i>Matter and Memory</i>	
TFW	<i>Time and Free Will: Essay on the Immediate data of Consciousness</i>	
TS	<i>The Two Sources of Morality and Religion</i>	

Félix Ravaisson :

EMA	<i>Essai sur la Métaphysique de Aristote Vol. I**</i>
RSE	<i>Félix Ravaisson Selected Essays</i>

Misc. :

<i>Ili.</i>	<i>Homer Iliad</i>
<i>LN</i>	<i>Leonardo da Vinci Notebooks</i>
<i>Ody.</i>	<i>Homer Odyssey</i>
<i>Rep.</i>	<i>Plato Republic</i>

**All translations are mine.

Prelude: on the Aristotelian Roots of Bergsonism

The primary claim of this work is that Bergson found inspiration for his coined phrase qualitative (or continuous, heterogeneous) multiplicity from an interpretation of Aristotle's dynamic sense of hylomorphism. Qualitative multiplicity describes time, or rather duration, as a mode of being that is irreducible to quantities or concepts, and inexpressible in language. What this exposition makes clear is how Aristotle's theory of *dynamics* is much more than the study of movement as a sector of reality. It is instead a fundamental mode of being which profoundly informs the orientation of his psychology, epistemology, ontology, ethics and aesthetics. By examining Bergson's interpretation of Aristotle, it becomes evident that, in order to properly appreciate Aristotle's dynamic sense of being, we must take it to denote qualitative multiplicity.

This connection has not generally been recognized for several reasons. Firstly, Bergson covered it up, in CE, by giving a straw man caricature of Aristotle which downplayed the dynamic and energetic aspects of his thought. Secondly, Bergson's aforementioned reading is, in many respects, a standard reading. Scholarship on Aristotle, to this day, suffers from the habits of over-intellectualizing: fixing concepts, emphasizing generality, or translating arguments symbolically. Obscurities and inconsistencies abound when we fail to appreciate the repugnance of φύσις, ψυχή, and νοῦς to being rendered in a single clear and distinct formula or as concepts. The formidable edifice of Aristotelian logic itself seems to require that we reduce being to the presence of symbols to intellectual vision. The ambiguity and complexity of pre-Socratic λόγος is thought by many to have been definitively reduced and neutralized into an abstract linguistic relation by Aristotle. For this reason Aristotle has been considered the starting point of a metaphysics of presence—which has come to dominate western thought and science—and so he has been taken as the point of departure for a critique or deconstruction of presence in the history

of philosophy.¹ But real continuity—which I show is at the heart of Aristotle’s dynamic sense of being—is in fact unable to be jammed into the scaffolding of symbolic logic.

The artificial obscurity which accompanies such verbal and conceptual interpretations has been slowly dissipating over the past few decades, in large part due to the growing number of phenomenological interpretations. A dynamic, process, and embodied sense of λόγος is being restored which disrupts the standard logical/verbal interpretations (See Aygün 2017, Vallega 2009 65-79). There is a sort of concrete *logic of dynamics* which upends the supposed static and closed system of doctrines and concepts which has been codified into the edifice of Aristotelian philosophy. Beneath the superficial crust of Aristotle’s formalism is an energetic depth which vibrates, dances, and sings of the concrete ambiguity and duration of life.

Interpretations bringing Aristotle’s dynamic sense of being to life can be felt in commentaries such as Plotinus, Ibn Bajjah, Suárez, Leibniz, Ravaisson, Brentano, Heidegger, Derrida, Aubenque, Foti, Wieland, Kosman, Sachs, Baracchi, Vigo, Brogan, Jiménez, Schumacher, De Ribera-Martín, Bianchi, Trott, and Sentesy. Despite these efforts, the logical interpretations still dominate. Bergson himself expounds such an interpretation in CE. They are alike in neglecting, ignoring, erasing, or neutralizing the *dynamic sense of being*.² Aristotle’s dynamics is not an objective system of concepts that we stand external to, but requires both experience and a genuine effort on the part of the interpreter. The living quality of effort itself serves as the principle on which philosophy depends. I mean that the dynamic sense of being is made manifest in the lived effort and energy of our own inner-sense as immediately felt. On this point, Bergsonism is most obviously an instauration of *dynamism* following Aristotle’s

¹ Bergson, Kitarō, Aurobindo, Senghor, Heidegger, and Derrida, among others, all follow a similar pattern in attempting to critique western epistemologies by starting with the reductive tendency in Aristotelian logic.

² For example, Aquinas, Ross, Owen, Bloch, and Roark.

intimations of effort and energy (sec. 2.1, 2.3). The dynamism of the souls concrete hylomorphic energy serves as the primary basis on which dynamics as a whole is made intelligible.

We must no longer overlook this obscure but profound fact of intellectual history: Aristotle was not only a thinker of infinity, continuity, and multiplicity, but is responsible for first formulating a conception of the infinitely small (what would later be called differentials and fluxions) and a simple unity connecting an infinite multiplicity of fluctuation (integral). This is to say, and without having yet adequately qualified this formula which will seem either too modest or too ambitious: *Aristotle had conceived the basic insight of what would come to be expressed mathematically by infinitesimal calculus*. The words in which Aristotle came to conceive this subtle relation between indivisible unity and infinite multiplicity were δύναμις, ἐνέργεια, and ἐντελέχεια—two of which he himself had to create, since this reality had not yet been named. By carefully examining them, we will be able to reconstitute the subtle integral intuition of life which underlies Aristotelian metaphysics.

This is far from a generally accepted interpretation. So much so that it is even somewhat commonly accepted that Aristotle had a *contempt* for the infinite and change: that he wanted to avoid them whenever possible—preferring the limited, finite, and static—and seeing multiplicity as *mere* irrationality needing to be overcome in the universality of concepts. Thus, Aristotle is thought to have fled from the messy, ugly reality of matter and bodies in order to take refuge in the fantasy of a complete static knowledge accessible by the transparency of language, and embraced by an inflexible, all-encompassing theory. According to this interpretation, if he gave up the Platonic realm of forms, he only replaced it with an encyclopedic catalogue of taxonomies put into general types. His relation to generality is complex, and as I will show (sec. 1.1.3), he in fact favored concrete individuality. Furthermore, he did not despise multiplicity, diversity,

change or infinite variation. Nor did he think motion, for the same reason, was unreal or unworthy of serious study, but approached it as if it was superlatively in need of being treated carefully. This way of “taking motion seriously” is emphatically expressed by Aristotle throughout the *Phy.* (See Sentesy 2020). The subtle continuity of matter and form, which dynamically defines all concrete natural entities, was more or less the central thread of his whole philosophy. Aristotle used the same principles to explain physics, psychology and epistemology (hylomorphism). The form is basically an integration of material multiplicity, in the sense that we would say that the vital activities of an animal preserve the *integrity* of its constitution. This integral individuality, as I will show, is not supported by a concept or vaulted in a transcendent system of ideas, but is an immanent form, developing in time, and which can only be found in sensible experience.

The fact that Leibniz had stumbled upon the problems of the infinitely small (*l'infiniment petit*) in philosophical and metaphysical questions, is attested to by the great philosopher Solomon Maimon. He wrote that “these concepts in fact belong to philosophy and were taken from there over into mathematics; as well as that the great Leibniz came upon the discovery of the differential calculus through his system of the Monadology.”³ Leibniz encountered the need to posit a real concrete individuality which is not merely composed piecemeal by discrete units, or atoms, but rather forms a continuity by virtue of the *generative idea* (substance) that contains the infinite diversity of details in an indivisible whole. This was the mode of thinking of the philosophical or metaphysical conception of the infinitesimal thought that Leibniz ingeniously formulated mathematically. It is by following this thread of historical development that the

³ *Essay on Transcendental Philosophy*, 19.

importance of the metaphysical roots of infinitesimal thought connecting to Aristotle becomes obvious.

Central to the whole conception of *Monadology* is the rejection of atomism, not merely as a theory of physics, but as a *general tendency*: it involves an insufficient way of thinking. Leibniz tells us, in the third section of his *New System*, how “after freeing myself from the bondage of Aristotle” he accepted the void and atoms.⁴ Though these abstract concepts merely satisfied his young imagination, and later, on further reflection he found them wholly unsatisfactory to the standards of thought itself. The reason, he said, was that aggregates have no intrinsic principle of unity or individuality. The soul itself is the ultimate source of unity and individuality. Atomism will never be capable of providing a principle of individuation. Thus Leibniz returned to Aristotle to retrieve a certain conception of substance as an original activity or primitive force, conceived in *the dynamic sense of being*. This provided him with not merely an alternative theory to atomism, but rather with an altogether different mode of thinking, which will come to be referred to by Bergson as infinitesimal thought (HIT). *Entelechy* is the integral, which, like a curve, is the complete unity generating and holding together a continuity involving an infinite number of different infinitely small fluctuations and details. Thus, the *entelechy*, as a unique individual, is the principle which generate the unity of an infinite multiplicity—it is the very substance of the soul. These are the humble beginnings to the great mathematical contribution he would make by inventing a notation for calculus: it arose in part from a dynamic interpretation of Aristotle’s theory of continuity and dynamic conception of activity. It is this infinitesimally conceived dynamism which is also indispensable to Bergsonism.

⁴ Quoted from Rescher 1991 88.

This is a remarkable fact of intellectual history, especially given the relative lack of literature and conversation on the topic. What I show, it that dynamics and infinitesimal thought are two sides of the same coin.⁵ But it seems that no one has attempted to recount this history by placing themselves in it quite as explicitly as Henri Bergson, who went so far as to define his metaphysics as operating differentials and qualitative integrations (CM 191) and attributed “whatever living quality there is in metaphysics” to this “most powerful method of investigation know to the mind, infinitesimal calculus.” (CM 190; cf. sec 1.5.3). His famous “qualitative multiplicity” is in fact analogous to the integral function generating a curve, and he uses infinitesimal thought to understand the most fundamental activities of memory and life (MM 169, CE xii). Bergson described intuition as an “integral of experience,” and define pure memory by the integral of the past (sec. 2.3). In HIT he reconstructed the history of infinitesimal thought in detail, tracing the many tributaries which he claims converged in the novel metaphysical conception of infinitesimal multiplicity and indivisible unity of duration by Bergsonism itself (IM). Yet Bergson does not credit this history to Aristotle directly, but rather to Plotinus.⁶ He

⁵ Coming to a clear sense of this *infinitesimal idea* is at the heart of Maimon’s transcendental philosophy (also largely ignored). Later, by way of both adoption and adaptation, the language of calculus served as a generative source in the original work of Gilles Deleuze (esp. *Difference and Repetition*). We can also find an abundance of passages in the work of Alfred North Whitehead which employ the essential insights of infinitesimal thought in the prehensive unity of feelings, which he made to be metaphysically primary, in what he called a *concrecence*; *Process and Reality* 26. In all these cases dynamics and infinitesimal thought go hand in hand.

⁶ He claims that the advancements of renaissance science like Bruno and Kepler were reformations of the neo-platonic third hypostasis or “universal soul”; HIT 264. This means treating exterior reality as analogous to inner life, i.e. a dynamics of force, tendency, energy, and interiority; HIT 265-6. Since Bergson says the Plotinus’ metaphysics was very close to Aristotle’s; HIT 209, we may wonder why he omitted drawing the connection. Responding to a question raised by a student, Bergson admitted that we can find *duration* in Aristotle; HIT 186, and said something similar about Plotinus; 207. Later in the year, transitioning to teaching early modern philosophy, Bergson recounted the history of the evolution of infinitesimal thought; HIT 267-83, and explicated the novel evolutions as based on treating movement as in interior reality, force and intensity; 280. I cannot say why Bergson gave such an inconsistent account of Aristotle. Perhaps Bergson did not want to be overly identified with Ravaisson’s Aristotelianism so as to inflate the novelty of his own philosophy. It is slightly odd also that Bergson never had his Latin thesis translated to French. It was not translated until 1949. I will not draw any conclusions on this highly biographically speculative question. I do think Bergson’s philosophy (the method of intuition) is a novel enough contribution to make such an evasion and cover up unnecessary. I also think Bergson had a tendency to over play his critiques of intellectualism, science, and even over played it at times to the point of making himself into an out and out Anti-intellectual, which he in fact was not; see *During* 2018, sec. 2.3.

presents a reductive interpretation of Aristotelian motion which renders it static, external, and relative; as translated into symbols and space (HIT 271). Thus, he reduces the Aristotelian ontology of change to static concepts which, in a way, places Aristotle in the same camp as the atomism which he had rejected (see sec. 2.1, n101) since atoms can only be (hypothetically) incorporeal, unextended, and immovable elements which (in fact cannot) constitute the corporeal continuity, qualities, and movements. Aristotle rejected atomism by rejecting that the abstract can engender the concrete. Aristotle *theory of dynamics*, thus, upholds that the dynamic continuity of natural bodies and movements, as given in sense-experience, are fundamental and irreducible.

The logical, reductive reading is further complicated, and able to be contended, by examining the role Aristotle played in Bergson's early philosophical development. This is highlighted in his doctoral thesis *Quid Aristoteles de loco senserit* [*What is Aristotle's Sense of Place*], where we see Bergson clearly describe Aristotelian motion dynamically, in terms of the internal reality of principles of movement and the intensity of self-initiated action (See Romuald and Eugeniusz 1991). In TFW, written contemporaneously, we find Bergson defines his own position (a sort of neo-voluntarism) in terms of "dynamics" and this way of describing his metaphysics will remain, and indeed play an essential role, all the way to his final works.

A careful study of Bergson's many references to Aristotle show a vacillating treatment which, at times, is plainly inconsistent. There are enough comments, however, to show that he could not have merely interpreted Aristotle in a strictly logical way, but that he found a *living quality* in his metaphysics which relies on an intuition which goes beyond static concepts or intellectual analysis to coincide with reality in its dynamic sense. In IM Bergson links infinitesimal thought to a reversal of the habitual way of thinking which tends naturally towards

analysis and relative knowledge. The inverse direction to the intellect places thought in concrete reality as an absolute, i.e. lived duration. In CE and HIT, Bergson attempted to deny any share of this inner reality to Aristotle, any intuition of reality *in the making*. And yet, this is what we will demonstrate to be at the heart of Aristotle's dynamic sense of being: a sensible intuition of concrete movement, the interiority of which is the *integral*, while its infinite variations, artificially decomposed and treated externally, are mere *derivatives*.⁷

Despite Bergson's attempts to evade Aristotelianism, he came close, on a few occasions, to admitting the connection. There is the above mentioned comment to two student's questions in the 1903 class, where he says that it is possible to show "by relying on the text of Simplicius, of Theophraste, of Stobaeus, even of Aristotle, how it is possible to find, in the first Greek philosophers, the elements of a theory of time, which would be the theory of a duration, of a reality given immediately as becoming..." (HIT 186). He directly admits that there is an encounter with durations and immediate becoming in ancient Greek philosophy, but moves immediately to claim that they all simply dismissed the need to study this reality, having judged it to be too difficult, since the subject matter itself is inexpressible in clear representations. This parallels Bergson's claim in CE, that εἶδος, form, is a derivative concept formed by extracting a static translation of duration, of the moment of becoming and evolution (CE 315). When we move from the problems of our perception of motion and awareness of time, treated as subsections of a system of philosophical doctrines, to intuition itself as constituting the whole of philosophical activity, the reality of duration again appears to be Aristotelian. Bergson says intuition is like Aristotle's sense of form in that it is a unity which includes a diversity of

⁷ One could perhaps trace this back to Plato as well, such as his philosophy is characterized in the *Seventh Letter*, *Phaedrus*, and *Cratylus*: as attaining an intuition of the ineffable and as preserving philosophical truth from becoming deformed by being expressed in a written doctrine.

irreducibly different perspectives (CM 34; Cf. IM 162-165), and that it is something which is ultimately inexpressible in language (HTM 274; Cf. TFW). He says that Aristotle conceived of bodies more spiritually and mind more embodied than a modern like Descartes (HTM 270)—which parallels Bergson’s own infinitesimal hylomorphic spiritualism (sec. 2.3). He also tells us that we should “study the ancients, become imbued with their spirit and try to do...what they themselves would be doing were they living among us. Endowed with our knowledge...especially our biology and psychology.” (CM 130). Such an inspiration—the reconstruction of which I have tried to make clear in what follows—cannot consist of the obtuse desire for a static unchanging system of concepts, nor the dismissal of real duration, but instead must refer to a dynamic sense of being involving the intimate continuity of body and soul. We will examine these and other such moments where Bergson furtively or overtly shows his Aristotelian inspirations.

How Bergson comes close to admitting that Aristotle’s philosophy involved intuitions is a story which is made more clear by the examination of the *intermediary* between Bergson and Aristotle—Félix Ravaisson—a source of inspiration *by means of which* Bergsonism is seen to emerge from Aristotelianism, who filled the whole of metaphysics with a *central tendency* which places us *in the midst* of reality and experience, and making an infinity of details *converge* in the intuition of concrete individuals.⁸ We find a paragon of the dynamic interpretation of Aristotle in the work of Ravaisson. He even links spiritual energy and effort with integral unity, infinitesimal thought (sec. 1.5.3). Bergson in fact recounted this vividly and faithfully in the CM (though he

⁸ Here the play on words is not mere frivolity even if the palpable degree of playfulness involved appears unnecessary. The development of a depth and complexity to the conception of *mediation*, from the static mediation of a concepts, to a dynamic tension of mobile intermediaries, is, in Ravaisson, both a rigorous enterprise of precise thinking and a joyful, creative, imitative expression exemplified art. The effort to understand always involves a tiresome march through the bog of details. Creativity and imagination act as a wind that lifts the energetic intuition of life and places activity before our eyes. *How can a mind, which strives to hold, as close as possible, to the flow of concrete reality, feign having left behind the primordial force of imagination at the heart of being?*

also discredits it). Ravaisson tells us that Aristotle had substituted the vague formulas of logical relations, for the two elements enveloping movement: power and act.⁹ This substitution has major implications which get at the heart of the dynamic sense of being.¹⁰ Ravaisson is that *mobile middle term* which produces the initial thrust propelling the dynamic sense of being into unforeseeable novelty in Bergsonism. A close examination of this *relation* reveals the missing *link* in the evolution from Ravaisson's *Leibnizian-Aristotelianism* to Bergson advance into novelty—a philosophy of mobile intermediaries rather than static substances.¹¹ The gradual growth of virtue implies a progressive development through various stages in the processes of learning and habituation involving effort. *Effort* is the mobile middle term which raises the soul up through practice and self-improvement by integrating prior developments into new forms of activity (EMA 449-450). The substantial psychical effort-activity is a living duration which intensifies itself rather than statically supporting logical predicates. The basic formula of Aristotelian ethics, understood dynamically, is that the right effort pays dividends (to itself) by growing, increasing, and developing its own energy. *Energy* is a kind of growing and intensifying which involves intentionality, awareness, motricity. Virtue is a sort of energetic way of skillfully bearing or navigating the situations of life. It is with the *virtuality* involved in the developmental temporality of spiritual energy—what Ravaisson calls a “whole of subordinate parts, interlinked by a sequence of continuous proportions” (EMA 533)—which unifies the *continuity* between Aristotelian dynamics and Bergsonism. Effort and spiritual, or psychical, energy are conceived in terms of tension and concentration (CM 89; ES 225; secs 1.1.1, 2.3), not

⁹ *Essay on the Metaphysics of Aristotle Volume 2*, 25.

¹⁰ Jules Lachelier, to whom Bergson dedicated TFW, sought to substitute force for inertia, life for death, liberty for fatality. On this line of development Bergsonism clearly emerges from certain currents of Aristotle's metaphysics, i.e. those which evoke a spiritualistic realism.

¹¹ One of the central problems to understanding the influence of Ravaisson on Bergson rests on getting clear how they each interpreted Plotinus. I have largely had to leave this problem aside. An entire work on the subject is greatly needed in light of the newly published lectures.

statically as concepts, symbols, or quantities. Effort and energy are in fact only really describable in terms of qualitative multiplicity. Above all, Ravaisson contributes a clear interpretation of Aristotle's dynamic sense of being based on the critique of the logical interpretation. Not only does Aristotelian philosophy involve an effort and spiritual energy, its aim is the intuition of concretely individuated principles, involving gradual transformations, intricate relations of interpenetrating dynamic parts unrolling through multiplicity. Just as infinitesimal calculus is a decisive step forward in its own right, beyond the metaphysical precursor in Aristotle, so too is 'Bergson's qualitative multiplicity an advancement, or evolution, rather than a mere repetition of Aristotelian dynamics, but without reducing the precursor to a static or logical system.

It is only by reference to new moral, and scientific views that Bergson can be seen to surpass Aristotelianism. This was a reformulation, a radical one no doubt, but nevertheless, one *rooted* in the dynamic and concrete character of the Aristotelian conceptions of effort, energy, and individuality. Bergson developed Aristotelian philosophy further rather than abandoning it. Thus, the present work we will examine (1) the inspirations from Ravaisson's interpretation of Aristotle found across Bergson's philosophy and what they tell us about his interpretation of a theory of dynamics; (2) the way qualitative multiplicity is able to be found in Aristotle's theory of dynamics; (3) the failure of Bergson to reduce Aristotelianism to a system of concepts conceived on the basis of presence to consciousness. I will conclude by indicating the way Bergson surpassed Aristotle in his description of open morality.

The Critique of Presence to Consciousness: The Cinematographical Mechanism

Bergson addressed the problem of presence to consciousness again and again throughout his whole philosophical career (See Lawlor 2003 27-30), starting most emphatically in TFW in relation to intensity as treated in psychology and physiology. Basically, presence is a form of

spatializing, and is derivative or extracted from qualitative duration in which the whole is never present all at once. In MM the problem is addressed directly and his famous cone is used as a solution to understand the problem of the practical character of intellectual knowledge as a tendency to abstract a static representational multiplicity from the flowing of continuous multiplicity. In short, the continuity of matter and memory cannot be reduced to a totalizing vision taking all at once as present to consciousness. In CE this problem is explicated in relation to Bergson's critique of negation and substitution which leads to his formulation of the cinematographic mechanism. Once the cinematographic mechanism is constructed, Bergson immediately uses it to critique the philosophy of Aristotle (CE 315-329). His critique required smashing the detail and subtlety of Aristotle's dynamics into a simplistic method consisting in an analysis of (the structure of) language. His characterization denies Aristotle's evocative use of language and the living quality of his dynamic sense of being.

Bergson claims that Aristotle's philosophy is, at bottom, an analysis of language ending up with a symbolic and relative knowledge which falsely reconstitutes movement from static concepts.¹² It fails to imitate life because it ends up relying on cinematographical mechanisms of mental representation. His syllogisms, and definitions operate in the generality of predicable substances conceived externally by means of attaching a static quality to a generic subject.

¹² The main line of his argument can be summed up by the same critique he had already developed in *Matter and Memory*, namely, "that in psychological analysis we must never forget the utilitarian character of our mental functions, which are essentially turned towards action." (MM 16). This is to say, for one thing, that the utility of language and discursive thinking lies in referring to stable entities. This sort of functional or pragmatic thinking will lead to problems if employed in the speculative pursuits of metaphysics. This leads to the second half of Bergson's critique, "That habits formed in action find their way up to the sphere of speculation, where they create fictitious problems, and that metaphysics must begin by dispensing this artificial obscurity." (*ibid.*). Bergson, following Kant, takes the approach of *dissipating* false problems, rather than *refuting* false solutions to problems poorly stated. In a way, this parallels what Aristotle did in the start of the *Phy.* when he dismisses all philosophical problems (atomism and Parmenides) which do not take the principles of nature as their starting point, i.e. concrete motion in actual compositions of matter-form-privation found in experience. At any rate, for Bergson, false problems all arise from the same mistake, which is relying on habit and intellect. Thus, they all have the same remedy: *to state all problems in terms of time rather than space*; Deleuze *Bergsonism*, 31.

Language furnishes a static, homogeneous, and closed system of concepts which, by definition, will be incapable of expressing life, which is dynamic, heterogeneous, singular and open, our conceptions of which must remain flexible and admittedly incomplete. Concepts aim at generality, fixity and completeness. According to Bergson, Aristotle's analysis of language does not involve any critique of these imperfections of language (See sec 2.2).

In CE, Bergson's critique of the cause of false problems as treated in MM is made into an image: the cinematographic mechanism (CE 306-307). This image characterizes the natural bend, or *tendency* of the intellect to seek after fix qualities, stable recognizable identities, and a homogeneous material substratum (that which can be manipulated, attenuated, or interrupted however one likes). In this way, the intellect cuts up the becoming of continuity, that consists in an unpredictable progression, so as to preside over circumstances with actions achieving predictable results. Intellect, like the attention to life, substitutes concrete duration for static abstraction (i.e. signs; HIT 35-68). This natural tendencies of thought and life are disposed to operate like a motion picture camera, which has, from the start, completely eliminated motion (by capturing still pictures), but seeks to reintroduce it by rapidly flashing the images in succession. This mechanism *tricks us* into seeing motion where there is none. The mechanism of a projector is analogous to the abstract idea of *becoming in general*. The general concept makes becoming unintelligible, since it is no longer the becoming of any concrete reality (CE 307). Becoming itself is treated as a static concept which can be appended to static realities to concoct mobility artificially. In just this same way Zeno's paradoxes also destroy the real continuity of motion. They show how the intellect—cutting, dividing, analyzing, decomposing, and fixing—fails to conceive of a true “passage to the limit” which traverses an infinite number of potential parts. With this critique of common sense as habitually intellectual, Bergson sought to

characterize Aristotle as an analyzer of static linguistic relations that substitute real becoming. In fact, Aristotle's response to Zeno, as we will see, is very close to Bergson's (sec. 1.5).

Nevertheless, this is at the heart of the critique of Greek philosophy presented by Bergson: it operated on a threefold sense of εἶδος, which corresponds directly to the three parts of language. In this way, εἶδος is made out to be something merely static and derivative:

It denotes (1) the quality, (2) the form or essence, (3) the end of *design* (in the sense of *intention*) of the act being performed, that is to say, at bottom the *design* (in the sense of *drawing*) of the act supposed accomplished. These three aspects are those of the adjective, substantive and verb, and correspond to the three essential categories of language... The εἶδος is the stable view taken of the instability of things. *Creative Evolutions*, 315.

The essential feature of the philosophy of Ideas is its tendency towards stability, homogeneity and abstraction. It cannot be overstressed how strong of a critique this is for Bergson to make. His usual targets are Descartes, Kant, Spencer, and in general, the intellectualist and mechanistic reductionism which has pervaded modernity. Nevertheless, Bergson makes it clear that he believed this paradigm had its roots in the philosophy of Ideas. "...an irresistible attraction brings the intellect back to its natural movement, and the metaphysic of the moderns to the general conclusions of the Greek metaphysic." (CE 329). This attraction is an unconscious tendency, inherent to the habits of thought turned towards action, drawing the spiritual energy of the *élan vital* into the entropic somnolence of immovable logic and universal mathematics (HIT 298, 327, 337). Thus, the great effort of Bergsonian *intuition* turns against entropic tendency towards homogeneity in order to initiate a revolutionary adaptation of *creative intelligence* dynamically integrating multiplicity. It is by *tearing away* from language that we do metaphysics, even if we require a return to language as philosophers who write books and give talks. Bergson makes intuition a method for metaphysics precisely by seeking what *exceeds* language—i.e. real movement and duration.

In Bergson's image of ancient thought, the 'mold of language' acts as a camera shutter, capturing the flow of duration and reducing it to unchanging, abstract, conventional symbols. In the cinematographic image of thought, the mind seeks to fix the changing and truth is granted only to an immobile, unchanging essence. The mind itself is not itself composed of anything abstract or immobile. "The cinematographical character of our knowledge of things is due to the kaleidoscopic character of our adaptation to them." (CE 306). Thus Bergson seeks to reverse and dissolve metaphysical problems by appealing to the original kaleidoscopic adaptations of duration *from which* discrete instances, regions of space, or determinate concepts are produced by an abstraction, diminution, or negation. The kaleidoscopic character of the intellect expresses the living habituation of thought as a process of forming ideas by decomposition and recompositions in duration. The reason he uses a kaleidoscope to describe this kind of duration, is that, with each turn of the kaleidoscope, the image changes as a whole—as it does in lived duration. "There is, between our body and other bodies, an arrangement like that of the pieces of glass that compose a kaleidoscopic picture. Our activity goes from an arrangement to a rearrangement, each time no doubt giving the kaleidoscope a new shake, but not interesting itself in the shake, and seeing only the new picture." (MM 112). Becoming and evolution, as real duration, involve changes to the whole, but our attention to life is unconcerned with the nature of this continuous qualitative multiplicity. Practical attention is locked on the signs it can fix and use to predict advantageous lines of action. The forms of Greek philosophy are thus no different than the signs that we use in practical action (CE, 315). It is by a derivation that the 'moment' of becoming, evolution, and alteration, are replaced by the quality, form, and essence. This static conception is consummated by the analysis of the structure of language into adjectives, substantives, and verbs (CE 308, 315).

Bergson levels two additional critiques on Aristotle in CE. First, that his conception of matter is a kind of “metaphysical zero” or a negation added to a positive (CE 327). This interpretation mixes Neo-Platonism, degrees of reality, and Kant’s doctrines on intensive magnitude. Bergson suggests that Aristotelian matter is a sort of intensity = 0, as Kant put it, which is to say, a complete negation of reality. Now, for Kant this negation of reality is what shows the form of intuition to be separable from the manifold of sensation, i.e. infinite empty space. This conception of matter as absolute negation is in fact utterly un-Aristotelian, something which Bergson himself admits, and we will examine below. For Aristotle, to be means to exist in potency or actuality, both of which involve a positive degree of reality! Aristotle’s *ύλη* is a causal ingredient in concrete reality. Secondly, Bergson claims that, although Aristotle tried to bring forms down to earth—i.e. treat them as immanent forms of processes—but that he ultimately failed because he ends up just rolling all the forms up into a ball and placing them above the universe in the pure activity of an immovable divine intellect (CE 321). He then goes on to claim that Aristotle’s philosophy is basically an attempt to arbitrarily and abstractly reconnect supersensible ideas to an infra-sensible non-being (CE 327). Sensible being and motion are simply the diminution of the immutable by the sudden addition of a *negation* which makes concrete forms imperfect imitations unrolling in time. This accusation is much more difficult to deal with and will require us to cover far more references to Aristotle’s text to be able to adequately answer it. The simple answer is that Aristotle did not think that he needed to add *concepts* together to understand the dynamic hylomorphism of nature and soul, nor did he think that forms can be reduced to static concepts, nor matter to an abstraction like negation. These two additional critiques are based on the first and rely on the assumption that Aristotle

proceeding cinematographically towards generality, when in fact he proceeded on the basis of experience to arrive in dynamics.

The Problems of Philosophical Language

Against the *cinematographic mechanism*, including all efforts at systematic symbolic translation or reality into concepts and relations, Bergson proposes another method which he called *philosophical intuition*. His method of intuition is dedicated to the preservation of the integrity of qualitative multiplicity, and proceeds by turning out attention to the *kaleidoscopic* nature of change (MM 187). The method is based on the conviction that the concrete reality of duration is repugnant to being expressed in language, which renders it in a mode of “presence to consciousness” (PTC).¹³ Bergsonism involves a sort of oath, taken by the philosopher, to do no harm to the integrity of life and look everywhere to uncover the pernicious acts of substitution and replacement which misrepresent life’s true nature—i.e. as continuous. The implicit affirmation of this philosophy of intuition is that existence is not equivalent to presence to consciousness nor time to the present. The “symbol”, so to speak, of Bergsonism is, of course, the famous cone (sec. 2.3). In MM, the body itself is a “sign,” images are liberated from their stasis, and their confusion with a mere derivative representational presence to consciousness dissipated. Signs, images, and language itself in poetic evocation, can come to life for Bergson, and so we must not understand his critique of them in a limited sense, as simply bad or unreal.

¹³ It may perhaps appear as a monstrous act to abbreviate a philosophical problem that is itself meant to point out the inability to reduce existence to presence. PTC is shorthand for the effect of Bergson’s Cinematographical Mechanism: presence to consciousness. Whitehead coined the phrase “fallacy of misplaced concreteness” to address this same problem. I have provided the following short demonstrative interlude as a mythopoetic comic relief evoking the impersonal attitude of PTC. “This message is brought to you by CineMech™, your leading provider of PTC™ and everything reductive and symbolic. We are here to substitute your feelings of intensity, affective character, interiority, and real duration, with generalized concepts and gross abstractions incapable of doing justice to what it’s like to be alive. Who can resist the ergonomic design and convenience of its substitutive power! Kiss your individuality and concrete life goodbye with our all-encompassing world of fixed concepts, simple determinate laws, and zero responsibilities! Start using a *Cinematographic Mechanism* today and make your dreams go away!”

His critique consists of the fact that, when we use signs, symbols, concepts, or language, we *tend* to become absorbed in the way they operate in a system of actions, meanings, manipulations of matter or practical expectations. Absorbed in living them, in the attention to life, their derivative nature is ignored. We fail to notice the reduction to PTC, and the fact of substitution is considered inconsequential, since it serves no practical use. Only speculative philosophy, by philosophical intuition, detached from the souls absorption in the attention to life, can we obtain an integral view of life in the fullness of its ineffable qualitative multiplicity.

The cone image, laid out in geometrical space, in fact discloses the limits of PTC, symbolism, and the cinematographical mechanism of thought. The image has no truth on its own, but must be experienced by an effort of self-reflection—an experimental auto-memoir. The continuity of experience is strung between body and soul; becoming and being; sensory-motor activity and virtual memory; irreversible passage and the impassable past. This unity of opposites in duration is reflected in the cone as well. A point and a circle are two incommensurable geometrical entities; one is unextended and indivisible, the other continuous and divisible. Taken as discrete concepts PTC we cannot any longer find a way they could be parts of a continuous whole. The gradual convergence of a cone concretely unites these antithetical concepts. The base of the cone, representing the pure or integral past, forms an indivisible bond with while the point signifies the perpetual becoming of the body in the present. Consciousness is, according to this model, a conic section which involves the continuity of matter and memory at a unique degree of tension. Consciousness concretely combines an infinitely detailed past and the becoming of the present. The truth of this continuity is apparent to one who lives it for themselves, not as a proposition connecting an attribute to a subject. The subjective unity of experience involves multiplicity and so strict logic has always already failed to contain it in totality. Thus PTC

discards the depth of continuity and takes what is only a mere limit: like mere plane interposed in the continuous solid shape of a cone. Existence can't be reduced to the presentations selected and fixed by consciousness, but must be considered as an integrative part exceeding both PTC and the present in time.

Bergson uses this image, and in IM uses a whole series of images to describe duration. This does not imply that he is *reducing* duration to an image or to static concept. The use of language by the philosopher who has insisted that language is unable to express reality is no doubt strange, and comes off almost self-contradictory. Bergson takes this problem very seriously and does his utmost to give a satisfactory answer. His answer is complex and will be explainable only in the due progress of this study, but put in a cursory way, it is by using *suggestive* rather than *expressive* language. Language must be *evocative* rather than simply propositional. Such poetic use of language relies on sympathy which “places before the eyes”, as Aristotle said (*Rhe.* 2.11), the activity which is lively, vivid, forceful, mobile, and above all, *dynamic*. What this use of language does, in the end, is suggest a possible movement which a listeners must undertake by their own initiative and it is by the givenness of our own inner activity, as spiritual energy, that the absolute evidence of concrete duration has its truth.

For Aristotle, the composite unity of matter and form implies that the concrete individual is not reducible to its present condition at a single “instant” or “atemporally” but instead exists both actually and potentially together as enduring in time. Potency involves change and change occurs gradually in a continuous variation. The immanent, living forms of animals are not snapshots or average condition, but the actual infinitely variable condition of an enduring entity developing through irreversible processes and containing its own principles of activity in itself potentially. The relevant principles are φύσις, ψυχή, and νοῦς, none of which is reducible to a

concept, PTC, or eternal present.¹⁴ The living form of human life, as we will see, is temporalized in at least five irreducible ways (sec. 2.1).

Bergson's interpretation of Aristotle—which renders philosophy as a mere analysis of static linguistic structures—will be found again and again to fail upon further scrutiny. Thus, we will see that there are a number of way in which Aristotle stated problems temporally, and that they are all in fact essential to understanding his philosophy. He describes a kaleidoscopic transformation in the continuity of matter and form (*Meta.* 9; *Phy.* 3). He investigates the activity of νοῦς which is irreducible to PTC or language but whose activity reveals time and motion in sensible intuitions (*Phy.* 3 & 4). He restates problems of like and unlike (eating, perceiving, learning) developmentally in terms of temporality (DA 2). He describes the nature of living form as a dynamic relation between δύναμις, ἐνέργεια, and ἐντελέχεια. Even in his understanding of the οὐσία, involving φύσις and ψυχή, his aim is a concrete *this* which is an individual developing gradually over time and passing through an infinite number of transformations following inner principles. Finally his own inventiveness which lead him to coin many terms and phrases, above all, ἐνέργεια, and ἐντελέχεια, involve an evocative use of language which is meant to foster an intuitive grasp of the dynamic sense of being by means of an auto-affection of effort. We will attempt to place ourselves in the effort and energy which Aristotle's dynamic sense of being requires and restore to it its living quality.

¹⁴ Nature and intuition are not reducible to λόγος, although they involve λόγος. Even λόγος, for Aristotle is not reducible to λόγος! Λόγος is a *relation* and a *gathering*, or *collecting*, and language is tied up in the concrete act of speaking or writing, while also participating in intuition. Perception is irreducible to λόγος but involves λόγος. This subtle problem will be dealt with in due time, my only point is that λόγος itself is not reducible to language or PTC for Aristotle, but is a subtle operative activity which is found in dynamic processes which are found in experience. It is the logical interpretation which fails to grasp the dynamic sense of λόγος.

Part 1: The Inspiration From Aristotelian Metaphysics

This part demonstrates Bergson's retrieval of several terms and distinctions developed by Aristotle, most notably in relation to intuition, concreteness, continuity, and intensity. It also examines closely related discussions concerning number, infinity, and indivisibility. These Aristotelian themes were central to the language and distinctions used in expressing concrete duration and intuition in Bergson's first major work, *Essai sur les données immédiates de la conscience* (TFW). This analysis will help shed light on the complicated role that Aristotle played in Bergson's philosophical development. I argue that Aristotle approached the problems of physics and metaphysics on the basis of *continuity*, as an internal dynamism that is irreducible to PTC. Romuald and Eugeniusz in their 1991 article titled *L'inspiration aristotélicienne de la métaphysique de Bergson*, demonstrated this link between Aristotelian metaphysics and Bergsonism. They emphasized the role of an "internal nature" or "interior dynamism"¹⁵ which is found in Bergson's doctoral thesis, *Quid Aristoteles De Loco Senserit*.¹⁶ The account Bergson gave of continuity in his thesis makes no reference to its import on the developments that he worked on contemporaneously (TFW), which dealt with psychological problems related to time, quantity, intensity, and freedom. Heidegger was perhaps the first to suggest that the two works had a common inspiration. Though Romuald and Eugeniusz agreed that there is an important connection, they went against Heidegger's interpretation of the role that Aristotle played, saying that "it would certainly be difficult to agree with the observation of M. Heidegger, according to which Bergson would have arrived at the thesis: "time is space" based on the expeditious interpretation of the Aristotelian definition of time like "arithmos kinêseôs." Our analyzes clearly

¹⁵ Romuald and Eugeniusz 1991 225, 236.

¹⁶ See also the commentary notes from *Ecrits philosophiques* Worms 2011 130-33, which confirm this striking ambiance in the text which seems to present Aristotle as at once a source of inspiration and a target of criticism.

suggest that Bergson never linked the Aristotelian definition of time to space”¹⁷ Rather than seeing Aristotle as merely an example of specializing time or substituting space for time, Bergson claimed that Aristotle had substituted the problem of space, with that of “place” [τόπον]. This will be addressed later. However, briefly, place, unlike space, is linked directly to the qualities, forces, and *interior dynamism* of natural bodies. It is in relation to this sense of interiority that Romuald and Eugeniusz were able to demonstrate Bergson’s Aristotelian inspiration. This analysis illustrates what we know to be their points of agreement, which is, above all, a conception of metaphysics that does not remain content with abstract generality, but instead, relies on experience, by concentrating attention on concrete individuals.

¹⁷ *ibid.*, 230.

1.1 A Metaphysics of Concrete Individuals

1.1.1 The Primacy of Intuition

Felix Ravaisson had an undeniable influence on Bergson's approach to philosophy. Bergson's investment in certain Ravaissonian themes appears most obviously in their shared emphasis on *intuition*. What may even be called a "primacy" of intuition is evident in each of their philosophies.¹⁸ By primacy, I mean treating intuition as the factor on which the progress in philosophy depends. Intuition for both involved a concentration of thought on a "concrete individual," which is opposed to a mode of thought that merely generalizes and abstracts. This is the conception of metaphysics that Ravaisson had developed in his interpretation of Aristotle. I follow this interpretation and show how Ravaisson prepared the path for Bergson's retrieval of the Aristotelian approach to metaphysics, which involves: (1) the primacy of intuition, (2) an interiority of motion, and (3) concentration of thought on concrete motion as an ultimate goal.

In his essay, written as a eulogy to the work of Ravaisson, Bergson called attention to this approach to metaphysics, characterizing it as "two ways" of relating or contrasting differences between colors. We may suppose that these "two ways" were meant to show, to a careful listener, his own indebtedness to Ravaisson's vision of metaphysics. Interpreting this as a nod indicating Bergson's partial allegiance to the Ravaisson vision of metaphysics helps explain why he qualified this claim, saying, "I do not feel I am betraying the governing idea of Ravaisson by saying that there are two ways..." (CM, 266). The betrayal would presumably be

¹⁸ However, the method they each adopted in pursuing intuition was somewhat different. Ravaisson sought to make habit itself into a method in *Of Habit*, whereas in *Matter and Memory*, Bergson based his method on a principle opposed to Ravaisson's, as it was opposed to habit. Bergson achieved this through a distinction between habit-memory and pure-recollection. This will be dealt with directly in Part 2. For Bergson, the primacy of intuition was grounded in a what was called a "primacy of memory" (Lawlor 2013, 28). This mode of talking about the "primacy of..." comes from Merleau-Ponty's phrase "the primacy of perception," by which he no doubt meant to distinguish himself, to some degree, from Bergsonian intuition.

the imposition of Bergsonian terminology on Ravaisson. The “two ways,” as we will see, are essentially the same as the perennial division of Bergsonism’s “two tendencies:” the ways of intellect and intuition. The first way is cinematographical, relative knowledge, which advances by approximation. The second places us directly in concrete reality. This indication already casts considerable doubt on the critique of Aristotle in CE, as Ravaisson seems to have inspired the “two ways” or “two tendencies” from his long engagement with Aristotelian metaphysics. Worms (2005, 1227) pointed out that Bergson intended *La Pensée et le Mouvant* (*Creative Mind*) to be a collection of texts that concern his *method of thought*, that is, of thinking “*sub specie durationes*,” in Bergson’s words. Thus, we may see the inclusion of Ravaisson in this work as a clear indication of the role that the latter played in the development of Bergsonism.

Intuition and Light

Bergson’s debt to Ravaisson, tying his thought to that of Aristotle, has been expressed by the image of relating pure light to the infinite nuances of color (Deleuze 2004, 43).¹⁹ Bergson underlined this Aristotelian inspiration for Ravaisson’s metaphysics. “The idea he puts at the bottom of Aristotelianism is the very one which inspired most of his meditations. Throughout his whole work rings the affirmation that instead of dilating his thought in the general, the philosopher should concentrate it on the individual” (CM, 224).

These are the two ways. One is natural to human life and coextensive with habit and intellect, but will lead to insolvable metaphysical problems. The other is the only way for

¹⁹ “In those crucial pages devoted to Ravaisson, Bergson explains that there are two ways of determining what colors have in common. Either we extract the abstract and general idea of color, and we do so by ‘effacing from read what makes it read, from blue what makes it blue, and from green what makes it green’: then we are left with a concept which is a genre, and many objects for one concept...” Deleuze emphasized Ravaisson’s crucial influence on Bergson’s understanding of difference and its bearing on the task of metaphysics, writing thus: “Bergson attributes to Ravaisson the goal of opposing intellectual intuition to the general idea, like white light to the simple idea of color” (Deleuze 2004, 25).

philosophy to make progress. Let us recount the relevant aspects of Bergson's text on Ravaisson here, to show how this reading of Aristotle makes intuition the goal of metaphysics.

There are two ways of determining what they [colors] have in common and consequently of philosophizing on them. The first consists simply in saying that they are colors. The abstract and general idea of color thus becomes the unity to which the variety of shades is reduced. But we obtain this general idea of color only by removing from the red that which makes it red, from the blue what makes it blue, from the green what makes it green; we can define it only by saying that it does not represent either red, or blue, or green; it is an affirmation made up of negations, a form circumscribing vacuum. The philosopher who remains in the abstract stops at that. He thinks he can proceed to the unification of things by way of increasing generalization: he really proceeds by gradual extinction of the light which brought out the differences between the colors, and ends by blending them together into a common obscurity. Quite different is the method of true unification. In this case it consists in taking the thousand and one different shades of blue, violet, green, yellow and red, and, by having them pass through a convergent lens, bringing them to a single point. Then appears in all its radiance the pure white light which, perceived here below in the shades which disperse it, enclosed above, in its undivided unity, the indefinite variety of multi-colored rays. Then would also be revealed, even to each shade taken individually, what the eye did not notice at first, the white light in [267] which it participates, the common illumination from which it draws its own coloring. Such is no doubt the kind of vision that, according to M. Ravaisson, we must ask of metaphysics...The object of metaphysics is to recapture in individual existences and to follow even to the source from which it emanates the particular ray which, while it confers on each one its own particular shade, attaches it by that means to the universal light *Creative Mind*, 266-7.

There are many things to address here. First, let us try and make sense of the description given here of these "two ways" of treating light, and then compare it with Aristotle's thought before going on to examine how Ravaisson had utilized this image. The first mode of thinking of the differences between colors is to *reduce* the shades to white light by *desaturating* all the colors until they no longer have any difference, looking like a homogeneous, empty light. Light in this sense is "an affirmation made up of negations, a form circumscribing a vacuum". It would be devoid of the differences among colors in the way that white paint is devoid of pigments. The light is reduced to a general idea, a logical generality substituting the "many" differences with "one" which expresses nothing of the differences it subsumes, as it was reached by subtraction. This is meant to characterize a faulty mode of conducting philosophy, as an overly simple characterization of "platonic forms" as abstract generalities. This false approach to philosophy "proceeds by gradual extinction of the light which brought out the differences between the

colors, and ends by blending them together into a common obscurity”. In order to do metaphysics, we must surpass this false approach. We must instead approach the unity of light as a “concrete universal” (Deleuze 2004, 43) as Deleuze called it. In this second sense, we will not empty the light of its differences, rather, we will “tak[e] the thousand and one different shades of blue, violet, green, yellow and red, and, by having them pass through a convergent lens, bringing them to a single point” (CM, 266). Pure light is then the unity of an infinity of nuances, of shades, or gradations, and differences. Intuition is the *convergence* of the multiplicity of qualitative differences into a unity that is not abstract or general, but that is intimately related to the differences it unites. It is not external to the colors it illuminates; it is not a foreign power that assimilates differences into a “common obscurity.” When we send pure light through a prism, it produces the “spectrum of a thousand shades.” The relationship between unity and multiplicity is then concrete rather than abstract, and their convergences are generative rather than subtractive. The infinity of differences are not at all like an infinity of divisions in an interval of space, homogeneous and externally coordinated. We fabricate these generalized homogeneous differences by intellectual abstraction. Logic and mathematics deal with this world of abstract symbols that replaces concrete difference.

Metaphysics, then, consists in the second approach, “The object of metaphysics is to recapture in individual existences and to follow even to the source from which it emanates the particular ray which, while it confers on each one its own particular shade, attaches it by that means to the universal light” (*ibid.*). This universal light will be like the unity of intuition, which is the generative idea producing all the particulars.

The analogy between intuition and light is already seen in Aristotle’s DA. In Bergson’s interpretation of Ravaisson, we find that the analogical sense of light as intuition is made to

overlap with Aristotle's notion of focal meaning [πρός ἓν], as Owen (1989) famously named it. In the image given by Bergson, the convergence of light is analogous to a *focalization*: as the diversity of colors *converge* in pure light, so too the diversity of *ways of being* are made to converge in the intuition of the unity of being an individual substance (*Meta.* 4.2-3). This convergence is not a subtraction of the peculiarity of each shade, but rather an addition by which all parts join together as contributing positively to pure light. Pure light includes the infinity of shades whereby each is a positive ingredient in the generative idea of their common illumination.

Aristotle did not use this exact optical imagery of a convergent lens. He did, however, make comparisons of universality and particularity with reference to light and color. He dismissed a universal color that was like the common obscurity of a general essence (*Meta.* 1087a17). “To be color” is equally true of blue and yellow, but has no particular value for either, and if knowledge were merely of this generality, it would lack all individuality and substance. Knowledge is said to be universal both truly and not truly, because it is universal only in terms of potency but when actualized, it will always involve particulars. We will explain this in more detail below, but the basic gist of the argument says that knowledge is universal as potency in the sense of an acquired generalization. However, this generalization is not knowledge, properly speaking, it is only the material ingredient in the construction of thought that requires the intuition of individuals in which the generality is divided and actualized.

We cannot enter into the subtleties of Aristotle's theory of light and color here (See Sorabji 1972). We must touch merely upon a few things to show that the connection among light, intuition, and focalization has textual support. Explaining light in *DA*, he said that “the being of color is to be capable of causing movement in what is transparent and the actualization of the transparent is light” (419a9). The perception of colors involves the incorporation of light, a

medium (air or water), and a sense organ. Light is an activity that acts on the medium. When the medium is activated as light, it is moved by the color on the surface of the bodies and the movements are propagated to the eye-jelly. Light is thus immaterial and unaffected by the illumination it creates. It is for this very reason that it is analogous to intuition: it is an agent that always acts in the same way but that meets up with each peculiar nuance by activating its particularity. “Light makes potential colors into active colors” (430b15). The active colors are nuances made visible by light. Potential colors are not seen. They are what can be seen when light acts. Similarly, the potential thought, universals acquired in experience and held in memory, are enacted by thinking. The intellect always acts in the same way, so the soul is the same as “to be” the (essence of) soul (*Meta.* 1043b) whereas for human and color, “to be” human is different from a human as it is indifferently true of every human as to be color is for every color. Thus light and soul are different from human and color in that their “essence” is also their individuality. Aristotle wrote that both the body and the soul are called “animal,” not by one definition, but “with reference to one thing” [πρὸς ἓν] (1043a36 *Reeve’s translation*). To understand this, we must turn to analogy and focal meaning and later, to activity, all of which involve unity in a concrete act. Activation is the primary sense of individuality (1045b24). Rather than say that someone is human, it is truer to say they are *psuche* ψυχή, as this is the essence and substance in the sense of a generative and activating ingredient of the compound. Thus “the proximate [ἐσχάτη] matter and the concrete shape [μορφή] are the same and *one*; one potentially the other actively” (1045b28 *my translation*). Both light and soul are a unifying ingredient that makes the composite a unity by its very way of existing at all, as an act of unification. We do not abstractly join this matter and this form as if they existed in separation beforehand, but rather find them concretely united in experience as an actually enduring unity. In

this sense, intuition is both the convergence of details and the act by which the soul is aware of this multiplicity in an indivisible apprehension.

Focalization and Analogy

In *Meta.* (1003a33) and *Top.* (106b35), “health” is explained as having a *focal sense* that is expressed by the convergence of irreducible and different ways of being. We say things are healthy in relation to several ways of being involved: this healthy food; this healthy animal; this action that is healthy for the animal; or even that one walks after dinner *in order to* maintain their health. Here, all the different perspectives involve the ways in which health relates to the actual processes involved in a living being. These examples reveal the diverse ways of saying “cause,” as the focal meaning of health involves the four causes of health.²⁰ The sense of health must incorporate a sense of each cause and this will make its individuality and substance evident. We have a sense of health through each of these perspectives on the whole, but none of them alone exhausts the sense of health. It is crucial to note that one does not grasp the idea or representation of health in a single instance, or from a single aspect, but rather by a multiplicity of perspectives that are irreducible to each other and that converge together.²¹

We do not find an explicit joining of light with focalizing or analogy or a physical convergence of light in any of Aristotle’s existing works. Nevertheless, they have a connection as each is intended to express aspects of an ultimate intellectual activity that is required in philosophy, as well as a real or, we may say, ontological form of unity: substance as a simple unity of multiplicity, complexity, or details. Thus, *focal meaning* provides a means of unifying

²⁰ Material: this healthy food. Formal: this healthy animal. Moving: of some actions that are healthy for the animal. Final: one walks after dinner to maintain their health.

²¹ This also applies to the focal sense of *being*, which involves 10 irreducible categories. They cannot be grasped in any way by thinking of them in terms of a common element which is the subtraction of each difference. Each category has its character, expressing an irreducible difference from the rest. In *Meta.* 4.2, 5.7, and 6.2 we find an even greater diversity of senses of being beyond the categories. Each adds an irreducible aspect, and yet, they all converge in an indivisible unity of composite a substance found in nature.

multiplicity without collapsing or eliminating diversity. This entire discussion brings Aristotle's complex and enigmatic use of analogy into play.

Analogy means several things. It means arithmetical proportionality. More generally, it is a comparison of two similar relationships. It is a relation of relations. It can also function as a poetic technique that evokes a sense of inner life by appealing to a listener's sensibility (sec. 2.2). It is a term with latitude and there are, without a doubt, both concrete and abstract senses. The history and evolution of the question of focalization and analogy have been explored with great clarity by Eric Schumacher in *Aristotle on the Nature of Analogy*. Schumacher argued against Owen (along with Aubenque 1984, 19–23) that focal meaning is coextensive with analogy, and does so based on an extension of the significance of analogy beyond its mathematical formulation as a relationship of proportionality. By connecting the two key passages (*Meta.* 4.2 and 12.4) that Owen used to differentiate analogy and focal meaning, Schumacher showed how Aristotle's conception of focal meaning and analogy are not identical, but are *inverse perspectives* on the same double movement and that each is implied by the other. Analogy emerges in the course of Schumacher's work as a general ability of the soul to gather memories, images, perceptions, and thoughts, together into a simple whole or unity which both *relates* and *differentiates* what has been gathered together. Analogy is an ability to make the past relevant by gathering-again, that is, to think of something based on the basis of something else, or to perceive *this* based on *those* memories. We can approach this double movement of gathering and differentiating in a way that emphasizes one or the other of these aspects, that is, focalization and analogy.

Owen (1989) used these two aspects to try to prove the difference between analogy and focal meaning, referring to the former as an “outward” comparison and the latter as an “inward”

one. Thus, analogy is said to take a certain relationship (matter, form, privation). It *goes out* to new things and *applies* it to them. Focal meaning, on the other hand, will draw in many irreducibly different things into a concentrated meaning. We have seen the way in which causes are focalized in the compound substance in the example of health. Aristotle said that analogy is responsible for how we think of the causes of diversity among natural individuals. We think of two different animals with unique features or behaviors, but with a similarity in the convergence of causal ingredients. Based on this analogy, we can say “healthy horse” and “healthy human.” We do not mean the *exact same thing* in each case, as human health does not involve the same things as horse health; they have different causes and are diagnosed through different signs. Nevertheless, they are understood through a convergence of causes that have an analogous *relationship*. Thus, the outward movement of analogy is already implied by the convergence of focal meaning, as it is by being focalized that there is any analogy, and every focalization is potentially an analogical mode of relating causal ingredients. To think of health as focalized in one thing is already to think analogically of causes.

Schumacher thus provided an admirable alternative formulation of the problem by showing that analogy, taken as a mere structure of proportions, is secondary, derivative, and insufficient to “capture the primary dynamism of the term” (2018, 29). He went further and showed that Owen’s interpretation of focal meaning was also overly reductive and eliminated the hidden *dynamism*. The approach of Owen’s interpretation was to understand a focalization of the *definition*, so health is a central term used in *defining* healthy food, for example. We can call this the static or logical interpretation. However, Schumacher shifted the meaning of focalization away from concepts and definitions to a more intuitive and concrete sense. It is not about the semantic meaning of a definition being distributed to other concepts. It is not like a tree-style

genealogy, either. Rather, it is a means of thinking of the central relevance of a diverse set of interrelated, but differently significant, ingredients that are involved in a unified reality (individuation).

At the heart of this interpretation lies a relationship between unity and diversity. Rather than the abstract relationship that subsumes a particular (unity) under a universal (multiplicity), the unity of focalization is instead a unity of generation wherein multiplicity is subsumed by unity. It is the unity of φύσις, as a principle, which contains a variety of expressions and it is this inner-nature that expresses itself in many ways, without diluting itself in the process. The presence of healthy food is enough for the entire reality of health to show itself, but not by merely linking it back to a concept. It is not merely an association based on our hunger as the idea of health is what would make such an association relevant in the first place. The association cannot be the cause of the idea, but is rather a relevant association to make only because of the general relevance that anything whatsoever in experience, thought, or imagination, can have with respect to the active condition of life that we call healthy (or sick). This is exactly how Aristotle thought of the activity of health and is why he used it as his example of focalization. Health is a sort of vital principle or directing idea that is focused as a tendency, by which we spontaneously strive for it. The most fundamental senses of both health and the *pros hen*, are teleological. We think of health as a good. Health shows up in our awareness on the basis of its preferability; things are relevant in relation to it and it is the central relevance by which we perceive things as painful or pleasurable. The entire sense of life that includes strivings of different sorts, and philosophical life that strives for the uncovering of being and stretches out toward the truth, is a striving animated by the central focalizing tendency of life and nature. Far from being logical relations of concepts, focalization and analogy are feelings or intuitions of relevance that give a

common direction to multiplicity. Ultimately, focalizations always lead to the primary mode of being of Aristotle's metaphysics: individuality. It is such an important and subtle mode of existence that it required him to point to it using two new names, *energeia* and *entelecheia*. As we will see below (sec 2.2), the meaning of *energeia* arises from induction (*Met.* 1048a35-b8), that is, a review of many individuals in which we discover irreducibly different relations obtained in each case. This means that we say things are "actual" in many ways. In each case there is an analogous relationship that is directing or unifying multiplicity.

Schumacher clarified how intuition [νοῦς], by relating to principles [ἀρχή], involves both analogy and a focalization. As Aristotle outlined, this very reliance on "principles" in our knowledge of nature and the soul is itself analogical (*Phy.* 1; *Met.* 9.6), Schumacher's identification of the faculty of intuition with analogy is well founded in the text, and this helps understand how intuition factors into human thought: it is not merely a "theological" hypothesis or postulate, but an indispensable ingredient in concrete human thought. The unity of the material principles of thought and the universals that the soul grasps by intuition are focalized unities. The intuition of principles was described by Aristotle as "indivisible," and is said to take place in an indivisible "now," but it is also, at the same time, an act of distinguishing the differences, as a point also divides a line in two. *Nous* has a "fractured unity" according to Schumacher, which is both indivisible and duplicative, or double (2018 45). This mode of being fractured implies that intuition is involved in language, and is an ingredient in the gathering of *logos*. However, it is not reducible to language. He said that "*logos* makes vocal what *nous* unifies" (2018 47). Thus, whereas language is closely related to intuition and focalization and depends on it, the unity remains intact, its integrity is preserved in intuition, and the differences emerge by *logos* in analysis and discursive thought. Intuition is a precondition for discourse in

that the focalizing unity is the basis on which the differences can unfold. Just as we have a sense of health that makes all particular senses relevant, so in syllogistic thought, we have a focal sense of relevance from which the principle can be qualified by its relationship with a middle term. The thought that this activity (walking) is healthy, or that this animal is healthy, distinguish the indivisible principle which makes sense of the middle term: i.e. a vital principle . The analogy between different natural compounds, as peculiar instantiations of *being-at-work*, is also at work in thought based on the original analogy of the focalization of thought itself in the being-at-work of the soul (thinking) and by preserving its “first actuality” (knowledge). *Nous*, in a way, goes beyond *logos* (*Nic.* 1140b31-1141a8) and it is this aspect that is simply indivisible but includes infinite multiplicity delimited by a finite plurality of explanations. This appears to be what is at the heart of the very cryptic, but blisteringly insightful pages of DA 3.6.

The universal [καθόλου], as the focal meaning of an *arche*, is the object of intuition, and is not to be confused with a synthesis of the mind that associates different sense data. The universal, if it is an *arche*, must really be a unity as an expressive power or “generative idea,” that is to say, its nature or soul. The existence of such principles is never general, they are always in the world as concrete individuals. The nature of a thing, its inner principle, must come to rest in the soul and not by being translated into the terms of our concepts or symbols. The principles are not what are familiar to us, but what are relevant to the unity of that nature itself and reside within it as it changes through an infinity of different appearances.

Now, a major confusion arises from the fact that we come to know this principle in both a general and in a particular way. Aristotle said in *Phy.* 1.1 that, at first, we know what a circle is and then later, distinguish its parts, and also that a child at first calls all adults mommy and daddy and only later knows them as individuals. Schumacher’s interpretation reveals a *dynamic* way in

which analogy operates at different levels of generality, and by an intensification of the process of focalization, greater degrees of distinguishing are made possible as we go toward the individual “*thisness*” of substances. We do not enrich our sense of health by making a simple proposition that delimits its meaning (the concentration and preservation of life in the self-regulated balance of vital heat), but rather by the observation of a greater variety of details that are relevant to its expression in many peculiar phenomena. We will not go deeper into these issues here, they will need to be addressed in due time and in the appropriate contexts in the course of this work, we have only so far wished to indicate the way in which Aristotle's sense of intuition and focal meaning have an affinity toward Bergson's metaphysics.

We have reached the final step of our detour, which reconnects the problem that is closely related to Aristotle's characterization of the ambiguity of being as a *focal sense* and analogy, that is, his claim that being is not a *genus*. This denial of the generalization or homogenization of focal meaning (and analogy) was of particular importance to Bergson and Ravaisson. This rejection of generality is clear again in the example of health: health is not a general notion of which healthy animal, healthy food, etc., are all specific instantiations; healthy food is not a species of health (one subsumed by the many), but is an aspect that is expressible through the same *activity* (many subsumed under the one). Similarly, being is like health in that the categorical modes of being are just one aspect, but act and power are other aspects, and we must include both in the focal sense of its being as a *this* (individual). Health is enacted in the convergence of healthy food, healthy actions, and doing things for the sake of health; the healthy individual itself weaves these together, not as an abstract juxtaposition, but as the integral act unifying the multiplicity of processes. Health is concrete, a tension holding the diverse parts together in the activity integrating all causes. It is also generative in that it produces and sustains

itself by unfolding in multiplicity. We find in this portrayal of analogy and focalization, a sense of unity among qualitative multiplicity that hinges on the problem of abstract generality and concrete existence. As light is given as an analogy for intuition, we find these four key aspects for Aristotle to be indivisibly united: light, intuition, activity, focalization, and analogy.

Ravaisson's use of the Analogy of Light

It is in the second volume of Ravaisson's *Essay on the Metaphysics of Aristotle* in which we find an elaboration on this image of light to disambiguate metaphysics from logical abstraction. Ravaisson wrote:

Thus is born the infinite variety of colors from the alliance of light, simple and one, with all the degrees of darkness. On the one hand, the act, absolute being; on the other, power, being, and relative non-being, which exists only in the initial act of motion; and in the movement [is] the infinite multitude and diversity of intermediaries. It is no longer, as in the Platonic dialectic, a general idea that is common to all beings, but that has reality only in them; it is the Substantial Thought, in the total reality of the most perfect action, independent of all and self-sufficient, but on which all depends, to which all relates...to be even more precise, thought absolutely active and thinking in itself, is in things differently and unequally according to all the differences of the possible. *Essay on the Metaphysics of Aristotle Vol. 2. 21; my translation.*

The intellect described here is not a mechanism of abstraction that merely generalizes from peculiar individual differences of qualities and forms in nature. Instead, it is a *concrete universality* of expression that contains an infinity of nuances in itself and relates to each individual in its own way. Thought, like light itself, contains all colors, and united, they integrate into a pure light in which they cooperate in illumination. This is also expressive of the diversity of being in nature, which implies an unlimited diversity of motions, which he called the “intermediaries” or middle terms that are manifest in the vast complexity of changes in the natural world.

In Aubenque's excellent article titled *Ravaisson's Interpretation of Aristotle* (1984), a higher form of *analogy* is clearly delineated; it is not verbal, *logikos*, but deals with substances directly as individuals discovered in experience by a supra-logical intuition. Aubenque

concluded quite rightly that Ravaisson was, on this point, much closer to Aristotle's thought than to anything else. The kernel of the insight is into a distinction between two opposite directions of thought, namely, toward abstraction on the one hand and the concrete individual on the other (EMA 537). The two corresponding forms of knowledge are: empty logical relations that apply to being by a "discrete analogy" in which the terms of relations are *identical*, and a continuous analogy that progresses, and as it does new knowledge is produced in an irreversible direction of development. Aubenque (1984, 448) referred to a crucial, illuminating footnote in which Ravaisson delineated both directions using two strings of terms or "formulas:"

we had to put into an equation the formulas on the one hand, εξωτερικόν, ἀλλότριον, μὴ πρὸς τὸν λόγον, (*Top.* 8, *Phy.* 1.2), ὡς τύπῳ, κοινόν, καθόλου μᾶλλον, λογικόν, διαλεκτικόν, ἔνδοξον, κενόν; and on the other: δι' αὐτοῦ τῷ πράγματι, ἀκριβές, φυσικόν (*Post An.* 1.14), ἀναλυτικόν, κατὰ φιλοσοφίαν, ἀληθές. These relations serve great uses in the intelligence of Aristotle EMA 284, n. 1 *my translation*.²²

The second list of formulas are thus the domain of *concrete forms*, a mixing of matter and form, activities, and potentialities, being an agent and a patient of motion, imperfect forms that are always in the process of completing themselves. The relationship between a species and genus is direct, e.g. human and animal, but is also artificial and external. It is just as quantity is directly linked to being. These abstract or logical relations are not on the side of truth (although they do contribute to the truth as matter does to form). Unlike the mathematical abstraction of discrete proportions, there is an analogy that uses continuous proportions, the parts of which form a "suite" or irreversible series in which the latter terms contain the former, which Ravaisson called subordination (EMA 533, 536). This chain of continuous links is not a collection of species under a genus and not a direct link of logic or predication, but a real passage of

²² "Exoteric,' 'foreign,' 'common,' 'general,' 'logical,' (*logikon*, in the sense of 'verbal') and 'void,' and, on the other, what is 'own/proper (propre),' 'Drawn from existing givens,' 'produced by the thing itself,' 'Exact,' 'natural' (*physikon*, in the sense of 'conforms to the nature of the thing'), 'analytical,' 'philosophical,' 'true'" (Aubenque 1984, *my translation*).

movement gaining power over time (EMA 534). The continuous proportion is the progression of a growth involving unequal parts. Sensation is to memory what memory is to experience, and again as experience is to knowledge. This continuity of analogies describes the developmental series of habituation and learning, and taking this as a paradigmatic vision, the continuous proportion, the good sense of analogy, is evidently at work in experience and in concrete intuition (Aubenque 1984, 449). This explains the developmental progress that gradually integrates many different activities, habits, pleasures, and skills, while putting them to use in higher forms of intentionality.

Concrete individuals are the reality to which metaphysics must turn. Emerging in an inverse direction to science, they must be obtained in experience and experience consists in a plentitude of movements. It is from concrete movement that intuition begins and rather than flee into abstraction or fixed concepts that are alien to movement, we must remount the chain of movements itself, from effect to cause, until we can distinguish among the three kinds of beings that participate in motion, a mover, a moved, and a moved mover (EMA 539). It is the last of these three that will include life, and it is in human life that we find the fullest expression of individuals that populate the intermediate positions of this continuous proportion. Whereas Aristotle forced us up to the summit of pure activity at which we found the unmoved mover, the intermediary compounds are of particular interest (EMA 537). We cannot simply reside at the summit, and the descent will produce only abstract knowledge. Only the remounting, or rising itself will preserve the concrete singularity of the growing power in the series or “suite”²³ of its real progress unfolding gradually. The descent is an inversion of reality, it smuggles along and conceals a falsehood that distorts our knowledge of reality. Being becomes nothing more than a

²³ A musical suite is likely Ravaillon’s connotation, that is, a set of musical pieces played in succession.

coordination of species under a genus, a catalogue of abstract forms without reality (EMA 537).

The subordinate series of powers rises from multiplicity into unity, a convergence and growth of multiplicity integrating by a focalization.

Conclusion

Aubenque did not elaborate on the relationship of Ravaisson's interpretation with Bergsonism, but made only an oblique reference, saying that Ravaisson's two directions of knowledge "go... further...than the Bergson of *Creative Evolution*: the latter will characterize intelligence by a 'natural incomprehensibility of life'." (Aubenque 1984 447 *my translation*). Aubenque clearly pointed at Bergson's debt to Ravaisson's dynamic interpretation of experience.

Bergson also made intuition a sort of continuous proportion that gradually builds on experience and remounts to a generative or directing cause. However, rather than reaching a *summit* that unites all by converging on a singular source of light as thought thinking thought, we instead reach, at the highest "point", the *base* of a cone that includes an infinity of nuances and detail, the past itself as a whole, in its integrality. The difference is not small, but the similarities are enormous. All we can say for now, anticipating what will be made clear in due course of this study, is that Bergson made the "vertical genesis" of this *rising* of developmental progress into a *horizontal* genesis that brings into existence higher forms by means of transformations that involve, indispensably, an advance into novelty and contingency (Fóti 1998). Nevertheless, the horizontal development of evolution is, for Bergson, a growing series in which prior achievements are put to use, or subordinated to later forms of development. This horizontal development is, in fact, what explains the very way in which Bergson himself *retrieved* the dynamic sense of being from Ravaisson (and Aristotle, Plotinus, Leibniz, etc.). After retrieving, Bergson surpassed them in a creative evolution of the dynamic sense of being itself.

While there is no evolution in Aristotle, will see later that Aristotle's God seems to guarantee the continuity of time as an irreversible advance into novelty, and an ecstatic horizon of the future which is "open," that is, contingently including the unforeseeable emergence of unique individuals. We should therefore remain hesitant to take sides with Bergson's narrow critique that Aristotle either remained trapped up in a task of rolling up all the immanent forms into an abstraction that is alien to movement, or that his use of intuition is thereby strictly abstract or intellectual.²⁴

In Bergson's evasion and erasure of his Aristotelian inspirations, he pretended to grasp Aristotle's philosophy as a static *totality*, without interiority. He was content to take it externally and make of it a prototypical expression of the absentmindedness of "natural habits" of thought developed in practical life: a *cinematographic mechanism*, operating exclusively in terms of PTC. Bergson claimed that before his work on TFW, he had no proper method for his philosophy (CM 89). The method he developed was the critique of the faculties of thought as primarily practical, that the intellect is only suited to purely practical application (MM 16). With this method, intuition reverses the natural bend of our intellectual habits and dispenses with artificial symbols. This is his method for evading the problems he attributes to Aristotelianism as thought inextricably tied to symbols.

²⁴ Is it not eminently Bergsonian to categorize a real intuition by its opposite direction to intellect, as a progression rising, growing, intensifying, and concentrating? Furthermore, to make such a growing and enduring something that only *intuition* can access and which is also therefore opposed to quantity as both concrete and dynamic? Intuition, focalization, activity, analogy, and light are all closely linked and temporalize in the interior reality of the soul. When Deleuze; 2004, said that Bergsonism took Aristotle's sense of alteration, we must add that growth, convergence, and concentration are at least, if not more important than simple qualitative alteration, especially as Bergson did not retain the doctrine of contraries on which alteration was explained.

1.1.2. Bergson Hinted at His own Aristotelianism

In the introduction, we saw a great array of critiques that Bergson aimed at Aristotle in order to distance himself from him. Later, we will see that a far more complex and ambivalent relationship emerged in both his doctoral thesis and his lectures at the *Collège de France*. There, as elsewhere, we also find an attempt to evade identification of his own philosophical project with Aristotle's. Bergson seems to have stuck to the story that they approached philosophy in *fundamentally different and opposite ways*. Aristotle was the epitome of cinematographic machination, by reducing philosophy to the analysis of language. However, in a somewhat surprising passage from the second introduction to CM, Bergson drew himself as being very close to Aristotle, citing his diverse uses of the word *eidos* (form) as an example to help define *his own* sense of intuition. "Let no one ask me for a simple and geometrical definition of intuition" he said, "It is only too easy to show that the word is taken in meanings which cannot be deduced mathematically from one another" (CM, 34). Answering the question of what kind of *definition* we should give intuition, Bergson made recourse to Aristotle:

But the variety of the functions and aspects of intuition, as I describe it, is nothing beside the multiplicity of meanings the words "essence" and "existence" have in Spinoza, or the terms "form," "power," "act" ... etc., in Aristotle. Glance over the list of meanings of the word *eidos* in the *Index Aristotelicus*: you will see how much they differ. If one considers two sufficiently divergent meanings, they will almost seem mutually exclusive. They are not exclusive because the chain of intermediary *senses* connects them. By making the necessary effort to embrace the whole, one perceives that one is in the real and not in the presence of a mathematical essence which could be summed up in a simple formula. *Creative Mind*, 34 *translation modified*.

The *Index Aristotelicus* of Bonitz gives the following *distribution* of definitions: (1) "The external figure of a species..." (2) "Logical form, the signification of species, i.e. the part of the genus, that form which contains the unity of the notion..." (3) "The same notion as Plato, that which has the power and dignity of substances..." (4) "When Aristotle distinguishes four principles and summarizes the genera of causes, *eidos* also means the formal cause." (Bonitz

1870 217-218 *my translation*). Each of these ellipses involves a large number of cited cases of usage, funneling together rather diverse texts, contexts, and meanings. Whereas this diversity of meanings involves, to some degree, a mutual exclusivity in their divergence, one is purely logical, one is tied to the appearance, another to the inner power of its existence, and yet another to its final causality (and convergence of causes). Nevertheless, they must be conceived of as unified, by the intermediary links among the intuition that traverses them all by “making the necessary effort to embrace the whole.” Bergson did not elaborate on these aspects or how we are to make an intuition out of them. We have reason to believe that he thought that Ravaissou had already done this.

In describing Ravaissou’s study of Aristotle, Bergson referred to a “subterranean gallery” in which this intuition can be reconstructed (CM 222). Like an engineer building a “huge tunnel by starting it simultaneously at many points” (*ibid*), passageways are linked together and thought can move between them starting from multiple points of entry and by converging on a continuous whole. This is not described like the living intuition of Bergson’s own method, rather it is an intuition that is relegated to the “eternity of death” as he called it (CM 187). Aristotle is merely digging around in the soil already laid out, seeking a “logic immanent in things” and like science “the great discoveries only illuminate point by point the line traced in advance, as on a festival night, a string of bulbs flick on, one by one, to give the outline of a monument.” (CM 197). Thus, Bergson cast Aristotle’s intuition as an artificial one, not sufficiently concrete, caught up in what was already contained in language. This was why Ravaissou had to *give* it life and perhaps do some quasi-Frankensteinian doctoring to resuscitate its intuition. Bergson cast doubt on Ravaissou’s interpretation for this reason, saying that he was both “readjusting” and “in danger of distorting” the thought of Aristotle by artificially reconnecting parts that do not

completely cohere in Aristotle (CM 223). Here, intuition is not free as in the *eternity of life*, ever creating and evolving. Rather it is bound to the fixity of language and symbols, an eternity of death. Ravaisson was, for Bergson, a sort of midway point between the two extremes, between Aristotle's intuition tied to language and his own intuition which dispenses with language and advances into novelty.

How different is Ravaisson's interpretation from Bergson's method? The role of intuition in Ravaisson's Aristotle emerged by stringing together a series of images to enact an intuition: "the fluidity of the images allows the naked idea to show through, where the abstractions come alive and live as they lived in Aristotle's [own] thought" (CM 223). Here the parallels with his own method from IM are unmistakable. There emerges an intuition of the *whole* through the focalization of diversity into an original unity of expression. The images involved are different, no doubt, but the concentration of multiplicity remains the same. Bergson later implied that Ravaisson had achieved this reading of Aristotle, consisting in a primacy of intuition, only by going beyond Aristotle, and by creating his own language into which he could recast the whole. He said: "our mind demands that unification, that the undertaking had to be attempted, and that no one after Ravaisson has dared to repeat it" (CM 223). This demand is not sheer habit so much as a desire to bring his dynamic sense of being to life as a whole and as intuitive. Thus, it would seem that Bergson did not dare to repeat such a recasting of Aristotle's thought. He did not attempt to recast it as a unified vision of metaphysics striving to form an intuition of the concrete. Bergson, instead, sought this very project in its own right, starting over again for himself. Nevertheless, the aim of Bergson's metaphysics remained the same, that is, intuition emerging from an effort of concentrating on a concrete individual, and to escape as far as possible the artificial fixity of abstraction and general ideas.

Bergson's caricature of Aristotle reduced his thought to merely analyzing what is contained in language. He was made into a kind of wooden dummy (L 60) that tries to bring forms down to the world, but absentmindedly falls into a subterranean gallery of images, having an intellectual rigidity of a bureaucratic administrator who is so closely formed to the superficiality of the law, that they no longer have any of the flexibility or the breath of life. Bergson could have lampooned him in the ways he outlined in *Laughter* as "We laugh every time a person gives us the impression of being a thing" (L 58). We may laugh at Aristotle if we take Bergson too seriously, just as Bergson made fun of an unnamed philosopher who stuck to abstract reasoning so devoutly that when he was accused of falling into errors because his arguments had experience against them, he replied "Experience is in the wrong" (L 48). Laughter will suppress our sympathetic emotions (L 5). We could perhaps imagine, like the character Hayy Ibn Yaqzan, in Ibn Tufayl's novel (Goodman 2003, 147), where the character Hayy spins in circles to suppress the sensory world and induce mystical visions, an Aristotle "running in circles" in an attempt to imitate divine movement and escape becoming. If he is reciting some of the mind numbing pages multiplying hair splitting distinctions between different syllogisms from the *Pri.*, then this absurd logical positivistic Aristotle will look like a complete buffoon. Perhaps Herbert Spencer also looks like a comic character of a similar kind, oblivious to the reality of inner life; the spiritual energy behind grace; the continuity of body and soul in effort; and the common impersonal life of our immanence in society, which explains comedy itself (L 85). If Bergson did not go this far in making a fool of Aristotle, he at least came close when in CE, he had him rolling all the forms together "into a ball" (CE 321) and then had him metaphorically rolling them up a hill like Sisyphus (CE 319) as he tried again and again to get them back up into heaven. Eventually, CE did leave Aristotle looking like a fool for fully trusting, unreflectively, in

the “cinematographic instinct” and not installing himself immediately in the continuity of lived movement (CE 316). Bergson also described a circular revolution of efforts that lead back to “square one” so to speak, as comical material; a sort of spinning the wheels in mud, expending force without going anywhere (L 83); an effort or expectation which suddenly ends in nothing; and in general ineffectual effort (L 85). All these happenstances are like Sisyphus’ rock, and return to the bottom of the hill. We laugh at the mechanical encrusted on the spiritual, and in our laughter, we cover with a veil any need to pursue the question further or to sympathize. Aristotle’s biology becomes nothing more than him running around, snapping pictures of fish as if with a camera, to explain their forms, perhaps wearing a CineMech™ uniform, to highlight how he has turned into clerical character devoid of personality and estranged from the feeling of life by a “*professional callousness*” (L 178). He becomes a marionette or a jack-in-the-box whose mechanistic thoughts follow only the natural tendency to analyze what is PTC and cannot use language in a suggestive manner, nor evoke an interior feeling of intensity nor even realize what he says could sound ridiculous. “Sounding ridiculous” is something the relevance of which is tied up in the concrete circumstances of human life, points to something interior and ineffable. He is reduced to a compulsive parody of himself, ever pursuing an infinite toil, since he will, in the end, see the activity of thought as nothing more than a sphere returning to itself as it drives itself around in a circle. This characterization has no doubt been exaggerated, but it is a no less sad portrait that Bergson himself leaves us in his critique of Aristotle from CE, and yet, as we will see more and more as this study progresses, it is entirely unjustified.²⁵

²⁵ It has hopefully been made clear by such absurd imagery that I do not think such a characterization of Aristotle is, on the face of it, appropriate in order to understand his metaphysics or physics. A careful reader cannot help to notice such thematic parallels (returning on itself, absentmindedness of a merely verbal philosophy, futility, etc.) between both the failing of Aristotle and potent sources of comic relief. I hope the reader finds it acceptable to take seriously the importance of this relationship of ridicule that appears in Bergson’s text L. As I will show in part two, Bergson seems, to me, most clearly of all his works, to have been working in a thoroughly Aristotelian manner. He employs the same *evocative* method as described by Aristotle in *Poe.* and *Rhe.*, and reasons by analogy from

Adopting Aristotelian Imagery

Now, despite his criticisms caricaturing of Aristotle, the “spectrum of a thousand shades” entered into Bergson’s cast of images which he used to characterize his own philosophy in IM. Some important parallels emerge, which shed light on the Aristotelian inspiration for the primacy of intuition in Bergsonism. The notion of a thousand shades or nuances of difference, is used to illustrate the qualitative multiplicity of duration. The spectrum is, Bergson insisted, overly *spatial*. We may think of it as an infinity of differences, but they are already all there at once. All the possible colors are given to thought simultaneously as if laid out in space (color wheel). However, in IM, Bergson sought to evoke a temporal sense of the colors:

We must therefore evoke a spectrum of a thousand nuances. With imperceptible degradations leading from one nuance to another. A current of feeling [*courant de sentiment*] traversing the spectrum, touring from turn to turn each of its nuances, [becoming tinted with each of these shades], would suffer gradual change, each of which would announce the following and sum up within itself the preceding ones. *Creative Mind*, 164 translation modified.

Here, Bergson makes a current of feeling traverse the nuances in an indivisible passage characteristic of lived duration. This was understood, by the early Bergson, as *qualitative multiplicity*. We can imagine this qualitative multiplicity of colors by traversing them in our imagination. We can get a sense of the interpenetration of the qualities of each shade (say perhaps, how orange “summarizes” yellow and “announces” red). However, this is still too

experience. Bergson said that the task of philosophers of his time was to do what the ancients would do if they were around today and, in that book, he seems to have rewritten the lost book on comedy as if he were Aristotle living today. Examination of the phenomena of laughter disclose the intimate continuity of body and soul. I will use this opportunity to raise, in the margin, a possible explanation for why Bergson may have chosen to make this characterization of Aristotle. We know, from the comment Bergson made in the Jan. 9th 1903 lecture, that he was not happy with a reform that had just been put in place, greatly limiting the amount of Greek would be required at the Academy of Paris; HIT 88, see n49 p. 358. Bergson describes Greek philosophy as predominated by an uncompromising drive for precision; HIT 87-92. Bergson perhaps acted in a reactionary way, almost mocking the administration for their own fetishizing of precision. It’s as if he was saying ‘oh, your ignorant want for more precision has lead you to remove Greek philosophy? Then you are simply following the very prejudice of ancient thought itself! Hypocrites! This obsession with precision and desire for static impersonal systems of relative knowledge is merely a rehearsal of Ancient thought in its most shortsighted aspect!’ This is, again, my own hypothetical, but it is the very same caricature which we find in CE, where Bergson is, perhaps, least tolerant of intellect and its absentminded acceptance of static and lifeless conception of existence.

artificial. We find a sense of this intuition of qualitative multiplicity, but it is only an image and we must return to the original outpouring of our own duration: “If I evoke a spectrum of a thousand nuances, I have before me a complete thing, whereas duration is the state of completing itself” (CM 165). Thus the image of a light spectrum expresses only one aspect of duration itself and cannot suffice to define intuition as a whole. We must add to this image another that neither maps onto it, nor is a mere variation of it. We are to imagine a line being drawn, gradually extending itself and fixing our “attention not on the line as line, but on the action which traces it” (*ibid.*). Thus, we imagine a continuous growth, an indivisible unity of motion and “concentrate solely on the movement itself, on the act of tension of extension, in short, on pure mobility” (*ibid.*). This is not a simple motion from A to B viewed externally and understood in relation to these limits, but the interiority of a continuous motion that stretches out by advancing into an indeterminate beyond. In its indivisible movement, it is not reducible to the space it traces, nor expressed by its outward manifestation, but rather an interiority. We must not imagine the movement from outside moving perpendicular to us. Rather, we must imagine the movement from within, pushing out into depth. Here, one is instructed to install oneself directly in the continuous passage of movement, pure and simple, without stopping to think about its traces or its relativity to reference points. With this, we form an image of pure mobility. Unlike the seemingly fixed set of “data” involved in the color wheel, this movement necessarily implies depth as an advance into unforeseen novelty.

“And yet each of these images will still be incomplete,” Bergson said, “because the unrolling of our duration from a certain side resembles the unity of a movement which progresses, in others, a multiplicity of states spreading out, and because no metaphor can express one of the two aspects without sacrificing the other... Inner life is all that at once, variety of

qualities, continuity of progress, unity of direction. It cannot be represented by images” (CM 165 *translation modified*). The images will fail to express the original unity of concrete duration which does not need to be composed of simpler parts.

If it cannot be composed of different parts or elements, how can we construct knowledge of it? Bergson has an ingenious solution to this insufficiency of images which is meant to define the cornerstone of his metaphysics. Metaphysics dispenses with symbols to return to the real duration by installing oneself in it directly. However, we do not do it willy-nilly, or without a certain amount of *orchestration*. The images can still be helpful, he noted, but only if they are sufficiently different, to the point of being *mutually exclusive*. In this case, each image dispenses with or dissipates the symbolic character of each of the others, and as we go from one to the next, the insufficiency of each is dissolved by mutual displacement, presenting their irreducible differences and concrete unity. Bergson called this work of metaphysics “Qualitative integrations” (CM 191) or an “integral of experience” (CM 200).

The “integration” involved here is similar to the unity of light in its diversity of nuances. The integral is a concrete unity that includes an infinite multiplicity within. Whereas metaphysics can only bring us to duration, through an effort increasingly concentrated on the concrete reality of duration, only by completely dispensing with all symbols can we install ourselves immediately in duration.

Bergson’s series of images is a focalization of experience that grasps the integral, indivisible unity of concrete duration as the fundamental mode of existence. It is the activity of the soul itself, concentrating and growing in intensity by its inner tension, and unfolding in multiplicity, which forms the basis of his metaphysics. Metaphysics as the primary goal of philosophy, takes it upon itself to evoke the evidence on which it can delineate this primary

mode of existence. It is thus not responsible for producing a definition of its principles and expressing them in language, but rather for evoking them. In order to do this it will make use of *suggestion* and *sympathy* (CM 161). In Section 2.2 we will see that Aristotle also appealed to evocation and suggestion with his neologism *energeia*. Whereas Bergson described an act of installing or placing us immediately in duration, Aristotle described a speaker's ability to "place before the eyes" (*Rhe.* 2.11). Aristotle laid down *energeia* as a fundamental mode of being and a *principle*, saying that we need not look for a definition of everything, but should instead bring into view [συνοπᾶν] (become aware or see-together) the analogy (*Meta.* 1048a37). The philosopher will need to deal with the question of the nature of the *being-at-work* of thought itself, which can "place before the eyes" of *itself*, the irreducible diversity of *ways of being-at-work*. The dynamic inner development of the soul is the evidence by which the truth of the dynamic sense of being is discovered. At this key passage in *Meta.* 9.6, Aristotle traced this problem and wove together the "work of the soul" and the meaning of analogy itself, uniting them as the evidence available to the philosopher, through an *induction* that discovers the focal meaning of *energeia* itself as emerging from the analogy in experience. We must not collapse the differences among the examples given. They must remain heterogeneous. The analogy is taken full circle through their heterogeneity, which functions as the matter of thought and the principle out of which the active form of thought emerges. The soul has its own matter and form, as all knowledge comes from preexisting knowledge used as material principles for the activity of thinking. *Seeing* itself is a *being-at-work* which is *placed before the eyes* (metaphorically) of the philosopher, it is then at-work in the very act of thinking as an operation of "analogizing". The activity of analogy itself "sees-together" by operating dynamically, or better, energetically. This seeing of seeing, by the mind (intuition), makes the truth of the primacy of *activity* self-evident.

Energeia is perhaps a mere symbol or name, but one that has the power to *evoke*, by placing before the eyes of the one who hears or reads it, the immediate reality of the activity of thinking or living itself. This evidence can then serve as a beginning of a movement of thought which treats external reality as analogous to our own inner-life. It is not a generalization of experience, but is rather an integral of experience (CM 200).

1.1.3 The Experience of Concrete Movement

A central problem we will return to many times in the following parts of this study, concerns the status of motion in Bergson and Aristotle's philosophies. Aristotle famously took movement "seriously" in the face of the so called Greek "idealists" such as Parmenides and Zeno, who appeared to deny its existence. Deleuze mentioned this aspect of Bergson's use of Aristotle's conception of motion in the same context as his remark on Ravaisson, and wrote that Bergson, "replaces the Platonic concept of alterity with the Aristotelian concept of alteration, in order to make of it substance itself. Being is alteration, alteration is substance" (2004 25).²⁶ We will discuss Aristotle's sense of motion and alteration in detail in the second part. For now, a few remarks on the role of change and alteration in Ravaisson will be helpful in drawing out his appeal to the sensible intuition of concrete movement. As Aubenque said in describing Ravaisson's interpretation, "Aristotle's philosophy...is a philosophy of continuity, gradual passage, successive and complementary syntheses" (Aubenque 2005, 440). In the EMA, he wrote:

experience shows us individuals in continuous change. This is the first principle of which it would be absurd to seek demonstration. It is necessary to be able to discern what is self-evident, from what needs proof; we must know how to discern the best from the worst, and experience is better than reason. *Essay on the Metaphysics of Aristotle*, 381.

There is greater self-evidence in the *experience* of an individual than in abstract reasoning. However, it is not immediately clear how experience can provide knowledge, as individuals are in a state of continuous change: "The individuals, therefore, change; they are, but also they become; they always pass from one state to a different state, and fill the time with their variations" (*ibid*). The individual is encountered as being in continuous motion and this presents

²⁶ No doubt the qualitative change of alteration, which admits infinite nuances, was incorporated into Bergsonism. Nevertheless, it seems all too obvious that growth plays just as important a role, if not more, in Bergsonism, as a growing intensity. More on this below.

metaphysics with a task. The individual does not have the clarity of an abstract principle of logic or mathematics, and it is inseparable from the motion that presented problems for the Greek intellect as exemplified by Zeno's paradoxes. Aristotle saw motion as an expression of a form, and thus one that has a definite quality. Motion is a continuous variation that passes through an infinite variety of transformations even in changes that reach contradictory states. This means that walking from point A to point B requires some amount of force, or as we would say today, an amount of work (as force exerted over time). Any change that accomplishes a passage of becoming must include a power to change without which no change would ever occur. Motion is, for Aristotle, the exercise of a certain power or the ability to change. However, it is not power, abilities, or matter that are encountered in experience, as Ravaisson wrote; "Form alone occupies the field of reality, and only it falls under the intuition" (EMA, 389). However, the sublunar realm in which human life is played out involves substances that are a composite of matter and form. Matter implies a power to change and develop, and thus involves duration: "Every object of experience is thus composed at each instant of duration" and the duration is temporalized on account of its consisting in "a matter clothed in a form" (EMA, 388). Ravaisson's reading of Aristotle thus focused on the "dynamic sense of being," an individual is not a static entity but a dynamism inextricably involving change. Intuition places us in direct contact with this composite reality, even if it only discloses the form. Aristotle's dynamic sense of being allowed him to respond to both the extreme positions of Parmenides and Zeno, on the one hand, and the physiologist/materialists on the other. In contrast and following Archytas, Aristotle approached definitions of natural phenomena in terms of both material and formal causes (*Meta.* 1043a22). Ravaisson's reading is rich in an appreciation of the *dynamic sense* of being as a developmental growth of power or intensity in composite individuals.

The philosophical debate on concrete and abstract modes of existence has a long history and was notably developed by John Duns Scotus and Leibniz. It also had a central role to play among many 20th century continental philosophers from Bergson to Merleau-Ponty, Deleuze, and Whitehead. The philosophical sense of “concrete” generally involves making a reference to one or more of the following meanings: (1) the *creation* of a composite, (2) a *peculiarity* of attributes or combination of qualities making something *unique*, (3) a *relationship* between things that makes it impossible to substitute the relata with something “similar,” that is, *unsubstitutability*, and (4) uniqueness of an actually existing circumstance, that is, *singularity*. Thus, the concreteness of an individual is, roughly speaking, the measure of its ability to create a peculiar, irreplaceable, and singular reality.

The philosophical framework of distinguishing between the concrete and abstract is, at least in its most distinct formulations, Aristotelian in origin.²⁷ He explicitly delineated the significance of the individual “*thisness*” [τόδε τι] of substances in *Cat.* 5 (3b10), as being opposed to the “secondary substance” that comprises the logical relationship between genus and species. As we cited from Ravaissou’s interpretation earlier, these are empty logical frames that lack the difference of instantiating real individuals. Aristotle developed the question of concrete individuality further in *Phy.* book 2. Any study of nature, according to Aristotle, most attentively investigates natural substances first. These substances are composite beings, *composed* of matter and form. Aristotle said that nature is more so *form* than *matter*, as having nature involves having a goal, a tendency toward completion or growing [φύομενον] toward a state of maturity (193b17). The underlying stability is dependent on a *formal* expression of action, but the action and the substrate receiving the action and thus *moving*, are not arbitrarily or abstractly united or

²⁷ No doubt one can find precursors in Plato, contra Ravaissou, and in the pre-Socratics.

related (as Pythagorean souls or artifacts). For natural bodies and living beings, form is concretely related to matter, a “Nature is a concrete activity, *a* form in *a* matter” (EMA, 416) as Ravaisson put it, meaning *this* form must relate to *this* matter. Nature is a concrete relationship that produces a composite individual. The matter of a human is not simply (and abstractly) the elements or the simple bodies, nor is it a general idea or any common component; rather it is always a *this*, that is, a peculiar matter related to its own [ἴδιον] concrete form (*Meta.* 1044b3). Thus, the matter *proper* [οἰκεία] (1044a17) to humans, that “from-which” they come to be, is menstrual fluid (1044a35). This is the concrete matter that is the nearest or proximate [ἐγγύτατα] matter (1044b2).

In *Cat.*, Aristotle clarified the senses of “*relation*” [πρός τι], and as matter and form are related, as well as things like the faculties [δυνάμεις] and “habitual dispositions” [ἔξεις], his discussion of relation reveals important criteria for understanding the dynamic sense of the concrete relationship between body and soul. The matter’s existence is dependent on and relative to the existence of form.²⁸ This point is clarified by the example of the rudder on a boat. Here, we see the importance of the definitive sense of “*relation*” as something *concrete*. Thus, we should not say “the rudder of a boat,” but instead say “rudder of a *ruddered*,” as there are some boats without rudders but no “*ruddered*s” without rudders. Taking this concrete conception of *relation* a step further, we can see that the hand, as a part of the body, exists in *relation* to the whole, and is dependent on that whole; it is a human hand, and is understood in relation to human life, the whole living and moving body. Separated from the body, it is no longer a hand

²⁸ Aristotle gave an example of the relationship between the half and the double (6b30), the two parts of the relationship that reciprocally depend on the other, *the half and the double come into existence together already in relation to each other*. As soon as there is a double, there is a half and similarly, as soon as there is a half, its double also exists. Half and double always exist as a result of measuring a finite magnitude, and in relation to some exact quantity. A rock is a body with a determinate quantity for which its own unique half and double are implied. Now, the “half” that exists potentially in the whole, relates to the whole in an analogous manner that matter corresponds to form. The half is the half of the whole, and the matter is always the matter relative to form.

properly speaking (1037b30). Thus, both the parts and the matter, in natural entities, are concretely related to the whole to which they adhere.

The abstract relation, on the other hand, admits some sort of separation or independence of the parts (discrete), or interchangeability of functions (substitutable). Thus, we can substitute different matters to make an axe from copper, bronze, iron, or even wax. Now, even an artificial thing like an axe has some degree of concrete relation between its matter and form. The wax axe is no longer a functioning one, its form must involve the relation that only certain particular “material” components provide, that is, whatever holds an edge. This is why Aristotle said that if an axe had a soul, it would be what enables it to *act* by cutting (DA 412b13). Nature expresses an immense diversity of distinct qualities and sensible differences among its compounds. The relationship between matter and form in animals involves growing and developing. Every individual, being a composite of *this* matter and *this* form, involves its own motion and becoming, a flux that is proper to that individual.

Ravaisson’s interpretation of Aristotle focused on the latter’s dynamic sense of being, and this likely contributed to his emphasis on habit and the activity of practical life, which played a central role in his thesis *Of Habit*. Habit involves an irreversibility of changes in which repetition makes a difference and makes the progress and development of motricity, knowledge, and virtue possible (EMA 430). Developmental transformations are possible in the concrete relation of matter and form. There are “pre-requisites” in learning that are analogous to the stages of development of all living beings. The relations among these stages of development are concrete and the *movement among them* is the reality of the compound of matter and form. The continuity of matter stretching itself out toward the indivisible form into which it develops itself. As an axe must come from an appropriate matter, knowledge and virtue must come from the

fulfilment of necessary prior achievement in habit and education. Thus, we have a “subordinate series,” as Ravaisson called it, an irreversible chain or *suite* of actions or operations that progressively inform matter. Each stage builds, grows, or progresses as a continuous increase in the power of acting, by subordinating the previous stages. Habit is a primary operator of this growth in human development. It is in the gradual flourishing of life through training, education, and practice, which most evidently exhibit the dynamic sense of movement as growing into higher forms. For both Ravaisson and Aristotle, the dynamic sense of being was in fact rooted in development. A subordinate series is never merely the extension of a logical relation to psycho-physiological processes, but rather the power of analogy is to be able to make the different stages show forth in their relevance to the unity in which they are all integrated in a concrete individual who grows. Thus, we should think of the imperfect and immanent forms of life, such as human life, as a unity that is always gradually changing: progressing, developing, and growing in intensity or precision (or decaying). Such is the mark of concrete substances in Aristotle’s sublunar realm, they involved imperfection and dependence, but also movement and development.

Of the various senses of concrete outlined above, we have just underlined the sense of *relationship* as a continuous expression of a principle of action uniting matter and form in a manner which makes it unable to be substituted by another term. We saw that this aspect of concreteness goes hand-in-hand with the sense of concrete involving the *singularity* of actually existing circumstances, as a compound substance is in an intermediary position, dependent on both the sun’s life-giving energy and earthly necessities. The concrete singularity of each individual is gradually arrived at only by irreversible processes of development arising out of a subordinate series and unfolding in duration. Eventually, we will come to the point at which the

novelty of Bergson will be made explicit, and this will be on the question of the interpretation of *singularity*, that is, as a uniqueness in history and memory. It is by Bergson's "horizontal genesis" or in other words, by *evolution* (advance into novelty) that the dynamic sense of the developmental being becomes the generative power of singularity, properly speaking. A strictly "vertical genesis" denies the possibility that forms themselves evolve. They merely ascend to a "prime." Ravaisson seemed to be on the verge of making the forms evolve. Are we not also forced to admit that we cannot find, in the texts of either Ravaisson or Aristotle, any exposition of a "creative evolution"? Deferring, for now, the decision as to where to draw the precise lines of Bergson's divergence, this problem nevertheless brings us to the question of the final sense of the concrete that we must examine—the *creation* of a composite. How does the dynamic sense of being, in its Aristotelian roots, conceive the concrete as a *creative energy*?

1.1.4 Creative Concretion and The Evolution of Philosophical Intuition

There is some discussion of an artistic creation in Ravaissou and Aristotle, which was evidently an inspiration for several of the pillars of Bergsonism. This appears in the eulogy for Ravaissou and in Bergson's Courses at Collège de France where Bergson provided, we may say, his most *phenomenological* description of Aristotle; in a manner that is more akin to human experience (on the relation between Bergson and phenomenology, see Lawlor 2003). In these passages, Bergson showed an affinity between Ravaissou and Aristotle in relation to aesthetic intuition and art, which is a foundational moment in the evolution of intuition that Bergsonism named: the event in which instinct, art, and science are combined and surpassed by metaphysics.

In the 15th lecture of the 1903-04 course, Bergson drew on some of Ravaissou's fabled remarks concerning Leonardo da Vinci's methods. He brought this up in an effort to explicate the Aristotelian approach to matter (the lesson was devoted to Aristotle). Bergson said that Aristotelian matter was conceived from the perspective of an artist. Matter is an infinite multiplicity that is unified by the form. Let us look at the entire stroke with which Bergson painted this evocative portrait of artistic creation.

What is a material object for an artist? It is, as Aristotle said, an *eidos*, a Form, it is an Idea. Here is a painter who paints a portrait. What does it take for this portrait to really be a work of art? The painter must see his model as concentrated in an idea... [273] A work of art is that which results from an *intuition* by which the artist took all these elements and *made them converge*, if I may so speak, toward a point, toward a single and indivisible center; much more, apart from space, because a center is still a point. Well, the artist who works, as Leonardo da Vinci said, by seeking the characteristic feature of his model, this artist makes all the determinations and all the features of the model converge at a single point, and at the point where he painted as collected, melted together (*fondus ensemble*), all these features, at this point there is something that will be called the idea, the characteristic idea of physiognomy, something that gives the key, that gives the key to everything and yet that resembles nothing, something that one can call *the law of generation* of the figure. It is very simple. It is infinitely simpler than what the eye perceives. By following this simple idea and developing it, the artist will represent all features of the model and will enframe them in this. *History of the Theories of Memory*, 272–3, my translation and emphasis.

The artist paints by possessing a principal that is first acquired and then invested in the act of creation. The artist paints the intimate reality of the thing as having an interior source of

expression, and which the artist must acquire through patient observation. Half the work of an artist requires observation and tends to become phenomenological. One must unlearn the symbolic and practical mode of seeing things in order to paint them. Leonardo was a sort of paradigmatic example of artistic vision for Ravaissou, and Bergson connected him to the former's interpretation of Aristotle in this very respect. Bergson touched on this relation in the eulogy, emphasizing, again, a "convergence" of Ravaissou's own reading of Aristotle with his admiration of the "artistic intuition" of da Vinci. This convergence was conceived in terms developed by both Aristotle and da Vinci; a sort of *pros hen*, or focal sense of unity of diversity that concentrates them, and through artistic creation, to suggest the inner unity of life. The infinite details converge in the individual character which they all together depict. Every nuance is presented by the artist as feeding into an indivisible inner-life. The artist takes in the infinity of details and by a subtle intelligence which is almost an instinct, detects the inner principle of life and movement. Bergson seemed almost at play, making the different thinkers of convergence, from whom he clearly drew inspiration, converge. It does not seem to be a case of "Bergsonification." Both the artist and the philosopher took, in Ravaissou's eyes, the concrete individuals of nature as the object of their study, and sought to express the inner principle of the movements that animate their growth and activity. For Aristotle, as mentioned before, the concrete individual is the *form* of the soul that animates and organizes the *material* body. Ravaissou clearly saw in da Vinci a common objective between art and philosophy (RSE 179). Bergson elaborated on this point in the eulogy:

How can one help being struck by the resemblance between the aesthetics of Leonardo da Vinci and the metaphysics of Aristotle as interpreted by Ravaissou? When he contrasts Aristotle with the physicists, who saw in things only their material mechanism, and with the Platonists, who absorbed the whole of reality into general types, when he shows us in Aristotle the master who sought in the heart of individual beings, by an intuition of the mind, the characteristic thought impelling them, does he not make of Aristotelianism the very philosophy of that art conceived and practiced by Leonardo da Vinci, an art which neither emphasizes the material contours of the model, nor tones them down to the advantage of an abstract ideal,

but simply centers them around the latent thought and generative soul? The whole philosophy of Ravaisson springs from the idea that art is a figured metaphysics, that metaphysics is a reflection of art, and that it is the same intuition, variously applied, which makes the profound philosopher and the great artist. *Creative Mind*, 230–1.

The object of philosophy is to obtain an intuition of the inner tension of change and development as inner principles and ultimately, the inner spirit of ensouled-bodies. We saw how Aristotle sought to charter the path between the “physiologist” and the “logicians,” and also pursued the path between atomists and dialecticians. The first posited simple, abstract, and static elements out of which nature is composed. The latter separated static forms from matter and motion and could not explain their reintegration (and ended by denying the existence of motion). The middle path is *dynamics*, which can perhaps generally be called *spiritualism*. We can see here how da Vinci shared a similar approach to unity. In all spiritualism, the whole is greater than the sum of the parts. It is not the parts that the artist must imitate, but the whole. The whole is alive and orchestrates the parts. This unity of direction and generation must be discovered in order to escape a materialism or an idealism. Leonardo’s spiritualist method of drawing that took an analogous sort of oblique path from mathematics, and in particular *geometry*, on the one hand, and from mere symbolic representation, on the other. The artist cannot remain external to what they imitate. The geometer is unconcerned with either the qualitative or the concrete, and abstracts and remains external to them in order to construct figures (RSE, 145). The artist, in contrast, is concerned with the peculiar *character* of what they represent and seeks to depict the inner-sense as a concrete creative force. Character and figure differ in that one is the cause of movement and the other is the result or traces left behind by movement. Character is a dynamic way that spiritual energy directs the body by its own initiative and attitude in a concrete situation. A corps has no “character” because it is no longer actively disposed to moving around in its environment. Painting *life* implies depicting a “motor subject” involving a lived interiority

of experience. Even geometry is produced by spiritual acts, but the science of geometry does not deal with the nature and operations of these movements of the mind. It is entirely concerned with the nature and properties of the figures produced. The living animal appears in an infinite number of “figures” as it moves about and *grows*. Art, unlike geometry, is closely interwoven with the activity of the soul in producing realities. The “generative idea” itself is involved in the production and appreciation of art. The soul is a cause of concrete form [μορφή] and movements, its inner principle is the *character* productive of figure. This internal-spirit of the living movement is described as a slithering or wavelike motion.

There is, in Leonardo da Vinci's Treatise on Painting, a page that Ravaissou loved to quote. It is the one where the author says that the living being is characterized by the [undulating or] serpentine line, that each being has its own way of *snaking* [*serpenter*], and that the object of art is to render the individuality of this slithering [serpente]. “The secret of the art of drawing is to discover in each object the particular way in which a certain flexuous line which is, so to speak, its generating axis, is directed through its whole extent, like one main wave that ripples out as littler surface waves.” *Creative Mind*, 229 translation modified

This slithering of the inner-movement is none other than the inner duration of the soul, which animates the body as a generative cause, and the artist must render apparent this inner-slithering of life. The “*flexueuse*” line, which generates and directs, is the inner unity of life that draws in and concentrates into unity an infinity of variations and nuances (*détails*). All the traits of an animal can be enumerated and this analysis will always remain relative and will eventually only ever approximate by combining figures. Painting allows for another mode of expression, capable of suggesting the integral unity of an infinite diversity without resorting to approximation. The soul is the thread of this unity of life as it animates the body. Here, soul and body do not relate in an abstract external manner. Rather, they form a concrete whole in which activity and passivity—mobility and an ability to resist—form a whole that is both body and soul. The artist will have to *suggest* this intimate continuity rather than express it. We don’t suddenly become the person in a portrait as if entering into their soul with all their memories—

we don't have an adequate idea of them, as in Spinoza, referring to an idea that engenders its own existence. We sense there to be just such a depth of spiritual life, and the mere suggestion of this inner-life, if we notice it, has the power to launch our minds into sympathetic auto-affections wherein we feel that an analogous inner-life lurks behind, so to speak, the movements and figures. This means that the work of art will evoke inner life by appealing to the sensibility of the audience. It is by means of this appeal that the whole can be given without composing it from symbols.

As Ravaillon said of Leonardo's grasp of the intimate unity of body and soul, it revealed "that our body is such as our spirit was happy to form it" and that it is "pleased greatly with works similar to the one it has itself made in composing for itself its body" (RSE, 146). The soul sympathizes with the soul of other living beings because it recognizes the work of another soul in forming its body, in enacting its movements and undergoing its proper affections. The living body is literally the outward expression of the soul's unique characteristics. Thus, a painted physiognomy will render the inner unity of pain or fear, etc., not by expressing them, but by *suggesting* them so that we may sympathize and feel them as an auto-affection. The infinity of changes in the face do not expose a static snapshot, but a progress of many processes working together to evoke the temporal depth, which the interior unity of these movements involves. This depth of duration was described by Bergson in terms of continuous multiplicity, and we will see in the next chapter how he used this to understand affectivity in psychology. There are infinite nuances in continuous multiplicity. In life, there is an inexhaustible amount of detail. Look into any corner of nature and you will find an endless task of description. However, we have, in our immediate duration, a unity of experience that transverses the infinite details and gathers it into an integral whole in experience and memory, in which the whole is greater than the sum of the

parts because it organizes them under the common direction of growth, development, and life.

The artist is a master of operating qualitative integrations of the nuance and detail of life.

The Mona Lisa, for example, shows us no instantaneous snapshot, but an “inner-slithering” of life, stretched through time.²⁹ We see in her face neither a young girl nor a grown woman, but the transition of life itself in growing and maturing. Some of the traits in her face reveal a youthful quality, whereas others reveal a measure of the wisdom, wit, and experience of age. We sense the inner-striving that one feels in moving from adolescence to adulthood, which means, of course, to become more intelligent. The painting suggests this to us, through so many subtle signs, which make us sympathize by feeling our own inner life, our own memory of growing older. The signs all suggest this focal sense of their convergence. This is the serpentine movement of the soul, carrying its past along with it, concentrating its intensity and reaching ahead of itself in its aspirations and intentions. This inner unity of life expresses itself in an infinity of qualities that the artist “gathers together” and converges into a “virtual center.”³⁰ This sense of the virtual will have to be given a more detailed investigation (Section 2.1). For now, we can glimpse at its meaning as the *whole of inner life*: of memories, habits, dispositions, and aspirations – the integral unity of a person (HIT 22-3, CM 176).

Leonardo da Vinci, for Ravaissou, embodied the life of a paradigmatic Leibnizian artist who performed “qualitative integrations” by representing the inner-synthesis of details enfolding

²⁹ “True art aims at portraying the individuality of the model and to that end it will seek behind the lines one sees the movement the eye does not see, behind the movement itself something even more secret, the original intention, the fundamental aspiration of the person: a simple thought equivalent to all the indefinite richness of form and color” (HTM, 273).

³⁰ “Let us look for a moment at the portrait of Mona Lisa or even at the picture of Lucrezia Crivelli: does it not seem to us that the visible lines of the figure rise toward a virtual center, located behind the canvas, where would be revealed all at once, gathered into a single word, the secret we shall never have finished reading, phrase by phrase, in the enigmatic physiognomy?” (CM, 230).

an infinite number of perspectives in a simple whole.³¹ What we found here in this historical lineage though Ravaissou is what we will later refer to as Aristotle's approach to nature based *on continuity*. Continuity consists in the indivisible unity of an infinite multiplicity. Aristotle conceived of this infinite multiplicity in terms of definite physical qualities, like hot and cold, or moist and dry (contraries). The variation of qualities described by Aristotle as movements of nature, much the same as Bergson's "current of feeling" also both transforms qualitatively and involves an infinite number of nuances and differences.

da Vinci himself read Aristotle, particularly *Phy.*, *Mete.*, and *DA*. He dealt with the ideas of continuity and infinite diversity in a way that was manifestly congenial to the one we are currently approaching in Bergson, that is, the continuous or qualitative multiplicity of duration. Da Vinci used painting to suggest the inner continuity of life, gesture, character, emotion, movement, and intention. Bergson's *Matter and Memory* is somewhat similar to da Vinci's instructional text *The Artist Course of Study* which involves a proto-phenomenological method. Bergson *instructed* us on how to perform a sort of *metaphysical art* that achieves an intuition by evoking the evidence of immediate experience. da Vinci instructed the student to form an aesthetic intuition, a *focalization* of infinite variation into the living whole. To do so, da Vinci told the student to observe the variations in the movement of the human body. He said that "[t]he movements of man performed on one single occasion or for one single purpose are infinitely varied in themselves" (LN 151). Movements of the arm, he said, produce an infinite diversity of appearances that vary even just from the shoulder alone. He called this "*continuous quantity*." The movements of the arm traverse an infinity of different figures in our actual observation.

³¹ Leibniz's *Monadology* paralleled da Vinci's description of the infinitude of points of view implied in the universe. Leibniz had a strong influence on Ravaissou; see Dunham 2015, and played an important role in Bergson's conception of qualitative integration; HIT lessons 16 and 17.

“And in every stage of the movement the aspect and shape of the hand varies when it is seen” (LN 150) and further on, “one and the same attitude is shown in an infinite number of variations, because it is viewed from an infinite number of places and these places are of a continuous quantity, and a continuous quantity is divisible into an infinite number of parts. Consequently every human action shows itself in an infinite variety of situations” (LN 151). The artist must learn to pay attention to detail and complexity and find the inner principle of life. “We must start from this, like the painter, like Leonardo da Vinci when he painted the Mona Lisa, after contemplating the model; you have to look at the model, but we can never looked at it enough” (HTM 25). The artist must go back and forth between intuition and observation.³²

Ravaisson, according to Bergson, brought together Aristotle’s dynamic sense of *concrete* being in a *focal meaning*, understood in terms of intuition, and da Vinci’s artistic intuition. Lingering among these many figures are inspirations from Plotinus and Leibniz, particularly in relation to *concentration* and the idea of integral functions of undulating lines. Concentration is related to the famous cone and the link between convergence and the growth of intensity.

Bergson described this by appealing to a cone of light (HIT 13th lesson). This neo-platonic cone

³² da Vinci expounded on this idea and insisted that all bodies project out from themselves an infinite variety of images from their surface, filling the environment with this infinite plentitude of appearances. The artist takes hold of this infinite diversity through careful observation and circumspection in order to paint the unity. The light, which illuminates all bodies, which in turn, fill their atmosphere with an infinite diversity of reflections, is a simple unity of this infinite. It is by sensing this power that light has to illuminate the infinite variety of forms that we take in the infinite multiplicity in a simple unity: forming a *perspective*. Every drawing and painting of life or nature expresses a single perspective. However, the artist who has studied the infinite variety of perspectives must express them all, to some degree, within the particular one they chose to paint in order to convey the “all in all and all in each part,” an atmosphere of multiplicity focused on the integral whole.³² This is not because the artist somehow superimposes a multiplicity of perspectives by overlaying images, but instead because they appeal to the simple unity that suggests them all. Thus, it is not enough to merely observe it from every angle, or even to dissect the bodies, although such practices are also prescribed in da Vinci’s instructions. Using those methods alone, one is still only painting a corpse. To paint life, one cannot remain in the external view, but must paint the inner-motion and spiritual activity. “The hand and arms in all their actions must display the intention of the mind that moves them, as far as possible, because by this means of them whoever has a sympathetic judgment follows mental intentions in all their movements” (LN 167). The artist must accomplish what Bergson called an operation of *qualitative integration*: forming an indivisible unity of an infinite diversity that does not reduce it to something static, but rather, preserves the continuity among the qualities, the infinite variation of motion in a depth of duration.

is inverted in Bergson's own cone of *Matter and Memory*, that is, the tip changed from being to becoming and base from becoming to being (I examine this in sec. 2.3). The relationship between unity and multiplicity is decisive in the cone. Bergson does not simply invert Plotinus' cone, but also adopted many of his insights (HIT lessons 11-13). The cone represents this relationship, not as numerical, but as continuous and as a matter of intensity. Intensity unifies multiplicity by increasing in both tension and concentration (CM 89). The conic sections interposed between the base and tip represent different degrees of concentration of the entire continuous whole of the soul. Duration is a continuity that indivisibly unites multiplicity in a reciprocal interdependence and interpenetration of all the parts. Thus, when Bergson used the cone to describe the Mona Lisa, he was indirectly indicating this influence from Plotinus. Ravaissou wrote a great deal on Plotinus in the second volume of his *Essai*, and Bergson followed his interpretation in telling us that Plotinus was in fact more Aristotelian than Platonic.³³

³³ It is not clear, therefore, why Janicaud took such issue with this aspect of Bergson's description of Ravaissou in *Ravaissou et La Métaphysique* (Janicaud 1969 52). He denounced it as an unwarranted conflation of Bergsonian imagery with Ravaissou's, I-know-not-how, radically different conception. He strangely claimed that there were no traces in da Vinci or Ravaissou that corresponded to Bergson's interpretation. He was particularly troubled by the reference to a cone and a "virtual center," which seems to do nothing more than gather or concentrate the infinite variations as an inner principle that is entirely consistent with the unity of multiplicity involved in the serpentine and flexuous line. Janicaud turned this into a simple "mental vision" and said that "neither Leonardo nor Ravaissou imagine a center, even a virtual one, located behind the canvas, neither one nor the other concentrates all the beauty in this imaginary center" (Janicaud 1969 53). It is not an issue of mental visualization but rather of the evocation. His claim that Bergson's account implied that "[b]eauty becomes the reflection of a hidden sun" (Janicaud 1969 54). Yet, the spiritualism of da Vinci and Aristotle was apparent in the concrete relationship between the body and soul, and spirit and motion, conceived of as an intimate continuity unifying multiplicity. This intimate continuity is most evident in grace, which we will examine next. It is by ignoring the importance of grace that Janicaud was able to maintain this strange and indefensible interpretation that "Bergson is thus idealist in spite of himself" (Janicaud 1969 54). Furthermore, he took issue with the fact that Bergson expressed this by saying "behind the canvas" as if this added some intellectual spacialization. Based on the above analysis, it is evident that Bergson was not brazenly "Bergsonifying" (Janicaud 1969 63), but voicing the fact that he remained squarely within the spiritualism that treated individuals as integrals. Janicaud seemed, above all, to have missed the importance of grace as the essential link connecting da Vinci, Ravaissou, and Bergson. He nevertheless drew an interesting connection to the work of Schelling (Janicaud 1969 95).

Bergson gave a careful and detailed account of Ravaissou's method of instruction for the art of drawing which parallels the instruction given by da Vinci.³⁴ The most important moment in this presentation is Bergson's reflections on grace, which, as we will see in the next section, was indispensable in his definition of intensity as qualitative multiplicity. The aesthetic intuition that graceful movements evoke is a curving line of the inner life that requires we sympathize with the ability to operate qualitative integration and concentrate multiplicity. This is to say that we sense the intentionality of a subtle intelligence at work mobilizing their body. Our ability to recognize this implies that sympathize with the life of another and this will result in a growing intensity of feeling that is not expressible in terms of quantity. Instead varies by degrees of tension and concentration of spiritual energy (CM 89).

Grace is an operative quality of concrete movements, an ease of movement that flows from a generative idea like the integral function drawing a curve (TFW 12). The beautiful is not what is gathered into the virtual center as Janicaud alleged (1969 53), but is in the trace left behind by graceful movements (L 29). Grace describes anything in which the whole soul is concentrated in action. Beauty is to the curve what grace is to the movement that produces it.

Bergson described Ravaissou's life and devotion as a concentration of spiritual energy, going so far as to say that there is a "law we take as general" that all really viable ideas in philosophy are ones "having been lived by the author," and Ravaissou applied his efforts every day to a task that he both lived and loved intensely (CM 240). It was from this deeply personal engagement with the art of drawing that the vivid grasp of the philosophical significance of aesthetic intuition was born in him, according to Bergson. Therefore, grace, as the name given to

³⁴ There is a brief but interesting remark in Aristotle's *Pol.* about the importance of learning to draw γραφικὴν in a liberal education; 1337b25. Not only does it serve as a source of pleasure, enjoyment and leisurely relaxation, being an end in itself. It also works as a sort of medicine; 1337b43, relaxing the tension ἄνεσις in the soul. Furthermore, it teaches us to better judge the beautiful works of artist; 1338a18.

the intense concentration of an undivided effort of artistic expressions, links back to a fundamental law of philosophical life as something that must be *lived* intensely. If Leonardo made painting his philosophy, as Valéry claimed (Valéry 1972 143), then Ravaisson perhaps made da Vinci's aesthetic intuition into philosophy, properly speaking.

It is the expressivity, or better, the suggestive power of the artist's creation that achieves a vivid evocation of interior life. This nearly metaphysical power of the art of drawing, according to Ravaisson, was explained by Bergson in opposition to the method of Pestalozzi, which Ravaisson intended to replace. Pestalozzi's method was geometric and like the ancient atomists, presuming that natural compounds can comprise simple, discrete mathematical parts. It is just such an artificial procedure that requires an infinite number of re-compositions and endless retouching to approximate the perfection of the original, that Ravaisson rejected. Most of us probably learned to draw at some point using the Pestalozzi method. We are instructed to draw straight lines and geometric curves that are each discontinuous parts, and with them, we merely trace the outlines of the figure as it appears from some angle. We start with a trapezoidal shape for the shoulders and an elliptical circle for the head. Then, after sketching the geometric substructure, we must keep on retouching until it resembles the actual appearance. Ravaisson objected to both the material success that this method can produce in art and the subtle lesson that it seems to teach about the way life is produced: that is, a composition of abstract elements that indefinitely approximates but never reaches the end. This touches on an ancient debate relating to Zeno, atomism, Eudoxus, and Antiphon (squaring the circle). Drawing life by starting with straight lines and geometric curves and proceeding through an infinite number of steps would never achieve the needed "passage to the limit," as each step is a finite operation. It is impossible to perform an infinite number of finite tasks, as doing so would imply an infinite

amount of time. Here, we find Sisyphus again, toiling over an impossible task. The solution is neither to completely throw out geometry nor to deny that there are an infinite number of shapes, each with a different number of sides that can be inscribed within a circle. Instead, it is to start by installing ourselves immediately in the complete. In the case of drawing, it means placing ourselves in the current of life (continuity of body and soul) and especially in the most perfect forms of life, that is, graceful movement.

Beauty is only the effect of grace and the task of the artist is to remount from the descent into the effect back up to the cause (CM 243). As Ravaisson insisted, it is by coming to appreciate the gracious movement expressed by the divine perfection of spirit, as a motion consisting in “alternating inflections, without discontinuity, successively changing direction, as a kind of wave-motion” (RSE 178). Thus, it is grace that forms the key for the artists’ ability to detect the unique flexuous line or generative axis concretely in other natural phenomena (ibid.), later. In the next section, we see that in TFW, Bergson had adopted grace as a paradigmatic experience on which he founded his central metaphysical term *qualitative multiplicity*. Without diving into the problems in that book, the way in which grace involves sympathy is what most important. It is not a “mental vision” of a curve, but rather an evocation of the curving as an intention directing movement—the undulating and bending movements of one’s effort. This is clear in the way that our aesthetic sentiments grow gradually in intensity. The combination of the growth of tension and the concentration of multiplicity into unity must not be represented quantitatively or spatially. This dynamic conception of intensity and concentration is not reducible to PTC. It is by virtue of approaching reality based on continuity that the reduction to quantity, shape, figure, and symbol is avoided. The conscious effort to avoid such reductive expressions or translations is exactly what is at stake in the elevation of intuition as a

philosophical method. Despite Bergson's critiques there remains an undeniable appreciation for what he called qualitative multiplicity in the philosophies of Aristotle, da Vinci, and Ravaisson.³⁵

What then exactly is the relation between Bergsonian intuition and artistic creation?

Clearly Bergson thought philosophy had to be *lived* with a similar degree of effort and energy as art. We have seen that in da Vinci, and Ravaisson, the emphasis on the inventive act of the artist emerges from careful observation, and this requires that we, at least to some degree, turn away from habit, symbols, and practical attention to life. The convergence of experience in Ravaisson bends, therefore, in the direction of Bergson's development of qualitative multiplicity as personal, concrete effort, and a creative advance. It is Bergson who pursued this path fully, extending it into a theory of evolution by taking the creative advance of life to be more fundamental than the figure of perfection in which it manifests. The invention of music as involving the possibility of unforeseeable new compositions is just as much a part of the art as the beauty found in works that have already been composed. This way, Bergson did indeed advance on the path that Aristotle had begun and that da Vinci and Ravaisson had developed further.

Bergson nevertheless partially rejected art for its practical aims and unbreakable alliance with habits. Habit veils us from our intimate sense of our embodiment, emotions, and efforts. It makes effort appear repeatable and ourselves seem average and superficial, and makes us forget

³⁵ Bergson did something very curious in those passages on da Vinci, which I bring up in order to anticipate the path Bergson has used to depart from Ravaisson and Aristotle. Bergson, we said, made his own novel development on this idea of convergence (beyond the one he described as occurring between da Vinci and Aristotle in Ravaisson's own persona) in order to gradually slide from the Ravaissonian conception of metaphysics which remains tied to closed society (which retains the Aristotelian privileging of a paradigmatic or perfected adult male subject; for Vitruvian man; see RSE 147, to his own conception that is evolutionary. His open and dynamic morality has its source in evolutionary creativity TS. It is no longer the fulfillment of an ideal person, a prototypical Vitruvian man, or any other predetermined form of perfection. Rather, it is a concentration of one's entire life into a unique persona, developed through concrete effort and by the convergence of an infinity of nuances into a concrete individual; the integral whole of the concrete self; TFW 167, 219.

that every single moment of life is singular and unrepeatable. Habit propels us away from philosophical thought. Ravaisson's metaphysics of habit needs to be *reversed*, as he had used habit itself as the method (habit for him *was* capable of grasping life). However, is this not already implied in the observation required for art? Bergson's method reverses habitual tendencies, if only to return to artistic expression in a new manner. He was indeed fulfilling his own advice to the philosophers of his time when he said that they should approach questions as if they were Aristotle living in the present and knowing what was known in 20th century biology and psychology (CM 130). This means, above all, adopting a dynamic sense of concrete motion and effort.

Bergson, acting as though inspired by ancient dynamics, thought that the data of positive science of his time was a source of evidence from which a dynamic metaphysics must draw. In the first lesson of Bergson's 1903-1904 course on memory, he explained this intimate relationship between his method and art, on the one hand, and science on the other. Intuition arises from the convergence of these two "givens" of consciousness, an activity of sympathy and invention. Take the series of examples he gave and try to catch the wind that fills the sails and lifts the *winged words* that climb the slope to remount nature and habit, that is to say, the oblivion of forgetfulness, which is the "spell" and "delirium" of a reductive and symbolic knowledge cut off from life. Bergson described three moments in an evolution of thought from instinct to intuition. First, there is an integral knowledge that a mother has of their child. "There are mothers who are full of anecdotes and stories about their children, who tell a thousand and one thousand things about them. There are others who say nothing because they know that they will never be able to say exactly and completely what they see, what they know" (HTM 22). In both cases, the mother knows an infinite number of details that make up the child's concrete self.

Though inexpressible in words, the mother knows it intimately. This is not an ordinary sense of knowledge but an integral one that comes from the instinctive care and love that mothers have for their children. This intuition is almost “natural,” it is a natural sympathy by which we are prompted to know the individuals in our family. Next, we have da Vinci’s integral vision of the inner-snaking of souls (HTM 23). The intuition is now involved in artifice, production, and manufacturing, and is no longer natural. However, it is no less intimate and must install us in the interiority of detail and intensity of life. The final step takes us to Bergsonism, which implies both these prior forms, but combines them in a concrete manner that is characteristic of a “subordinate series” of development, which evolves into something unpredictable because its later forms are inexplicable in terms of the previous stages. Bergsonism goes a step further than art and nature by making a sort of intellectual instinct or intuition itself into a method.

The method of intuition does not simply consist in experiencing intuitions of immediate duration or in the forming of integrals for concrete individuals by experience (During 2018, 42; Merleau-Ponty *The Incarnate Subject*, 109–11). It is also constructive or generative of a new kind of knowledge. Part of this novelty comes from the fact that it “rubs shoulders” with science, and from this new mode of tarrying with facts in concrete motion that “tests” the intuition (During 2018, 43). However, it does not merely adopt its findings, but rather pays attention to the problems themselves that relate to concrete motions. “It is from there that we must start: the philosopher will never know enough things, if he has not sufficiently assimilated the current state of science on certain points - it goes without saying, he cannot assimilate the entirety of science. We must start from this, like the painter, like Leonardo da Vinci” (HTM 25). Thus, philosophy trains itself by running along with science and paying close attention to what it brings up.

However, the method of intuition is not concerned with the concrete individual. No doubt it is an individual that is encountered in duration and intuition itself is a *sui generis* effort. However, philosophy is partly involved in generality, or the “generic,” as an “art of concepts” (During 2018 42). The generic form of philosophy is the *process* that we must follow if we are to come to engendering an intuition. Bergson indicated that it has two phases (1) the study and criticism of analysis, and (2) recourse to the evolution of doctrines (HTM 25). By following these two inverse movements, down through dividing and analyzing and then up through evolution (integral motion), the intuition emerges in the integration that contains both directions. If the first motion is that of science and the second that of intuition, there will be an intermediate sense in which we go back and forth between the two. However, the effort that engenders the intuition will make a leap that installs us in the intuition all at once and we are no longer analyzing, but grasping the unity that implies an infinite number of analyses. Intuition is therefore very closely related to intellect and artifice. The task of the philosopher is to invent and propagate intuition. Its method includes an analysis of facts as science has come to them, but also a criticism of analysis, and the dissipation of false problems that arise from the cinematographic tendency in analysis itself. This criticism does not reject analysis, but learns from what it has found. Philosophy teaches us how to have an intuition and perhaps too how we must come to identify all that can be discerned therein, that is, duration as tension, concentration (CM 89), and as continuity, passage, intensity, indivisibility, qualitative multiplicity, etc. (CM 71).

Whereas philosophical intuition is born from natural and artificial intuition, it transcends them. Whereas it tarries with the facts with which science grapples, it is not analysis in itself, and is there to collect an integral perspective and discover the inner-snaking temporalization of living individuation. The method of intuition reverses science, but its surpassing of science is only

possible based on science. As During (2018) explained, quoting CE, “Thinking about true mobility, and therefore the creative aspect of becoming, presupposes that intelligence not only ‘reverses its natural direction,’ but ‘twists on itself’” (During 2018 44). Thus the method of intuition does not abandon the intellect or intelligence as Russell made it out to be. It is a complication of thought building off of analysis in an evolution into a new form of knowledge. The generic form of this knowledge is an “integral of experience” (CM 200), the “form of a soul, the spiritual contour, the contour of spirit... a moving and elusive contour; this is something very subtle and so difficult to express if you begin to use words” (HTM 23). However, it is not simply to present such moving, living, immanent forms, and not merely to *place them before our eyes*, but to *leap* from the many unique individual durations to an integral grasp of the inner complexity of duration itself. This leap is a concrete effort and is personal, and can produce an integral knowledge of duration itself by means of a suggestion, evoking a sympathy by which the philosopher thinks of real duration by installing themselves in it immediately. Bergson, fulfilling the method of intuition, crafted a series of images (IM), and an array terms to help him evoke duration (interpenetration, tension, concentration, passage, continuity, qualitative multiplicity, kaleidoscopic change, irreversibility, integrality, dynamic, concrete, and open). Thus, Bergson’s opposition of Aristotle is not a mere reversal, as Aristotle’s philosophy cannot be equated to modern science that reduces motion to something external, relative, and superficial. Instead, Bergson assumed the dynamic sense of being, concrete motion, and the primacy of intuition as relating to individuals, from Aristotle. He advanced by (1) tarrying with modern science and (2) developing a method by which the habits of substitution can be reversed, the false problems of analysis can be criticized, and intuitions can be tested, developed, and propagated. The process itself is an evolution that engages with the history of philosophy—not merely through analysis,

or critique but also through the retrieval of inspiration—by drawing on the suggestions of a living qualitative multiplicity in concrete duration.

1.2 Bergson's Interpretation of Aristotle's Sense of Place

Bergson, at the time of writing TFW, was also writing his other dissertation, which was written in Latin on Aristotle, titled: *Quid Aristoteles de Loco Senserit* (ASP). His thesis was, basically, that Aristotle substitutes the characteristically Aristotelian problems of “place” τόπος for our modern problem of space. By this he *evaded* the problems of space, *burying* them in the “common place” which delimits and envelops the entire universe and is immobile. According to Bergson, the problems of *space* emerge with the psychological hylomorphism of Leibniz and especially Kant. Space is the *form* of the sensuous manifold, experience is a composite of matter and form, but pure space is *a free and independent form* which is both infinite and empty (ASP 67). Bergson saw his own work in TFW as providing qualitative or continuous multiplicity as the alternative by which the problems of space are dissipated. Aristotle did not dissipate, but rather evaded this problem, and thus does not make empty space into a transcendental form of thought or perception, but instead denies empty space all together as something which exists neither potentially or actually (ASP 68). Bergson insists that the problem of empty space, while not having been entirely conceived by the Greeks, arose confused in the mathematical minds of the Pythagoreans as an infinite void (ASP 35).

The problems of place which he investigated instead, clings, so to speak, to the qualitative reality of bodies in concrete interactions involving forces and contraries. Thus, Aristotle substitutes place for Space (*ibid.*). Bergson's interpretation is in line with Ravaisson's previously cited statement that Aristotle substituted everywhere the empty, logical, abstract, conceptual, and even categorical, with the concrete hylomorphic composite natural entities, dynamic relations, and integrals of experience. This substitution of the dynamic for the static is echoed in a line Lachelier's *Du fondement de l'induction*: “to substitute everywhere force for

inertia, life for death, liberty for fatalism.”³⁶ We can consider this the good kind of substitution, which replaces static concepts with the dynamic sense of effort and energy characterized by tension and concentration. But, according to Bergson, Aristotle abandons this lived sense of qualitative multiplicity involving irreversibility, and ends in the identity of thought thinking thought and the immovability of the universal place which imply an eternal present. So let’s follow Bergson’s interpretation of Aristotle’s sense of place, underlining how he argues for a progressive abstraction which removes quality, becoming, temporality, etc., and acquiesces in an eternal present, devoid of movement. It is here, according to Bergson, that Aristotle has buried the question of space itself (ASP 71). Thus while Bergson was free to adopt Aristotle’s dynamics sense of being and its insights into concrete continuity and embodied spatiality, he was still able to critique Aristotle for not dealing with the problem of *space*. It was essential to deal with the problem of space to properly differentiate duration from it. Let’s review the problem.

Place at first presents no difficulty, we think things *have place* as with a vessel (alternating air and water in a vase shows the “place” of the vase is its interchangeable power to contain different contents). Space on the other hand presents a sort of contradiction: the supposition of an empty interval filled by bodies, i.e. a void. Void as a fully developed concepts is the necessary counterpart of atoms, as with Democritus. Aristotle refuted atoms and void (*Hea.* 3, GC 1.2, *Phy.* 1.5, 4.6-8) by replacing them with forces, continuity, and contact (see Hasper 2006). These are his main objections: indivisible units or atoms cannot come in *contact*, cannot be *continuous*, and cannot have *qualities* like heat, moisture, hardness, and cannot be heavy or even, for that matter, *move*. If something cannot come in *contact*, is not *continuous*, has no *qualities*, or *forces*, and cannot *move*, it is not a body. This being the case, we should not use

³⁶ *Lachelier* 56.

an abstract theoretical concept like an atom, something which is *not* a body, to explain corporeality. For Aristotle, bodies are only made of bodies, continuity of continuity, and bodies always involve concrete qualities, forces, and contraries. Atoms are derivative abstractions like points dividing lines. It would be absurd, from Aristotle's view, to try to argue that a body, which is hard, dry, and heavy, could be composed of things that in no way at all possess these qualities, or any qualities. It is possible to mix different qualities for Aristotle, not because of juxtapositions of atoms, but only because the constituent parts are already natural compounds combining contraries. So he can say that there are more simple bodies which have generic forces and qualities (hot, dry, etc.) but we will never get to an atom which is an altogether *different kind of being*. Bodies can always be divided, they are always made up of some bulk, they will always be continuous. They touch in virtue of their surfaces, and because the surface is of a determinate nature because of the qualities of the bodies involved. Points, which have no surface and cannot touch anything, because they are separated by void, cannot compose a body which, by its very definition, is touching others, and in a way, touches the whole of nature, by touching a part of it. Points have no way of altering, of heating, or changing color. Furthermore points have no position, we cannot say how far apart two points are because they can never in fact come together and touch, and so they cannot even move in space. Thus atomism is incapable of being brought into accordance with experience. Aristotle, in a way, sides with common sense: the sensible qualities found in bodies are the very constituents of bodies that make and maintain them. But common sense sees these things in a confused way, and it is only on the basis of philosophical reflection that we come to appreciate the nature of these qualities in the dynamic sense of being and by means of discovering their integration and convergence in the compound of matter and form. In distinction to the abstract composite of atomism, Aristotle's dynamics

treats all bodies as positively real and verifiable in experience (no bifurcation of nature into primary and secondary qualities), and thus there is neither some qualityless prime matter, nor bodies without qualities and peculiar forces, nor again, empty void or space between bodies.

Bergson showed how Aristotle's tireless wrestling with the arguments for the void was ultimately won by the latter's appeal to *place* as an evident determination of the peculiar qualities and motions of bodies arising from their making contact with each other at their surfaces (ASP 32-44). Aristotle rejects the negative concept of void for the positive principles matter, form, privation found as compounds in experience.

Empty space, if it existed, would produce nothing. But that which produces nothing, is deprived of all existence in the eyes of Aristotle. Therefore, since he conceives of no other kind of existence than that which is implied in act or in the power to act, and that empty space has neither the one nor the other, he concludes that empty space cannot exist in any way. So he reproaches Leucippus and Democritus for having postulated an empty space for their atoms, as the theater of their movement, as if what is nothing could have some existence. *What is Aristotle's Sense of Place* 68 my translation.

Thus Aristotle does not simply ignore the problem of empty space, but rather refutes it and replaced it with the problems of place which arises in our perception of movements.

Summarizing his findings and comparing them to modern thought, Bergson writes:

As for us, conceiving a homogeneous space entirely devoid of qualities and differences, we think that bodies, being equally adapted to rest and movement, do not care at all about whether they are borne here or there. We therefore believe that the movement is not related to the nature of the body, but is added to the body as a foreign element. It follows that the various kinds of motion appear to differ from each other, less by a physical color, so to speak, than by a mathematical principle. We therefore associate our homogeneous space with a geometric notion of movement. It is to geometers that we give the movement, exactly as a figure, to study mathematically. Aristotle, in distinguishing the various kinds of movement, rather as a physicist than a geometer, and believing instead that it is the character or the desire of the movement which tends downwards, and of the movement which tends upwards, and it was for this very reason, possible to reject totally our [conception of] empty space, and to speak of place. *What is Aristotle's Sense of Place* 68 my translation.

So, according to Bergson, it is by reference to an intimate reality of bodies, i.e. their inner forces, which allows Aristotle to approach the problem in a wholly un-modern way, by sidestepping the problem of space altogether. Along with space comes an exterior and relative conception of motion that reduces it to something superficial. By rejecting the superficial view of

motion, Aristotle was able to describe movement as an interior reality, or what Bergson would call absolute movement.

The movement, in fact, is one with the body, Aristotle thinks, being the blossoming of its intimate nature: fire, for example, tends upward as if to attain its proper form, and flowing water does not know a complete rest until it meets at the place between land and air, which are like a ready-made bed; it is, then, by qualities, by an opposite spirit, that the movement is penetrated internally which heaviness expresses, and which is enacted by lightness. Now, if it is by quality that natural movements differ, it is also by quality that the limits of natural movements, that is, natural places, will be distinguished. But it will no longer be this space that is ours, whose parts were indicated only by geometric differences: instead of an empty and unlimited space, we will now have places, not only limited by their size, but still defined by their quality. Thus, the whole universe, in the manner of an animated being, will be composed of determinate elements, preserving a definite order : what preserves this order, in other words, the synthesis of the enveloping elements, and consequently the heavens which envelop all things, that's what we'll call really and properly the place. From which we conclude that the place of Aristotle does not exist before the bodies, but that it is born in bodies or rather of the order or disposition of them. *What is Aristotle's Sense of Place* 68-69 my translation.

Bergson underlined how Aristotle's sense of place is intimately connected to the qualities and character of bodies and, even more so, to the order and disposition of them. This points to the fact that Aristotle conceived of the organization of the entire universe to be a living thing (ASP 22, 53, 56). Thus, Aristotle's account is based on a "metaphysical principle" that, in a way, is the soul itself, or at the very least, the dynamism of nature which imitates the soul (Meta. 1050b29). The principle of organization helped him to evade the problem of space by replacing it with an intuition of motion. Motion makes *place* appear a problem to begin with. That is to say, that the phenomenon of motion makes place a problem. Place is not movement, it is the primary immobile limit of a container (ASP 50). A container, acting as a vessel, holds its content as an immobile surface. But the vessel itself can move, so its place is not truly immobile, only relatively, or contextually.³⁷ Bergson explains this using Aristotle's example of a boat on a river (*Phy.* 212a16). The boat contains sailors who move about on its deck, and are moved all together by being contained in it. The boat moves in the water, whose current is a mobile boundary

³⁷ See Hill 2012 58-65; on the relation between place and a vessel (*angeion*), in relation to the problems of embodiment, reproduction, and sexuality.

surrounding the ship. It is the riverbed and its banks which form its place, since this remains immobile (ASP 50). The immobile limit acts as an enclosure which permits the movement of its content. Aristotle recognized that movement requires something at rest by which it can gain traction (*Mov.* 1-3). While place appears at first by means of various movement among bodies, it is only by following them back further and further, from movement to movement, until we reach a truly immobile container, that place finally shows itself, i.e. the absolute place delimited by the containing sphere of the heaven which is not contained by anything further (HIT 154, 155). This immobility is not something simply posited, but rather something which relates essentially to the phenomenon of movement itself. The problem of place is that, on the one hand, movement in place requires an immobile container (boat in river, fish in water, walking on stable ground), while on the other hand the immobile container is often a *mobile* vessel.

The solution to this problem is to follow movements back to the perfect circular movement of heaven, whose parts move continuously while its whole does not and cannot. In linear movements, like the rising of fire, falling of a rock, or in animal motricity (forward and back), the parts are moved because the whole moves them as a whole. In the case of the entire universe, the whole is like the riverbed which grounds a constant flux of its parts. Thus the places of bodies in the sublunar realm have place by “delegation” rather than in their own right (ASP 65). Even the stable realms of nature themselves, resting as interlocked spheres, have place only by virtue of the containing astral sphere. We walk back from the concrete to the universal all-encompassing place which is established by an ultimate grounding-immobility not grounded by any further reality and so without any place of its own. We also walk back from the rich multiplicity of diverse movements to a uniform movement perpetually returning on itself. This placeless immobility is where Aristotle buried the question of space, because it is the

preservation of the intellection or conception of something superlatively static. It will be on this score that Bergson will criticize Aristotle's doctrine on time as a static present (HIT 151-166).

But precisely what Bergson shows so elegantly is that the sensible intuition of movement which made place appear as a problem, what Aristotle called the primary place, is in fact a way of conceiving place qualitatively, as clinging to the interiority of movement and arising from the events of corporeal contact. This *lived* sense of place which depends on the interiority of movement is at the heart of Aristotle's contribution to Bergsonism: an intuitive place that is not reducible to a purely abstract space. Primary place denotes the dynamic relation concretely articulated at the surface of living bodies, and by which the forms of animal life are suited to ambulating in their proper place (fish in water, birds in the air, etc.). While Aristotle does make the place of the whole universe (universal place) the place in the authoritative sense of the term, this does not retroactively make the concrete places in nature something universal, abstract, or absolutely immobile. Instead place remains something concrete and which clings to the complex organization of bodies involving force and resistance. We should briefly recapitulate in outline the three senses of place Bergson identifies from *Phy.* 4 (ASP 56-60).

(1) Primary, *primo*, *πρῶτον* place: A foreign body uses the element it traverses as a medium as its primary place. It is as if there was an elastic which pulls it, a tendency of the body to flee to its proper place. A stone uses air as the primary place in which it fall, and fire uses it to be borne up. Likewise when the water held in a vase is poured out, air will move to replace it. This is the reason Bergson refers to it as a provisional place (HIT 155). Since the primary place is the movement of a body in a foreign place, there will be either a natural movement of the body as it tends to return to its proper place, or a forced state of rest in which the foreign body is held captive.

(2) Proper, *proprio*, οἰκεῖα place: An element itself uses the element which surrounds it as a proper place. Each element holds a fixed relation to its proper place, forming realms that order the universe.

(3) Common, *communi*, κοινή place: All the elements as parts use the heaven as the place of the whole. It is the place of all the parts; the containing circular motion which gives place to all, but itself has no place. It is not contained but rather self-containing or a complete-holding-itself ἐντελέχεια. Bergson says it is the true place, place in the ruling sense. This place is the immobile base on which the circular movement turns in on itself.³⁸

So the qualitative place of bodies in contact, i.e. the primary place, and the proper place to which the corporeal movements tend, emerge evidently in our observations of nature. Nevertheless, Aristotle's sense of place is ultimately "grounded" in the immovable limit which perpetual circular motion continuously measures. Bergson says that the universal place is last in the order of our path of investigation, but is first in the order of knowledge (HIT 155). Priority in knowledge, universality, is merely the material from which we begin to think, it is only by returning to the concrete individual in which we discover "middle terms" that is, the concrete forms given in sensible intuition. It is on this basis that place has priority in knowledge: as a constant self-sustained movement in with the parts change so that the whole can remain immovable. The universal incorporeal place allows us to understand the soul as a complete-holding-itself individuating the living body.

In the first book of DA Aristotle discusses the method of study by which to investigate the soul, which is placed among the primary [πρώτοις] studies. He says that we have a common method [κοινῇ μέθοδος], that of questions, definitions, demonstrations, or divisions. How we are

³⁸ It is as if metaphorically the primary place of Odysseus is when he is detained and delayed from returning home. His proper place is his home in Ithaca, and the common place is the whole universe.

to proceed in each study is not clear, we must investigate the problems so that we can properly formulate definitions. The method for each study will be determined by the sorts of problems with which it deals. The problems are determined by the peculiarity of the being [οὐσία]. The discovery of the οὐσία is what is giving reality to the problems and makes the definition possible. The οὐσία of each different sort of being in nature requires its own particular version of the method. When we investigate the peculiar attributes in different studies, we will use the same general procedures of demonstration which follow a generic method of construction. The discovery of the οὐσία is what particularized the discursive thought to a concrete form. This discovery is made only by returning to the actual *thisness* of individuals. In the investigation of the soul, as elsewhere, we begin with an investigation of various aporias (Book 1), then a definition (Book 2. 1-4), and then the rest of the treatise is a demonstration which distinguishes the parts and particulars. We must first round up the witnesses, so to speak, and investigate them, find out what phenomena they involve. In this thorough inspection we can acquire a sort of global view by which we are able to return to the individual in perception and find their movements to be self-integrating and sustaining individuality. Life as a whole forms the evident genus by which we define the soul, it is its *sui generis* generative idea. It is only by distinguishing its multiplicity of heterogeneous functions and diverse instantiations that we actually develop the science, i.e. by a return to the particular concrete processes. In the investigations of nature we will not observe only the movements of the heaven, but will investigate climate, meteorology, and in the study of diverse forms of life. It is the concrete peculiarity of the “primary places”, described in the observed meteorological phenomenon for which Aristotle’s *Phy.* describes the general method. The universal place, the generative essence of life, and the generic form of the method do not erase and negate the concrete.

Place provided Aristotle with a way of understanding qualitative determinacy in the diversity of natural motions. This is most clear in the “realms” into which the universe is organized, each of which is dominated by its own forms of motions, related to the bodies which populate it. This is clear in the upper regions (movement of the stars), but in the middle realm, which is fairly evenly mixed with fire, air, earth, and water, an immense diversity of composite motions exist, not easily reducible to a single form. Now the sublunar realm is itself broken up into places based on the bodies which populate it. The mixture of air and water which forms winds and clouds, which covers the surface of the earth, is also populated by plants and animals. The individual living things have *place* in a new way. This is partly due to the peculiarity of it being the realm of water, expressed in each of its movements involved in the encounter with the other elements. The *place* of water involves *life*, as Ibn Bajjah recounts:

“It has been explained that air and water are places by nature, because the generation and being of natural bodies is completed there. As for water, it is clear that there are three places in it: (1) (the place of) what is contiguous to the earth, i.e. plants. (2) (the place of) what is contiguous to the air, such as the vegetations occurring on permanent water surfaces which do not move. (3) the place of the animals, i.e. the place where they move. *Commentary On The Meteorology* 407.

The places of water are its surfaces in the process of change as it encounters other bodies different from it. In this flow of change, between water and earth or water and air, life has its place. We know that plants have their own inverted orientation, the upper being the roots and a lower the leaves (DA 416a3-5; *Parts of Animals* 686a25). Their “place” is not simply a location in the larger universe, as a mere relation in space; it is what orients the encounters between qualitatively different bodily forces, powers, and movement in nature.³⁹ The place of the plant is inverted to that of the universe, it has its upper region in the earth and its “lower parts” extending into the air because this orientation is related to its peculiar works. The place of the plant does

³⁹ C. D. C. Reeve provides an excellent resume of the plurality of natural orientations in the commentary notes to the *Meta.* n1248; and again in DA n69.

not exist prior to the peculiar movements of the plants digestion and growth, its digestion and growth is what determines its place, its orientation between upper and lower, at the threshold of earth and water. The movement of animals constitutes the place of each individual, the place where it lives and moves. The animal is oriented by its sensory-motor disposition: it has a “before and after” as contrary places (*History of Animals* 705b10). Animal sensory motor awareness is oriented as “in front of and behind”, and these are further complicated by mobility to include the relevance of pursuit and avoidances (*Sens.* 436b10-20).⁴⁰ So the concrete sense of place is something essential to understanding what phenomenologists later called the spatiality of lived embodiment.

In the process of defining place we are lead to immobility by starting from the *sense* of place manifest by the movement of various bodies in the sublunar realm. Here place is always provisional and dynamic, that is, it involves a continuity of parts holding place in power, and movements between qualitatively determinate bodies. As we pour the water out of a cup, air moves in to take its place. This is not how place is to be *defined*, rather we must be led to the absolute place which has no place of its own—the universal place of the first heaven—of which only the *parts* change place, but the whole neither moves nor has place. It is a placeless container which makes all place possible; a uniform unchanging whole which gives place to the parts. Now, the first movement is that of the starry sky, and it is oriented from left (east) to right (west), one of the extreme places is the source of motion, the other is its end (*Hea.* 285a30-b8). It forms an asymmetric relation between these places, corresponding to direction of the movements which continuously transpires there. The universal place is divided into a before and after, roughly corresponding to day and night and the cycle of the sun’s transiting movement.

⁴⁰ EMA 431; see also Schellenberg 2007 for a detailed account of the problems related to lived spatiality.

Because place is conceived by the concrete relation of qualitatively different bodies, the “before and after” of motion also involves the relation between an agent and patient. The magnitude [μέγεθος], which motion follows upon, is not the abstract extension of space, but the complete magnitude of a body having qualities, properties, and form. Thus the “magnitude” *is* a body having *place* by relating directly to the encounter with its container. The magnitude is not an empty interval or homogeneous medium (ASP 70-71). The extremes delimiting place are not random, exterior, superficial relations or mere conventions, but *concrete relations*.

There is no contact in the case of the common, universal place. It acts, it is an agent, but not by contact. The only other options are by attraction (desire) or dissemination (sun’s radiant energy). If Aristotle wanted to make each part of the universe imitate the highest element, it is possible that dissemination is an imitation of divine attraction: the sun imitating the act the unmoved mover, imparts life giving energy to the world, illuminating and in-vitiating. Air merely propagates this pneumatic-vital-light, acting as a substrate receptive of the form. The light does not really “touch” the medium. Properly speaking we don’t see the medium we see the medium under the influence of light acting on it. So too the soul acts on the body and does not touch it but activates, illuminates, and breaths life it, so that the body is acting, living, but it is the body activated by the soul. The soul then becomes, in a way, though not literally, the place of the body. It is what delimits the living being as an individual and a mobile. Its mobility, unfolding from the soul as principle, is determined by its place, i.e. the place of fish is water as the place through which they move, live, and live-well. This will be air for birds and the flat surfaces of earth for various animals. The place is something intimately interwoven into the forms of each: the form is suitable to their place. This place must be in some way stable, unmoved, if it is going to sustain the life which is proper to it. The water must not dry up, the air cannot fly away,

the earth must remain where it is if animals are to inhabit these places. While a river flows continuously, the current remains within its immobile banks. The universe flows in the banks of its immobile container, which provides the basis of the perpetual movement of nature (*Mov.* 3).

We can no doubt criticize Aristotle's arguments leading to an immobile universal place and almost countless other points in his cosmology. What is interesting about the function that place has for Aristotle is not that place is defined by an exceptional case (the only placeless and immovable place), its rather the way that place delimits a whole as organized into parts which continuously fluctuate: a heterogeneous multiplicity unified by activity. While Aristotle does *evade* the problems of space by denying its existence, he does not fail to give insights into place conceived concretely. His dynamic approach to place is akin to what we now call the problem of lived spatiality. Place emerges in the interactions of concrete forces embodied in continuity. It is not an empty receptacle but a real of contact. Sensation too is a kind of contact, and sensation is an activity of the soul. The perceptive mode of contact is a central determining factor in the form of the sense organs: each is suited to receive a different sensible form by a different sort of contact. The extreme complexity of human sensitivity is rooted in the concrete physical conditions of life on earth. Feet are suited to walking which has its proper places (such as on rocks rather than loose sand), eyes suited to see in sufficient light filling a medium that is free of smoke or fog. The detail and subtle complexity of the human form is, in a way, a reflection of its proper places, as the diversity of movements which fit to the events of embodied encounters. Place is something dynamic and concrete which springs from the various movements actually occurring in lived embodiment. While Bergson can criticize Aristotle for having evaded the problem of space, he nevertheless had gone further in the direction of qualitatively implicated sense of extension of which phenomenology and Bergson himself could draw insights from.

1.3 Quality, Quantity, Multiplicity, and Unity

1.3.1 Intensity and Duration In Bergson's *Time and Free Will*

In this chapter we must attempt to take up the central insight of Bergson's early work, TFW—written contemporaneously with the thesis on Aristotle—so as to set in relief the traces of its Aristotelian inspiration. Bergson set up the central problematic of the work in chapter one by questioning the application of quantity to feelings in psychology. He sows the seed of a distinction in multiplicity (quantity vs quality) which grew out into many different branches of investigations throughout the rest of his life (discrete-continuous, static-dynamic; habit-memory; intellect-intuition; derivative-integral; relative-absolute; plant-animal; cinematographical-kaleidoscopic; closed-open). Qualitative or continuous multiplicity, involving interpenetrating parts, is a gradually growing *tension* and *concentration* immediately felt in the flow of duration. Bergson delimited the way of being of qualitative multiplicity by six primary cases: music, grace, pity, emotions, effort, and freedom. By following this path and then making them converge (as with the images of IM) one can perhaps arrive at the intuition of qualitative multiplicity.

While listening to a piece of music that one loves, one easily become intensely engrossed in the feeling as if swept away by it. We undergo a series of events which evolves progressively; our attention is gradually secured, we are partly held in rapture, partly lead by the body's own spontaneous movement to sway to its the rhythm, partly joining in and singing along. The intensity gradually builds as we become more and more involved in it: we conspire with the music and sympathize with its tension and intention. There is an undeniable feeling of amplification and concentration: a growing intensity. The feeling of intensity involves a multiplicity of qualities, not merely the notes or harmonic intervals and ratios, but the feelings

they suggest. Building of tension or release, crescendo or by re-harmonization, or thematic developments, by whatever techniques, good music will make us experience emotional and qualitative transformations which we struggle to put into words. We sympathize with a concrete and *sui generis* effort which is the effort of making that very song. Saint-Saens' *The Swan* is elegant, graceful, and somewhat sad or melancholic, but not in any general way, it evokes those feelings in an unique way. The same description can be applied to many other pieces by different composers, and yet we will know exactly the different quality that, for example, Chopin's nocturne No. 1 has. We have an auto-affection of our own joyful and lamenting attitude which arises by participating in the *sui generis* intention. One can most easily recall the distinct character of this feeling by throwing themselves passionately into the emotive expression of it by actually singing it. The intensity is thus what gradually builds as the qualitative multiplicity unrolls in time. It is a gradual building of tension and concentration in an indivisible passage which is not a 'becoming in general' but involves unique qualitative nuances of its own.

Bergson's analysis of the feeling of grace describes a similar progression. His analysis takes the example of watching someone dance. When the gracefulness of the dancer catches our attention, there is a gradually evolving feeling which grows in intensity. Bergson doesn't say it here but he likely meant that we are watching a dance that we have already learned for ourselves.⁴¹ Thus he says we feel as if they were a marionette which we are controlling (TFW 12). This is because by listening to the rhythm, we have been charmed or hypnotized into conspiring with it. Bergson calls this a physical sympathy (TFW 13). We sympathize with an ease or facility in outward mobility (TFW 11). The feeling "changes direction at every moment, every new direction is indicated in the preceding one." (TFW 12). We follow the curving

⁴¹ "Now it is quite clear that if, in order to learn the dance, we must begin by seeing it danced, on the other hand we can only see it, in its details and even as a whole, when we have learnt to some extent to dance it." ES 216.

movement and adopt the attitude which enacts it. Next, as the feeling intensifies the charm evolves into an irresistible attractiveness (TFW 13). This is the first stage of the gradual development. Bergson calls this a “mobile sympathy” (*ibid.*) in which we move towards ourselves and sense our own power to act and thus have an auto-affection of our own freedom. For this reason grace is closely related, Bergson says, to moral sympathy and pity (TFW 19).⁴²

The feeling of pity is also complex and something that gradually evolves through stages: first it is a sadness, an “aspiring downward [towards pain]” to sympathize with the suffering of another (Lawlor 2012 29). This painful aspiration has a “charm” because it raises us in our self-esteem by making us feel above our selfish desires for our own pleasure. We feel our own strength of will as undistracted by appetites or pleasures. Here the intensity increases as we go from qualitatively distinct feelings which nevertheless interpenetrate and the prior stages are resumed by the later and announce those to come. It is a “transition from repugnance to fear, from fear to sympathy, and from sympathy itself to humility.” (TFW 19). We recognize someone suffering we feel pain and this pain, if it was like any normal pain, would be something we seek to escape, yet in pitying someone we do not seek to diminish the feeling but rather we enter into it more deeply and this makes us “aspire downward” humbling us. In this moment we are no longer distracted by selfish desires, or our attention to life. We feel, melted into our sympathy, a feeling of superiority (not over the person we pity but) over our own appetites and routines. Like the developing variation of re-harmonization of a melody from sounding sad to hopeful, the motif of the emotion itself evolves and takes on new nuances of feeling. The hopefulness of

⁴² The feeling of grace is quasi-moral because it *inspires* us—by stirring a desire in to strive to act well, skillfully, or intentionally—to succeed in fulfilling our will. The feeling of grace is social, we recognize it in another and it turns us inward to feel our own potential efforts. If one is dancing, the effort of the activity would consume our attention, habit directs our attention to the emersion in the performance. This is not to say that we can only feel grace in this one situation, it is rather that in this situation the feeling is least distracted by action and so we are most likely to be able to notice its detail and development as qualitative multiplicity.

charity (acting to help deliver others from their suffering) is an emotion which arises out of a prior feeling of pity. This means that the evolution of the emotion implies an irreversible continuity unfolding in time.

From the analysis of music, grace, and pity, Bergson uncovered two essential features of concrete duration. (1) The feeling of intensity involves a gradual progression which is a spiritual energy that grows by *tension* and *concentration*. (2) Intensity involves an auto-affection in which the feeling does not increase arithmetically, like a light that gets brighter because of the quantity of its external cause. It grows *qualitatively* in relation to the richness of its detail and concentration by a greater degree of tension.

Bergson provided more examples to substantiate this sense of intensity which he delimited in aesthetic and moral sentiments by analyzing emotions and effort. While describing the gradual development and intensification of a passion into a deep-seated desire, Bergson writes, “little by little it permeates a larger number of psychic elements, tinging them, so to speak, with its own color: and lo! Your outlook on the whole of your surroundings seems now to have changed radically.” (TFW 8). Here Bergson bids us to reflect on the gradual progress of an emotion as it actually develops in our own interior life; what happens at each stage and how are they linked? At first we have a mere inkling of the feeling, perhaps something happens which annoys or offends us. One is not, thereby, instantly in a rage; this happens only gradually and at successive stages of the development we find different qualitative features. Bergson quotes Darwin who’s description of the physiological significance of a gradual change of emotion helps to illustrate Bergson’s point:

The action of the heart is much accelerated....The face reddens or may turn deadly pale. The respiration is laboured, the chest heaves, and the dilated nostrils quiver. The whole body often trembles. The voice is affected. The teeth are clenched or ground together and the muscular system is commonly stimulated to violent, almost frantic action. The gestures ... represent more or less plainly the act of striking or fighting with an enemy. *The Expression of the Emotions of Man*, 74.

If we want to try to quantify this process might place each moments on a scale, saying that, at first, the intensity level was a 1 as the heart accelerated, a 3 as respiration becomes labored, and eventually as a 10 when they combine in the gestures taking on the signification of fighting. By applying these metrics we think we have accounted for the reality of the feeling, but really, Bergson insists, we have lost it entirely. What was essential to the intensity as it gradually unfolded was the way each moment announced those to come and summarized and contained those which came before. The moments are in no way discrete stages each having its own quantity or quality, rather they interpenetrate and confound with each other. When we think back to the moment when we felt the heart rate speeding up, this “stage” in the development was the first sign of the gradual permeation, it *suggested* the approach of anger which had still not fully emerged (TFW 16). This suggestion, rather than causing us to become more angry, is a moment in the progression of the emotion which is inseparable from the other parts of the feeling which unfolds it: the trembling and frantic action “summarize” or retroactively explain the increase in heart rate and the reddening of the face. Intensity involves an interpenetration of moments in time in which gradual transformation advance and amplify the development and accumulates more and more elementary psychic phenomena. Intensity, in sum, involves a subordinate series or a suite whereby new forms evolve by retrieving from and surpassing the past in a continuous passage of growing. We will only get further and further away from the lived reality of the intensity as we lay the moments out in space, on a timeline, or communicate it to someone else. It is equally insufficient to reduce the emotion to the idea which directed it. “There is always an irreducible psychic element in anger.... which gives a common direction to so many diverse movements.” (TFW 29). Without any of the corporeal changes mentioned by Darwin, the “idea of the act of fighting” will have no intensity. The intensity is the *tension between* a multiplicity

of corporeal changes and the idea which directs and concentrates the growing intensity into intentionality.

The intensity can only be lived as it occurs in immediate experience. It is not a biological process, nor a concept, nor again an idea. It is the thickness of duration gradually transforming as a qualitative progression increasing in complexity and directed by a generative idea which language struggles to express because each emotion is *sui generis* and flavored by the unique complexity of circumstances in an individual life. The thickness or *depth* of duration refers to the interpenetration of its moments; announcing what is to come and summarizing what came before. Each moment is insinuated in an excess which goes beyond itself. It is the “thickness” of duration that prevents it from being adequately expressed by the flatness of representation, quantity, and PTC. The intensity is a unity of both the directing idea and the multiplicity of corporeal changes and psychic phenomena unfolding gradually in a continuity of becoming.

Bergson distinguishes between two senses of intensity in TFW, we might say a good and a bad sense.⁴³ The “bad sense” as expected, involves quantities, symbols, PTC. It arises in practical life, by habit. Bergson discovers the source of measurement in our motricity as the estimation of muscular effort. His analysis of muscular effort describes how we translate an interior feeling of effort into the exterior results of the movement it produces. By observing the results of muscular effort we acquire a standard measure through repetition. This it to say that practical measurements involves a substitution of concrete effort for an abstract, predictable result as enacted in similar conditions. It is for this reason that Bergson says psycho-physics⁴⁴ is merely following the convention of common sense (TFW 70) and substitutes the nuances of

⁴³ I have examined this topic elsewhere; Bagby 2020.

⁴⁴ For a detailed account of Bergson’s critique of psycho-physics see Miquel 2003 469–71.

qualitative differences for an arithmetical difference (TFW 64-6).⁴⁵ Effort and sensation cannot be reduced to a the quantities into which we translate it in order to analyze and communicate them. This is central to Bergson's treatment of affection in the first chapter of both TFW (28-37) and MM (52-57). Pleasure and pain arise as *anticipations* rather than as reporting a present or past state of the organism. Pleasure and pain can function in this way, but it is secondary to the regular function of these affection which is anticipatory. Affection serves a purpose for human and animal life, a utility gives birth to pleasure and pain, we "use" them to predict the tendencies latent in the present condition of things (Lawlor 2003 9-12, 37). Affections are primarily related to *signs*, meaning that signs are indicative of something to come, anticipating some future we sense indirectly, on the horizon: i.e. they refer to something absent. This is similar to Hume's description of the way bread appears nutritious, because we associate it with an "effect" which is not present, but which we anticipate, because we are habituated to expect this capacity to be eaten. What is characteristically Bergsonian in this account of signs is that pleasure and pain "call forth a resistance to automatic reaction which would have taken place: either sensation has nothing to do, or it is nascent freedom." (TFW 34). Freedom emerges as a resistance to automatic reactions. Pleasure and pain disclose the habitual, automatic reaction which is about to occur. The affection checks or forestalls our habitual reactions. Affections are selective, making one set of anticipated outcomes predominate and resisting and suppressing other alternatives.⁴⁶ The intensity of an affection is the power it has of resists other competing interests.

When confronted by several pleasures pictured by our mind, our body turns towards one of them spontaneously, as though by a reflexaction. It rests with us to check it, but the attraction of the pleasure is

⁴⁵ In the conclusion to TFW Bergson gives a sort of definition or formula for the bad sense of intensity: "[W]e found that psychic phenomena were in themselves pure quality or qualitative multiplicity, and that, on the other hand, their cause, situated in space was quantity. *Insofar as this quality becomes the sign of the quantity and we suspect the presence of the latter behind the former, we call it intensity. The intensity of a simple state, therefore, is not quantity but its qualitative sign.*" TFW 224. If we want to make sense of this formula, we must bring it to life, so to speak, in the duration which it implies.

⁴⁶ Compare Merleau-Ponty's notion of "norms" which are selective of relevance of signs. See Morris 2019 42, 53.

nothing but this movement that is begun, and the very keenness of the pleasure, while we enjoy it, is merely the inertia of the organism, which is immersed in it and rejects every other sensation. Without this *vis inertiae* [force of inertia] of which we become conscious by the very resistance which we offer to anything that might distract us... *Time and Free Will*, 38.

When we sense our resistance to alternatives, there arises a certain consciousness of the desire; we get a sense of how much we desire, that is to say, the intensity of the desire concretely felt when we feel our efforts to avoid pursuing other futures which would distract us from those we anticipate when the sign is present. The sign is a call to action and it has an immanent force or energy (HIT 52, 53). For example; the desire to go meet your friend at a pub is felt to be of greater or lesser intensity because of how strongly it is able to resist other desires from forestalling its fulfilment, such as for example, the desire to write a dissertation. What this makes evident is that we have a concrete sense of the relevance and importance of signs which are tied to the peculiarity of each of our unique circumstances and experiences. Emotion involves a degree of freedom in that it allows for a hesitation to automatic reflexes. Furthermore, it focalizes and gives direction to multiplicity.

At bottom, Bergson's critique of intensity in TFW is a critique of translating the qualitative multiplicity of interpenetrating continuity into a quantities in which the diversity and nuance of detail is collapsed into a single value. Intensity is not a magnitude since magnitudes are given all at once.⁴⁷ Muscular effort is not reducible to the resulting action fully produced, the static sign which is the exterior manifestation of it. We are told in MM, the minimal noticeable changes of perception of quality is never given in an instant but are in fact contractions of

⁴⁷ There are many important parallels between Bergson's rejection of the instantaneous interpretation of intensity in late medieval philosophy, especially Francisco Suárez. Jean-Luc Solère, provides a thorough account of this problem in two articles; 2001 & 2010, The most important parallels are that intensity is not treated as something caused by an external disturbance like in psycho-physics, but is rather "inceptive" and the lowest degree is the initial manifestation of the power as it is gradually actualized, and thus is not instantaneous but continuous. There is an instant at which quality is noticed, but this does not mean that it is given in an instant. Rather, like motion, it arises in a continuity and we cannot identify a first "instant" of motion because it is a passage. We will return to this problem below in sec. 1.3.2, 2.1 and 2.2.

memory “The qualitative heterogeneity of our successive perceptions of the universe results from the fact that each, in itself, extends over a certain depth of duration, and that memory condenses in each an enormous multiplicity of vibrations which appear to us all at once, although they are successive.” (MM 70). Intensity is a continuous variation which necessarily involves a passage, a temporalization, and the interpenetration of moments, which is found internal to concrete duration, is repugnant to being rendered as a totality.

The intensity as a qualitative multiplicity is a unity implying an infinity of nuances. The unity of sensation is not due to the multiplicity of differences in sensation, but is due to the unity of memory which strings together the variations by a continuous thread (MM 69). The continuity of intensity in the concrete passage of duration—the inner life of the soul—is repugnant to expression in language. All the multiplicity of moments interpenetrate, as with the notes of a melody, each announces those to come and summarizes the ones which came before. The melody is not a series of discrete values, isolated while it is sounding. Notes bleed into each other, contextualizing one another and insinuating or suggesting the shifts and cadences of its unfolding and development. Listening to music is like a “current of feeling” traversing infinite nuances of colors. Bergson returned to musical examples again and again throughout TFW to characterize duration (12, 14, 44, 86, 100, 111, 147) so that his metaphysical psychology strives to make thought more and more like this sort of inner music of duration, a temporal thickness unrolling by developments and evolving like the complexity of motive variation Arnold Schoenberg describes in *Fundamentals of Musical Composition*.⁴⁸ The music of the soul,

⁴⁸ “Variation means change. But changing every feature produces something foreign, incoherent, illogical. It destroys the basic shape of the motive...developing variation...means that in the succession of motive-forms produced through variation of the basic motive, there is something which can be compared to development and growth.” Schoenberg 1967, 8. “variation, it must be remembered, is repetition in which some features are changed and the rest is preserved.” *ibid.* 9. “Development implies not only growth, augmentation, extension and expansion, but also reduction, condensation and intensification.” *ibid.* 58. There are many parallels between this text and Bergsonism, most notably in having an “organic” conception of form: “Used in the aesthetic sense, form means that

according to Bergson, is hidden by habit and language (L 151). Its melody is “cheerful but more frequently mournful and always original.” (L 150). It is an unbroken continuity of singular moments, each unsubstitutable with the rest. Effort itself is like the motive-variations in which each repetition involves its own peculiarity (TFW 211). The feeling of effort is *sui generis* and its activity is that of the concrete self (TFW 219).

Bergson’s whole point in TFW is that this sort of intense feeling (qualitative multiplicity), as an auto-affection, is a “data” or “given” of experience which must be considered as no less real than the quantity of external causes. Without this evidence of growing intensity we will be unable to resist the tendency of the intellect to quantify and be lead into determinism and reductionism, at which point freedom appears to be impossible. The “*dynamic*” approach, that he raises as an alternative to the “static” (which leads to determinism), takes this feeling of intensity as qualitative multiplicity unrolling in duration as a primary data, as evidence. The activity of spiritual energy, as Bergson called it, borrowing Aristotle’s word, is an energy which is entirely different from the energy of 19th century physics. It is “an energy which may differ from the other two [kinetic and potential] by rebelling against calculation.” (TFW 152). The energy to which he is referring is the activity of the “concrete self” exerting as effort. Bergson’s dynamics takes concrete effort as the basis on which to understand freedom and subjectivity. Time explains freedom and freedom explains time because freedom is something that can only be understood as emerging in a depth of duration, and duration, as an interpenetration of moments, involves intensification and concentration, which are “degrees of freedom” itself and

a piece is *organized*; i.e. that it consists of elements functioning like those of a living *organism*.” *ibid.* 1. Furthermore, Schönberg describes the creative invention of composition in the same terms as de Vinci and Ravaillon, saying “[a] composer does not, of course, add bit by bit, as a child does in building with wooden blocks. He conceives an entire composition as a spontaneous vision. Then he proceeds, like Michelangelo who chiseled his Moses out of the marble without sketches, complete in every detail, thus directly forming his material” *ibid.* 1-2.

only by efforts of spiritual energy can we make evident the temporality of freedom. Central to this foundational moment of Bergsonism—uniting will and duration, auto-affection and intensification—is the notion of continuity.

Intensity is conceived dynamically on the basis of *continuity*, which expresses neither a concept or sign, but can only be intuited directly in the reality of concrete duration as the inner passage of qualitative multiplicity. This is, so to speak, the point of departure of Bergsonism: the feeling of passage, transition, becoming, flowing, enduring, growing, changing or inventing, this is all implied, for Bergson, in the word *continuity*, and all this is involved in listening to music. We will see as we continue in this study that the sense of continuity which played such a central role in TFW, grew out of Bergson's reading of Aristotle, which Bergson pointed to when he said:

In short, we must admit two kinds of multiplicity, two possible senses of the word 'distinguish,' two conceptions, the one qualitative and the other quantitative, of the difference between same and other. Sometimes this multiplicity, this distinctness, this heterogeneity contains number only potentially as Aristotle would have said. Consciousness, then, makes a qualitative discrimination without any further thought of counting the qualities or even of distinguishing them as several. *Time and Free Will* 121.

The continuity of qualitative multiplicity implies a different sense of “distinguish”, and this relies on “potentiality” taken in a dynamic sense. In the foot note to the title of the second chapter he explicitly says the two senses of distinguish are qualitative and quantitative, juxtaposition and interpenetration (TFW 75). The good sense of distinguish, the Aristotelian dynamic sense, involves a *coexistence* in which the “coexisting terms form an organic whole” (TFW 75). It is in this organic, dynamic, and musical sense of continuous multiplicity in which we “distinguish” an infinity of qualitative details in the indivisible passage of intensity. The dynamic and qualitative sense of continuity must be drawn from experience of the acts of our own spiritual energy, i.e. in concrete effort. The final act of TFW is to place intensity, tension, and concentration, into the horizon of singularity and unsubstitutable nuance. No two efforts are

the same since each is an unrepeatable moment in the irreversible suite of our life's history. Thus effort, freedom and the concrete self they imply (integral survival of the past), are utterly inexpressible in language which relies on generality (TFW 211). Habit hides this fact from us, and convinces us that we in fact repeat the "same" actions in our daily routine. Habit also suppresses our feeling of effort. We are therefore lead naturally to fail to notice what the nature of concrete effort really involves. Thus effort is an "immediate data of consciousness" but it is not initially open to interpretation by language, much less to concepts and quantity.

1.3.2 The Role of the Continuity in Aristotle's Physics and Psychology

The unity of continuity involves both indivisibility and infinite potential divisibility. Aristotle announced this problem very early on in *Phy.*, in just the second chapter of the first book. Aristotle touches on a point which recurs throughout his *Meta.*, that *one* [ἓν] is “said in many ways” (*Phy.* 185b5) and he enumerates three: continuity, indivisibility, and by essence/account. A paradox arises if we try to understand continuity because it seems to be both divisible and indivisible. It is the duplicity of λόγος which steps in to avoid the paradox. We must distinguish between the indivisibility of form and the multiplicity of matter: continuity will be both one and many. Not in the same way at the same time, but differently in relation to its being in potency and its being actualized. It is λόγος which articulates and connects continuity and indivisibility. Aristotle engages this question in the midst of trying to establish another point, which was, that natural philosophy will not be concerned with refuting demonstrations which are not based on the principles of the study of nature, i.e. principles discovered in experience. He thus gives examples of arguments which do not broach the problem of nature because they imply principles outside of nature, namely immovable beings according to Parmenides, and the existence of infinite bodies according to Melissus. Aristotle thus shows his own sense of infinity, infinity involved in nature, in distinction to the sense of unity and infinity which do not pertain to the study of nature. In typical Aristotelian fashion, we are shown the limits at which we exit the domain of study we hoped to explore.

There is a cooperation of infinite and finite, divisible and indivisible, unity and diversity of account, and finally, act and potency, which Aristotle laid down as delimiting the investigation of nature. The unity and difference of λόγος implies a distinguishability which does not divide into different entities, but articulates differences which are intimately connected in a

composite unity. In nature we give account of both the matter and the form. Matter, form, and privation make up the principles of nature for Aristotle and so the problem of infinity and indivisibility will only be solved by placing them in the dynamic relations of these principles existing in nature. In nature they exist concretely in a composite unity.

This perplexing status of continuity is evident in DA 3.3, where Aristotle reiterates the idea that a continuous quantity is both divisible and indivisible.⁴⁹ Here Aristotle refers to place and time as indivisible, not as a point but insofar as a continuous quantity is taken as a whole, but in the way that the length of one's arm is the concrete measure of just that very limb. It is, in this sense, indivisible because it is a whole which fills the boundaries by having a surface. An actual magnitude in the categorical sense refers to the concrete instantiation of a "this" as this-much. Nevertheless, the indivisibility is related to a potential divisibility such that they are numerically one, while being, at the same time, able to be viewed from the perspective of its distinguishable parts. Aristotle uses the duplicity of senses which are involved in points to understand the thought of being both indivisible and divisible. A point can be viewed in its unity and it is *indivisibility* which we consider it to express, but we can also view it as a breaking point or *division* between two parts of a line.⁵⁰ The point can be taken account of as *both* an individual and a divider. Continuous quantity is conceived by an analogous kind of duplicity. It is indivisible due to form, quality, or in relation to an operative force of movement: the continuity is in this sense a unity. Yet it is also divided due to matter, power, and having parts which are traversing infinite variation of forms. That which grows and diminishes or heats and cools is one in being but double in account and it is the duplicity of senses that leads to the dynamic being of

⁴⁹ Jiménez 2017 207-211.

⁵⁰ Jiménez 2017 177.

continuity. Passage is a coexistence of potential divisions and indivisibility. It divides past and future but it also makes them continuous.

Continuity has two defining features that we must make sense of by bringing them together (1) that outside of which there is always more (2) that of which the extremities are the same. These characteristics of the infinite in continuity will be most readily understood starting with an overly simplistic example (although it is far more difficult to rescind the abstraction and return to a concrete sense, and it is only from concrete passage that the character of the infinite can have reality).⁵¹ A simplistic example will use symbols to stand in for reality in the process of each moment gradually giving way to another. Continuity is an excess, an unlimited pouring out, which can never be grasped statically or by fixing it into concepts. Consequently, this abstract example is most susceptible to a misrepresentation of real continuity.

Ex: A, B, C, and D are moving parts of a continuous movement. Each interpenetrates and yet differentiates from the others. There is a movement through ABCD. A through D is a continuous movement. B and C are parts of the continuous whole AD. The continuity of BC with A implies that some of BC is in A and some of A is in BC. Likewise some of BC is in D and D is in BC.

The most we can say of A and D, if we abstract them from the continuity which concretely unites them, is that they have an indirect relation. The indirect relation is made possible by ignoring what fills the interval which separates them. If they are continuous then there is no interval

⁵¹ The problem we face in understanding the infinite is above all due to the fact that we tend to conceive of things cinematographically as a series of instants. Indeed it is quite difficult for us to appreciate the sense of Aristotle's term διαπετόν, most often translated "divisible" but which also includes the sense of "distinguish." It is formed from the stem αἰπέω [*haireo*] meaning to take or chose, but also to raise or lift. In *Physics* 3, where he deals directly with the nature of the infinite, Aristotle uses a puzzling phrasing of διαπετόν which cannot easily be conceived as a "division".⁵¹ He says, at line 207a22 concerning the relation of the two infinities to a complete whole, that one is διαπετόν by destruction, demolition, diminution, or *taking-apart* i.e. καθαιρεσιν; the other by augmentation, addition, or prosthetics i.e. πρόσθεσιν. What would it mean to be divisible by addition? If we instead translate διαπετόν as "distinguishable" then the meaning begins to become clear. The parts of the infinite are *distinguishable* by a continuous addition; each part is distinguished as having more outside itself, an excess by which it interpenetrates with other parts beyond itself as it grows, expands, or passes.

separating them. A and D are not merely mediated by BC, if they are truly continuous. B is partially A and partially C. We must destroy the continuity of the parts if we are to think of a relation between A and D. This relation is external and involves discontinuity, and by viewing it in this way we no longer see B and C as implicitly part of some prior and posterior parts. The interpenetration of continuous parts is erased when we enumerate the parts as if laid out in space, or translated into syllables.

The problem that this simplistic example cannot shake off, is that the symbols seem to designate positions which the continuous movement passes over. Thus we are lead, by the intellectual habits of division and juxtaposition to see A as a starting point and D as a terminus.⁵² But if each part is a movement it will not be a terminus but a continuous becoming through an infinity of parts. To better appreciate the deeper sense of continuity we must turn to the gradual transformation of qualities: i.e. alterations. We can make A = green, B = yellow, C = orange, D = red. Passage from one to the next is gradual and continuous and yet when we relate red to green it is impossible to see how we get from the one to the other. Nevertheless, we find that the color of leaves on various plants will transit just such a series of shades, and preceding to brown, tan, and grays and in some cases purples. The transformation is continuous and yet it passes through infinite qualitative variations which are qualitatively heterogeneous. We can only experience one part after another, each of which is expressive of the whole without exhausting the nuance or multiplicity of each detail. In each part the whole is evident, but not present.

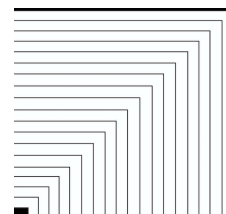
⁵² Thus, we recompose continuity artificially in the interval by means of the discontinuous parts as if with building blocks. In order to do so we substitute real continuity for the trace which is left behind, and thereby seem to have escaped the problem. But it only seems as though we have evaded the problem because habit has hidden from us the act of derivation and erasure at work in the method of division and symbolizing. As soon as we take notice of this act and its effects, the problem of real continuity reappears with all its original obscurity, and implicit exorbitance. We must supplement our simplistic example with a confession and an apology. We must confess that no part can be completely accounted for, and must apologize for the quiet impoverished representation which the symbols provide as substitution for the reality of continuity.

The infinite appears, says Aristotle, in an account of the parts and not in relation to the whole (207a27). The parts are not discrete or static unities, like wholes, but are themselves continuous like passage. Because each part is excessive, each part is announcing the arrival of the next part and also summarizes and contains the prior parts. The interpenetration of the potential parts is what makes them form an indivisible whole. The excess implied in each part is not just some “next part”, taken as if it was a series of finite wholes. The infinity in concrete continuity implies that the parts are not related externally, but by *interpenetration* and *confusion* of parts. Excess is manifest in continuous parts, because it is manifest with each moment of passage that some other parts are implicitly intertwined with but beyond it. In the passage though infinite transformations there is another moment outside whose arrival is immanent and into which this one also partially coexists. Within every moment of its indivisible passage, there coincides a termination of another prior moment which it follows upon. We sense the excess as an absence within passage, as moments both receding beyond a horizon, and we also sense a trace in it of something which it retains or continues, but from which it is also distinguishable. This impeding or obstructing, so to speak, of continuity—this *depth* which prohibits us from seeing further, this absence of what is beyond—also makes evident the reality of the continuous whole. This obscurity and confusion is not something that needs to be overcome. Seeking to overcome the depth of continuity is like the endless effort of trying to look behind your own head; we will always have some part of the visual field obscured, either behind us, or even by the limited focus of attention which concentrates on a figure standing out from its background. This is the infinity expressed in the continuity of our lived world and why Aristotle says we perceive the whole universe by perceiving only a part of it (*Sens.* 448a9); since the parts are continuous in

the whole and interpenetrate. We discover the whole of a rock even though we touch only its surface.

A ream of paper provides a good illustration of the difference between interpenetration parts and parts made continuous by artificial compiling (Denyer 1993). The individual pages do not interpenetrate in the way a solid block of wood forms a whole. We could use a plane to remove sheets, but each has some thickness. We can imagine an infinite number of infinitely thin sheets to constitute the bulk of the continuity so long as we don't think that infinitely small parts ever exist in actuality as separated from the whole. There really are an infinite number of infinitely small parts, but they are not sheets, since sheets are discrete totalities. Thus we cannot think of the infinity of parts as sheets which are contiguous. Likewise in movement and time, the continuous fluctuation of every part, no matter how small, is a positive change irreducible to a point or instant.

Aristotle's sense of the infinite involves qualitative flux. This is already implied in the Pythagorean sense of odd and even, which differ not merely as quantities but rather, *formally*. Odd numbers have forms that are limited while even numbers have an unlimited diversity of forms. This is clearly displayed by a diagram provided by C. D. C. Reeve (2018 266, n245). The following diagram extends this pattern of even number length rectangles further, showing gradual transformation to a square:



The shape of the odd series never changes; as you advance each square has the exact same ratio of lengths (1:1, 2:2, 3:3, 4:4). In an even series the ratio between the lengths and height is different at each stage (2:1, 3:2, 4:3, 5:4). No two figures will have the same ratio, the succession will give always a new and different form. The successive parts of the unlimited are *qualitatively different*, and yet related in a series. A distinct quality of being

unlimited appears in the series of odds where each grows off the prior and gradual transforms. Since we are dealing with shapes we have discrete forms, and with numbers, we have an infinity of discrete quantities. We have nevertheless an indication of a positive characteristic of infinity as the continuous variations of qualities undergoing gradual transformation. The infinite in the concrete qualitative sense is the deeper sense of infinity as we find it in bodies, motion, and perception. It is a sense of depth which passes gradually, both leaving behind and advancing.

Continuity and Succession

As it turns out, Aristotle's description and analysis of continuity precludes us from understanding it as either static or homogeneous. This is evident by the fact that continuity involves succession ἐφεξῆς [ephexes], as Aristotle insists in *Phy.* 5.3, 6.1 and *Meta.* 1069a20. Succession is primary, so that not all succession makes contact, but all contact implies succession. Ἐφεξῆς is defined as what follows after a starting point in position, form, or in some other definite way, and nothing together in kind between it and what succeeds (*Phy.* 226b35). "For what is successive is successive of something and is something *after* [ὕστερον]." (*ibid my emphasis*)⁵³ Succession is a relation which involves plurality or multiplicity in the form of before and after. The second day of the month is after the first, and as one does not follow after two, nor the first day follow the second, so it is always the reverse of these (*Phy.* 227a5). Like contiguous days, continuous parts are "*after*", something *following from* something prior. This even applies to the parts of continuous magnitudes which extends out away from some place: of all the parts

⁵³ The word ἐφεξῆς is formed from ἐξῆς, a future form of the verb ἔχω,⁵³ and translating literally means something that "*will-hold*" as "next" in order. While ἐξῆς has another paronymous sense in relation to *quality*, dispositions or habit [ἔξις], a "*lasting-disposition*", succession perhaps has a less stable and self-sufficient sense. Ἐφεξῆς indicates that the existence is after, and relating back to that which it succeeds. It also involves the enduring condition, "*holding*" [ἔχειν]. Ἐφεξῆς translated literally as what "*will-hold-out-after*". The Latin root of succession or sub-cerno is related to the Greek κρίνω, divide or discern. There are several other Latin terms used but none map directly onto the Greek, *ephexes*, such as *consequenter* and *deinceps*. Deinceps at least uses a root word meaning hold "-ceps" but *dein-* means next, and so also does not exactly map onto ἐφεξῆς.

of the extension we would say they are “out away from” the beginning to which they relate. Likewise in motion, every part of the motion will be following after some portion which came before. A confusion arises in attempt to understand what Aristotle means by successive. He used a restrictive sense of succession which have neither contact nor continuity but, like numbers or houses, are separated units. Aristotle also determines all contact and continuity to have the character of irreversibility that belongs to succession, and then separates off the strict sense of numerical succession as lacking both contact and continuity. This seems to make continuity, which is a sort of succession, depend on the apparent opposite of succession, that is, simultaneity [ἄμα]. Aristotle untangles this aporia throughout books 5 and 6 of the *Phy*. Briefly put, Aristotle says continuity is a kind of contiguity ἐχόμενον (227a10), and contiguity depends on contact and succession (227a9). Contact is defined by the extremities being *together* ἄμα at their surface. Continuous parts are defined by the extremities being not together at a surface which acts as a threshold, but a contact of extremities themselves *being one*. The main difference between the two specific forms of *contact* is that contiguity implies a difference between a whole which touches another whole, while continuity implies a difference between a part which touches a part and connects them so that the diversity of parts share μετέχειν in the unity of the whole which holds them together συνεχής. Thus both contiguous wholes and continuous parts are successive, though not in the same way. They are also in *contact*, and so, involve a coexistence ἄμα.

The Ambiguity of ἄμα

How can continuity involve succession and simultaneity? Derrida makes much of this ambiguity in *Ousia and Gramme*, saying that there is a sort of silent affirmation, an unspoken acceptance which gives room for the coexistence of succession and simultaneity, within an *ambivalence* of ἄμα. Contrary to Derrida’s account, Aristotle did not remain silent on the sense

of ἄμα, although he may have used it ambivalently in those famous passages dedicated to the problem of time from the second half of *Phy.* 4.

We can perhaps alleviate the fear of a simple contradiction by pointing to the way it refers to things which are “together” in the genus as stated in *Cat.* 13. In *Meta.* 4.3 Aristotle refers to the progressive development of a science as “*held-successively* in the genus” [ἐπέχει τὸ γένος]. The demonstrations are in succession but all develop out of the same starting point. Here the genus is not a logical generality, nor are its parts all present at once as coordinated. Instead the genus of a science is a generative power or creative potential, from which a succession of stages follow in development in a series for which each moment is inheriting from those before and giving to those that follow. This is exactly what Ravaisson called a subordinate series (EMA 532). Continuity has successive parts and they are a *plurality* admitting of qualitative diversity. These parts are together in the *genus* which they share as a *generative power*, and are together, not instantaneously or in a static present but by unfolding successively in a gradual progression emerging from the same source.

But there is a deeper sense ἄμα in relation to continuous parts of motion. In some sense we must see the parts as both successive and simultaneous. If all motion is “from something to something” both the *this* and the *that* are somehow *together* in the motion (235b7). Their way of being together is by being in succession. The *this* and *that* cannot exist *at the same time* unconditionally; we are not walking [βαδίζειν] to Thebes at the same time [ἄμα] as having walked [βεβαδικέναι] to Thebes (213b28). Likewise we cannot have already learned when we have only just begun to study. A seemingly paradoxical unity of opposites (like affirming the existence of “conditional non-being”) must be thought in all continuity. Aristotle says “What is changing must also have changed, but what has changed must also previously have been

changing.” (237b17). Any part of a change is “changing” but it is always a *successive part*, always relating back to prior parts. It must be the case that we walk to Thebes at the same time as already having been walking to Thebes, but not having walked there completely. Every part of the continuous movement comes *after* leaving, motion is already on the way to Thebes; it already began to move and is already having made some progress. All change, being from something to something, means that change involves *leaving behind* [ἀπολείπειν] what it is changing from (235b8). Aristotle says “leaving behind and changing are either the same or leaving behind follows [ἀκολουθεῖ] upon changing.” (235b10). Each part of the change will have already left something behind. Further, “having left behind [ἀπολελοιπέναι] follows upon having changed [μεταβεβληκέναι], since in each pair there is a similar relation [ἔχει] between its two members [ἐκάτερον].” (235b11-12). Every part of motion will be related to some prior part which it implies, but which it has left behind. This is the sense of the divisibility [διαίρετά] of motion, which we should translate *distinguishable*: each part is distinguishable because it is different from another part on which it depends and from which it emerges. So motion involves the coexistence of two terms which each expresses its own relation of before and after since; (1) what has come to be must previously have been coming to be (the complete motion must have left behind actually changing); (2) what is coming to be must previously have come to be because what is actually changing must have left behind a motion already completed (237b9-11).

In order to understand this we must stick to an understanding of continuity as parts outside of which there is always more—to avoid making the parts discrete or static. This is what is implied in the passage of continuous succession. If we take any random part, it will always be the case that something came before it, that it was already changing and that it already has been changed. If it is changing to something else it cannot already have changed completely, but must

already have been changing, and some change must already have come about. If we are building a house, and we are fitting blocks and fluting the columns then we must have already built the foundation. Likewise we must also have already been in the process of building the foundation. Every moment of the construction of the foundation, insofar as there were movements bringing it into being, there was accomplishment of the motion, and something has already been left behind, namely, the uneven earth and loose soil.

The implication is that the parts of continuity always follows *after*, and always imply something more not yet given. If we take the parts of movement as “having already completely come to be” then motion will be composed of jumps, leaps by which it instantly goes from *this* to *that*. This would make motion discontinuous and cinematographical. Each continuous part must in fact be changing if it is truly a part of movement. The passage of change implies a progress which continuously advances.

Aristotle made a crucial distinction between ἄμα and a stop or instant [ἵσταται] (239a9).⁵⁴ Nothing prevents ἄμα from including duration, there is no sense in it of the strictly instantaneous.

⁵⁴ We find a distinction in the work of Alfred North Whitehead which is perhaps applicable to the ambivalence of ἄμα. In *The Concept of Nature* he differentiates simultaneity from instantaneousness “Simultaneity is the property of a group of natural elements which in some sense are components of a duration.”; *ibid.* 53. “A duration retains within itself the passage of nature...in other words a duration retains temporal thickness.”; *ibid.* Later Whitehead will refer to this as a unison of becoming, a phrase we will make use of later. Simultaneous means ‘during the same time’ referring to a unison of becoming common to multiple durations. The concept of instantaneousness, on the other hand, is emptied or deprived of all duration and temporal thickness. Whitehead insists, in what seems to be a quite Bergsonian fusion, that “there is no such thing as nature at an instant posited by sense-awareness.”; *ibid.* rather it is a “complex logical concept” produced for the sake of “the simple expression in thought of properties of nature.”; *ibid.* 52. Whitehead does not think that instantaneousness is a mere phantasy or logical fallacy, rather it is a concept which provides a certain value to science. This value is dependent on being “defined in terms of genuine natural entities”; *ibid.* 53. The instant marks off a limit within the passage of nature, it marks one part of duration as different from another. But, according to Whitehead, “every duration is part of other durations”; *ibid.* 54. Any limit will exist in a larger duration which it delimits an articulation between parts, but the limit is not a part of duration, since every duration has other durations as parts and is part of other durations. This means that every duration both extends over other durations and has other durations which extend over it; but an instant has no extension. Whitehead defines the instant as a “convergence to a limit”; *ibid.* 56, which echo’s the infinitesimal thought of “passage to the limit”. In this “convergence” there is a progressive simplification and gradual “diminishing of the temporal extension of the duration considered.”; *ibid.* Thus the limit is reached by an infinitely diminishing series of divisions which “eventually” reaches an instant, as an infinitely thin duration. By abstraction there is a “passage to the limit” or “convergence on the limit” of an instant without temporal extension. Thus the instant is the product of a complex

Aristotle had another term, closely related but which is also distinct from each of these two, that is “the now” [τό νῦν]. There is no movement or time in the now for Aristotle. “Nows” cannot be successive (*Phy.* 237b24), they are not component parts of time. The sense of time as continuity emerges by the coexistence [ἄμα] of the now and another now (*Phy.* 4.13 and 239a25) this coexistence is by no means a static “instant” which contains them both. Rather it indicates a community of different durations, a fact which is abundant in examples found in nature, any simultaneous processes (253b20). We will return to the problem of simultaneity or coexistence [ἄμα], for now, let's conclude this digression on the problem by referring to one more passage, this time from *Post.* which will help pull together the role of ἄμα in continuity.

Aristotle unpacks the difference between simultaneous and successive relations of cause and effect. The eclipse is a particularly clear example of simultaneity of cause and effect: the effect (darkening of the face of the moon) comes to be *at the same time* as the cause (the earth's interposition) (95a15). The eclipse is in constant change as the earth moves, which is also to say, as the shadow moves, but during all of the time that it blocks the light in its transit is delimited by the simultaneity [ἄμα] of the cause and the effect. The deprivation of light is coexisting with the interposition, they are bound together in a necessary relation. This relation is not *instantaneous* but rather involves the passage of nature. Aristotle supplements this example with another in which we have a metaphorical “eclipse” [ἔκλειψις] or a deprivation of heat which is a cause simultaneous with the effect of *freezing* (95a19). Frozen water comes to be *at the same time* [ἄμα] as the deprivation of heat. This does not imply an instantaneous event of freezing, but a *unison of becoming*. A lake can be seen to freeze as a *whole*, all the various parts across its

logical operation and is not a data given in sense-awareness of nature. The instant is formed by infinitely slowing down the passage of nature which never in fact ceases.

surface, together, at roughly the same rate of change since there is a deprivation of heat in all its parts. It freezes in a unison of becoming. In the passage of this process, all of the parts are continuous and successive, they build off those which came before and surpass them towards further alterations. The “eclipse” of heat causes, *at the same time*, the freezing of the water. This coexistence in time is not an instantaneous juxtaposition; it retains a temporal thickness. ἄμα brings together an infinite continuum of changes, a unison becoming. The *coexistence* [ἄμα] is a nexus between the agent and patient, *contact* is the place of the actual occurrence of this event. So much for the simultaneity of cause and effect, it has shown to be in no way defined by the instant, nor emptied of temporal thickness. To the contrary these examples involve the irreversible emergence of change and concrete qualities.

The Openness of Continuity to the Future

After establishing this account of simultaneous causality, Aristotle went on to interrogate the relations of causes in continuous time. The problem here is to determine the way a *necessary relation* can be discovered, which is what a syllogism provides. In continuous time we confront an immediate difficulty for scientific knowledge, since, as Aristotle insists, syllogistic thinking must proceed from the *outcomes*. An outcome is the end of the process of change, which as we grasp only *after* the change has been completed (*Post.* 95a28). In continuous time a thing which is *happening now* relates to something which *happened before*, and to something which *will happen* later. What can we determine about these relations in terms of *necessity*? For relations of cause and effect in continuous time we cannot say that because this, A, has come to be something else, B, must necessarily come to be (but has not yet come to be). All we can say in all such cases is that if B should come to be, A must have come to be prior. Aristotle’s conclusion will obviously prove to have a great import on the relation between continuous parts

which involves *motion* and *power*, i.e. the dynamic sense of being. In all cases involving continuous motion, such as building a house, we cannot say that because the foundation was built, a house will necessarily be built (95b33-37). Rather, we can only say that if a house is going to be built, a foundation will need to have been constructed first. There are conditions which must be fulfilled in a subordinate series: a continuity cause and effect relate in succession as a gradual realization.

In succession of causes and effects we must distinguish between what is known to be necessary by virtue of having already occurred, being an outcome, from what, on the other hand has not yet come to be, but if it should come to be, requires necessarily that something else come to be first, on which its emergence depends. Aristotle calls outcomes indivisible [ἀδιαίρετος] (95b10) while the process, as it unfolds, is both divisible and includes an infinity of potential outcomes (95b13). We must begin this sort of syllogism with an immediate premise, and this can only be an indivisible, i.e. an outcome. The fact of a house existing, marked by the time of its completion, is the existence of an indivisible outcome. It is from the fact of having come into being that a syllogism of this sort can proceed; on the basis of the necessity of prior conditions having been already met. Prior to the completion of a succession of changes we cannot deduce the necessity of the outcome in anything but hypothetical terms. We are never certain that our efforts will be fruitful. A student does not know for certain that they stand to gain by devoting themselves to strenuous study.

Such a hypothetical inference is capable of leading an architect to *suppose* the possibility of building a house, and this indeed makes it possible to bring a house into being since one assumes that the result is achievable when they set out to bring it about. The architect knows that in order to put on the roof, there must first be walls and a foundation. The hypothetical and

problematic point of view which appears to be overcome in a finished product, is unsurpassable for human life and irreducible to an eventual grasp by science, in the way Laplace's demon can predict all future outcomes as necessity.

Aristotle denied the possibility of this kind of necessary inferences concerning the future on many occasions, famously with the example of a naval battle in *Int.* 9. A similar example is found in *Post.* 2.11: we cannot say that prior raids in Sardinia make it necessary that a war will break out against Athens, (or that this would perhaps lead to a naval battle). The middle term which makes the syllogism possible, is the moving cause, which can only be included in reasoning if it has *already come to be*. The raids explain, as moving cause, why “war is declared against those who acted unjustly earlier” which is attributed to the Athenians, who were the raiders (94b3). In order to connect the necessary relation between the declaration of war and its motive cause, we must have evidence of both the *prior* event and the one which succeeds it, the one which is *after*, i.e. war *has been* declared, and this is due to/explained casually by, the prior raids on which it is “predicated” which is just to say, on which it depends.

War is not declared at the same moment as the prior raids, nor does a sea battle occur at the same time war is declared. All the while something can intervene and change the course. As a moving causes, the process includes an infinity of possible outcomes (95b12). While it is moving we cannot form a syllogism, because humans have “choice” or “pursuit” προαίρεσις [*prohairesis*] (*Meta.* 1048a11), “deliberate for themselves” βουλευέσθαι [*bouleuesthai*], and can direct movements in concrete circumstances towards another outcome [ἀπὸ τοῦ προᾶξαι τι] by acting as a moving cause (*Int.* 19a11). Such is “on the whole” the common way of being for all

entities involving possibility, potentiality, power, force, virtuality: all that has come to rename the δύναντον.⁵⁵

In the dynamic (and especially the developmental) sense of being, the future is contingent, meaning that *in the midst of process there is no guarantee that a single outcome will come to be*. Perhaps there will be a naval battle tomorrow, and perhaps it will be motivated by the fact that the raids occurred; but, insofar as it has not yet happened it is still possible for other outcomes to be realized. We cannot anticipate what could come to interrupt the series of events necessary for the battle to take place. Famously the Athenians fleet had to cancel its planned expedition after the herms (sacred statues) were vandalized in Thucydides *History of the Peloponnesian War*, (6.29). So, when the raids have already occurred there is a moving cause already at work, but this does not mean that it (1) has already produced the effects, nor (2) that it necessarily will achieve them. Even if war is declared, and the command has gone out to set sail on the following day, this still cannot make it necessary that there will be a naval battle. Perhaps a house is being built, and tomorrow the roof will be put on. If this is to happen then necessarily the foundation and walls were already constructed. The declaration of war can interrupt this outcome, and while it necessitates its own prior conditions (raids or foundations), there remains, within the continuity of time, a plurality of moving causes which could bring about an infinite diversity of different outcomes by following different lines of pursuit. So too with artistic invention: a building is formed, ordered, structured—a relation of qualitative diversity to the whole. The foundation hold up the walls and super structures, which in turn hold up the roof. Each of these parts forms a successive “grounding” relation, so that the walls are by analogy the

⁵⁵ Bergson drew on this very passage of *Int.*, in order to describe the evolution of the problem of freedom in the 1904-05 courses; 98-103. Aristotle’s insights into freedom are praised by Bergson, especially the insistence on the contingency of future in intentional action. There is no mention of this (open) temporality of contingency by Bergson when he taught Aristotle’s doctrine on time. As I will suggest later; sec. 1.4, this is a considerable failure.

“foundation” for the roof. Thus in all developmental dynamics there is a subordinate series of successive inheritances in which powers are passed down and taken up anew in a higher integration, converging into one direction and propelled forward by all of those that came before. Such is the very sort of series which defines Aristotle’s developmental psychology and epistemology: perception, imagination, memory, experience, learning, art, discursive thought, and finally contemplation and intuition, as described in *Meta.* 1.1.

The continuity of motion is open to both development as well as dissipation and disintegration. There is no chaos or disorder at the lowest position of disintegration. The lowest level we can go is to the simple bodies, fire, air, water, earth, taken in isolation. All other complex moving things, mixtures, concoctions and finally in life, the composition includes all four elements and has a self-kindling vital heat. The gradual rising which breaths life and intelligence into greater powers of acting. This rising through a subordinate series of powers is what Ravaisson called a continuous proportion (EMA 532). If the outcomes were *contiguous*, then we could say that one necessarily follows another and that this series leads up by necessity to the later outcomes. The coordination of contiguous realms in nature is just such a system of necessary relation. Time and motion are continuous and as such hold always the potential for unknown outcomes. For Aristotle, the future is not determinate but open to change.

We saw that both simultaneous and successive causal relations involve duration and are conceived by Aristotle, not in terms of an instantaneous representation nor by logical abstraction, but rather in terms of concrete relations of dependency which retain the passage of nature and temporal depth. We have just seen how this conception of continuity involves the contingency of future possibilities. If something could possibly come to be, then it depends on a hypothetical or merely potential fulfilment of the necessary conditions. Insofar as they have not yet come to be,

and could in the end prove not to occur, the continuous progress at no moment forecloses the future. The succession of development implies an irreversible series of developmental stages in which powers are handed down and inherited in later stages by being put to use in higher functions. The “succession” and “inheritance” is not like a torch relay race in which the movement is broken up and merely contiguous. It is a passage of nature involving a unison of becoming among a multiplicity of different continuities.

The Final Word on Infinity

It is true that place, motion, and time are conceived by Aristotle, for the most part, as finite, exhaustible, and limited. In nature, continuity is complete by having natural limits. A place is limited by having a surface at which it is contained by another body; motion is limited by the contraries between which it changes (hot-cold) and the places between which bodies travel (up-down) (*Phy.* 241a27). Time, on the other hand, needs to be investigated in its own right, because it doesn't appear to have the same restriction (241b14). This appears in two ways. (1) Because motion in place can follow alteration, which can follow coming-to-be, and again be followed by any number of different motions. These motions are contiguous and successive because time is continuous (228a30). In other words, the diversity of movements each imply the complete unity in relation to each its category (change, alteration, growth, locomotion, generation) and these do not have continuity with one another except in time, i.e. change in magnitude is not continuous with an alteration. Time makes the discontinuous diversity of motions into a continuity in the unison of becoming. (2) Because there is a uniform motion (revolution) which is always repeating without an interval (241b20). By turning back on itself it is eternal in its finitude, and its motion makes place itself finite, since the revolution of the first heaven envelops all. Both are eternally the same by returning to themselves and by standing

motionless. Now time for Aristotle is continuously beginning and ending, and since it always acts as a beginning for something other, something new, it will go on forever infinitely without end (222b7). Time cannot do otherwise than usher in novelty by being the beginning of something else (251b20-25). It is thus different from the returning onto itself of heavenly revolutions. It is ekstatic revolution which opens into novelty. Time is “other and other” advancing into the future which is neither a repetition of the past nor determined as a necessary consequence in the present.

In sum, the continuity of motion is conceived on the basis of ἄπειρον in the sense of an excess, interpenetration and indivisible passage. This temporalization was found to imply succession and a qualified sense of simultaneity, as a unison of becoming. Furthermore, the dynamic sense of being, as developmental, involves a horizon of time implying a contingent future. All of these features are not cinematographical but are in fact irreducible to PTC.

1.3.3 Number and Counting In Bergson's *Time And Free Will*

Central to Bergson's development of the notion of continuous multiplicity was his analysis of number. His discussion mirrors in many ways, problems which Aristotle discussed. It will be helpful to go over Bergson's account of number before attempting to relate all these things back to Aristotle.

Bergson seeks to demonstrate how our conception of empty space is involved in the way we *count*. To do so he presents us with two modes of counting in TFW, which produce two different kinds of number. One operates by addition and presupposes a fixed totality of identical units. The other, always provisional, never provided with the certainty of a finished totality, is an incomplete process of enumerating. By the first we gather all the units and "sum them up" (TFW 76). By the second we enumerate "as we go" never rendering an account of the final sum. This deferral of summing up is possible in two ways. First of all, because of the divisibility of the units, we can always count them on another scale or find within each unit any number of smaller units. Second, it can be deferred by counting the continuous multiplicity of differences which are given in things themselves. Bergson says:

No doubt we can count the sheep in a flock and say that there are fifty, although they are all different from one another and are easily recognized by the shepherd: but the reason is that we agree in that case to neglect their individual differences and to take into account only what they have in common. On the other hand, as soon as we fix our attention on the particular features of objects or individuals, we can of course make an enumeration of them, but not a sum. *Time and Free Will*, 76.

When we examine the unity of each sheep, we find in it an inexhaustible number of details, not an infinitely divisible homogenous medium. Like the peculiar qualities of each sheep, continuous multiplicity involves an infinite diversity of concrete differences. Here we can think of the color spectrum as the congenial example. We can of course count a mere seven colors and ignore the infinite nuance which spans their intervals. We are also able to count an inexhaustible number of

nuances. Yet the color spectrum still seems to involve simultaneity and we tend to conceive it by laying out the colors in space.

But the provisional status of the concrete units implies a thickness of duration which the activity of counting opens up by concentrating on the multiplicity that it synthesizes. The counting process is originally provisional because reality is inexhaustible. Bergson thus describes two processes of deferral at work, one which is the consequence of the mind as it endlessly divides, the other which is the consequence of the inexhaustible multiplicity of concrete lived experience. Bergson divides the act of enumeration itself into a relation of original and derivative, the derivation inherently moves towards pure homogeneous space, while the original keeps close to the qualitative multiplicity of real duration. “We place ourselves at these two very different points of view when we count the soldiers in a battalion and when we call the roll.” (TFW 76). In calling the roll we are not free to enumerate by summing up all the units at once as a totality, we do not have them laid out in space before us simultaneously. Rather, the enumeration is something we must wait for, just as each number is called out one by one *back to* the officer. This way of counting is to receive the measure from the thing given in intuition, not by an indivisible act of the mind in its composition of space as we count a sum, all of which is already present in an instant. Bergson refers to something similar CE with the famous sugar cube which makes us sympathize with its duration (Cf. HIT 254). We are captivated by it and as we wait for it to dissolve, we feel the degree of tension which characterizes its duration as a delay. We must wait because the duration of the cube prohibits an immediate completion of the process. There is a concrete time of the sugar’s own process of dissolving which we intuit in its indivisible continuity, the progress of which we cannot speed up or slow down; we can only either sympathize with it or ignore it. Thus, there is a way in which counting is like duration, in

its contact with a multiplicity which it unifies in anticipatory attentiveness. The introduction of number sets out on a path of abstraction which leads to empty space. Even if number shows our digression away from real duration, the provisional status of counting points us back to the original duration from which it was derived. Intellectual intuition presupposes the sensible intuition of concrete individuals.

The provisional status of number is primordial in that it is closer to the delay implied in duration. The definitive nature of number consists in precisely summing up a totality. Number for Bergson “may be defined in general as a collection of units, or, speaking more exactly, as the synthesis of the one and the many.” (TFW 75) Whenever we treat a number as an indivisible unit we are merely presuming them to be indivisible. Number as such is capable of an unlimited proliferation of scales, orders and divisions. The activity of counting, either abstractly or concretely, is shown to imply this unlimited potential for further counting. “It seems, then, that there are two kinds of units, the one definitive, out of which a number is formed by a process of addition, and the other provisional, the number so formed, which is multiplicity in itself, and owes its unity to the simple act by which the mind perceives it.” (TFW 80 *translation modified*) The provisional unity reflects the provisional reality that the activity of counting encounters. Unity is a synthesis of multiplicity and there must be some already existing multiplicity if a unity is to be synthesized (*ibid.*). Bergson insists on the provisional, that is to say, unlimited basis for all numbering in order to argue that “the very admission that it is possible to divide the unit into as many parts as we like, shows that we regard it as extended.” (TFW 82) and extension is infinitely divisible. The determinate sense of number prevails, being preferable for its usefulness. The number as an ‘identical unit’ replaces the original multiplicity of differences with discrete quantities, and forgets both the original from which it was derived and the fact that

there was ever a difference between the copy and the original. A definite number acts as if it was the original, that is to say, as if it were indivisible. As we progress in our application of number as a sum, we see less and less the reality of the process of derivation and gradually see only the derivative. We are more and more convinced of the adequacy of the quantification as we apply it in ever new domains. Thus, the tendency of thought which leads to empty space permits our application of quantity retroactively to any given qualitative multiplicity. Bergson's method of intuition seeks to interrupt the intellectual interposition of the derivative in the continuity of duration, or perhaps to dispense with its significance to experience as much as possible, until we can make the leap into the duration and it takes hold of our attention.

In chapter two of TFW Bergson concentrates our attention on multiplicity in order to show how space emerges as a homogeneous conceptual medium. We are lead back from number as a totality, to the mental act of counting in its indivisible activity in intuition. He accounts for the conceptual production of space by our ability to count, the act by which we sum up a multiplicity as a totality. Reciprocally, empty space is what allows us to form a sum and so to have a finite number of units. Time cannot be summed up as a totality unless we ignore the continuity of our present becoming and fix our attention on the past. We can imagine our past as a linear series of events after they are already *passed* and no longer *passing*. We "sum them up" by placing them in space before our mental vision which grasps them all in an instant.⁵⁶ We are not in this case recalling the duration as remembering it unfolding in succession, but rather we are representing it homogeneously and in an instant. Thus we take the interval as a discrete quantity or totality, of which all the parts have already been accounted for. We derive the abstraction from reality after it is no longer passing. The richness and depth of qualitative

⁵⁶ On this point, Bergson likely has Kant's treatment of continuous quantity from the first Critique in mind, which makes the totality of continuous magnitudes fully given in an instant. See, James 1911 162-3.

multiplicity is removed in order to form an abstract representation. This is the essence of space for Bergson, a homogeneous medium devoid of qualitative differences.

Bergson thus opposed quantity to quality insofar as quality is in fact a continuous progress of qualitative change. What the activity of counting shows is that an enduring effort directs the attention of the person counting. This involves a willingness to treat differences as negligible (substitutable with identical units). The continuous effort itself, on the other hand, considered in its own right, is found to be an irreversible succession in which no two consecutive moments are identical. If we took this feature of counting by itself we would derive the concept of an ordinal series. This concept is nothing but the “becoming in general” which is used to animate the cinematographic mechanism (CE 305, 307). No doubt an irreversibility of moments is given in immediate consciousness, it is, moreover, a characteristic of all moments of consciousness. This real or concrete irreversibility is not, however, the same as the concept of ordinality. This is made clear by the following consideration of feelings which Bergson described in those all too brief pages from chapter one of TFW. Ordinality of states is definitely a feature of all feelings. Take grace and pity for example. They each involve a qualitative progression (TFW 13, 19). The concept of a connection between states cannot be constitutive of either grace or pity, but rather the so called “states” themselves are what progress through the irreversible evolution. Pity involves a multiplicity of different moments in its passage. Furthermore, we always feel pity in a concrete situation and at a unique moment in life, each time with its own shades of nuance. The intensity of the feeling is thus a concrete duration.

What is at stake in the opposition of feeling and quantity is the temporal difference between passing and past. In order to make feelings communicable we must treat the feeling as passed, already made, rather than in the making. The feeling itself is a transition. By treating the

emotion entirely in terms of its complete form, we are permitted to cut it up and to treat it as quantity. No doubt there are considerable advantages procured by quantity and symbolism, they are in fact supremely useful for communication. What we communicate is general and lacks the depth and intricacy of real duration from which it was extracted.

The closest we can get to real duration using mathematical concepts is by an analogy with infinitesimals and integration. Here we are no longer dealing with numbers as finite magnitudes, totalities, or quantities but with relations between infinitely small fluctuations and the integral unity of the operation. This is already implied, in a way, in counting, since the indivisible act synthesizing multiplicity is made possible on the basis of the “integral of experience” (CM 200), that is to say, on the basis of the qualitative multiplicity of lived duration. The integral of experience is not itself a mathematical object but the basis of all mathematical thinking in the same way the irreversibility is not a concept but the basis of conceptual thinking.

1.3.5 Aristotle's Concrete Sense of Number

We alluded to Aristotle's complex conception of time and the temporality of the dynamic sense of being. What has been called Aristotle's "doctrine on time", which Bergson provided an interpretation of in HIT, will be examined in the next section. We must approach the problem carefully and through a thorough analysis of all the closely related terms which fit together in his complicated discussion on time. This calls for approaching it with a robust sense of *continuity* which we have labored to reconstitute with the dynamic and concrete sense of infinity. Time is, for Aristotle, the number of movement with respect to the before and after (*Phy.* 220b24). If we want to understand these formulas expressing time, we must clarify Aristotle's sense of *number*. The exploration of this problem will make it abundantly clear that certain parallels can be found in Bergson's own encounter with *number* and the relation of unity and multiplicity from TFW. Far from simply reversing the supposed formula "time is space" or of dissipating a cinematographical concept of time, Bergson appears to have adopted key insights of Aristotle's complex treatment of number and the multiplicity of continuity.

Ἀριθμός, usually translated number, for Aristotle, refers first of all to the activity of counting—of "counting off" so many members from a multitude.⁵⁷ Counting involves selecting a standard. The inclusion of members in a "count" in concrete circumstances of human life implies a multitude of "un-included" things, things which *don't count* because they are not countable by the standard. The activity of counting is closely related to the determination of "units" μονάδας, which are "indivisible" ἀδιαίρετος. Number is thus defined by the act of counting but, in order to count, we must select the units by which we "count," what answers to the question, "what sort of

⁵⁷See Klein, Chap. 4.

things will be included in the count?” and “what counts?” Therefore counting is a problem closely related to the activity of categorization and recognition.

There is an unlimited spectrum defining what “*counts*”, spanning from concrete to abstract. With the concrete we would count an ever increasing number of unique individuals, each of which simply “is” and thus the unit of each concrete individual is a unity which only counts itself. Generality, on the other hand, progresses into abstraction until units no longer count concrete things at all but consider number in complete abstraction from all sensible forms. The one side of the spectrum, Plato called *eidetic number*.⁵⁸ Aristotle for his own part seems to have pursued the matter in the inverse direction, towards *concrete* units and number. We could perhaps say there are two senses of “indivisible” for Aristotle: one by which each unit is identical and commensurable; the other by which something is unique and incommensurable.

Thus there is a scale of “units” which are more or less concrete. The most concrete unities are those of nature and soul. We count so many trees or horses because each displays its own sort of individuality. The “unit” of natural entities is manifested in the individual itself. It is different to count many trees or animals (as species of a genus) than to count an individual which is in some ways incommensurable with any other. The individual is then a measure of itself and counts only itself. Such is the unity of “substance” οὐσία as a *this* τόδε τι. We might find an infinite number of attributes which relate to such a concrete individual. At one moment Coriscus is playing music or some way or other displaying his well-developed character, while at another he is acting justly (*Meta.* 1016a17-35). All the many moments are counted as one and so we say one and the same thing when we name him “musical”, “just”, or “Coriscus”.⁵⁹ These are many

⁵⁸ See Klein. Chap. 5.

⁵⁹ Coriscus was probably a student of Plato but, κορίσκος also means “any supposed person”, i.e. an indefinite designation of some individual. This is perhaps why Aristotle liked to use this name.

names which say only one thing. We are not counting Coriscus as an identical unit in a set of musicians, but rather we are counting him as a unity which counts only itself. For a set of countable animals, *the unity is related to a multiplicity* (secondary substance). With the primary substance of *this* individual, *multiplicity is all related to the unity*. While there is a spectrum of abstract and concrete, each of the two is in fact produced in an inverse manner. This comes from the two ways in which number relates unity and multiplicity. Concrete number relates multiplicity to unity, abstract relates unity to multiplicity.

Number is a relation. It is a relation in which, as Klein wrote, unity is “indissolubly related to that of which it is the number.”⁶⁰ When we count things as secondary substances, it is that very sort which measures the members. Both directions thus involve the same strictness by which the criteria holds, though with very different consequences. The *unity of multiplicity* is the real unity of an individual while the *multiplicity of unity* counts discrete, identical units as species of a genus. Aristotle shows preference for what has concrete unity, reserving the primary sense of one [ἓν] as that which is indivisible or indistinguishable [ἀδιαίρετος] in continuity, form, and account (*Meta.* 1017a7), i.e. composite substances like living beings. The unity of a genus is thus less “one” than individual substances. By bringing quantity into the picture we should not think of space, extension, intervals, monads but rather of bodies which are “complete quantities”, that is, by possessing magnitude in three directions and a certain bulk contained by its surface (*Hea.* 1.1). Bodies, starting with the simple bodies, are continuous and so are potentially divisible into infinity of parts, but they are nevertheless indivisible since they can act as a single whole (a rock falling). What is *potentially* divisible is actually indivisible. We should take this one step further to see that the unity of concrete substance implies that often the being is one while the motions it

⁶⁰ Klein 48.

undergoes are contrary. Flesh heats up and then cools down and the body grows and shrinks at different times in the developmental progression of life. Unity of the most concrete sense of continuity [*holding-together* συνεχὲς], found in life is rather a *growing-together* [σύμφυσις] (1014b25). Thus, the complete sense of unity for Aristotle as the most complex and concrete form of unity is the embodied life of the soul, its *entelecheia*.

And we may wonder if the unity of the activity of intuition is not the clearest example we have, since Aristotle says “and on the whole, when intuition is indivisible it intuits the *what-it-was-for-it-to-be* (essence) [ὅλως δὲ ὅν ἡ νόησις ἀδιαίρετος ἡ νοοῦσα τὸ τί ἦν εἶναι]” (1016b2 *my translation*). The essential occurring of Aristotle’s enduring forms (*entelecheia*), as temporalized concrete wholes, are intuited as indivisible. So “all those things are called one of which the articulation [λόγος] saying what it is for them to be [τὸ τί ἦν εἶναι λέγων] is indivisible into any other one [ὁ ἀδιαίρετος πρὸς ἄλλον] revealing what it was for it to be the [concrete] thing itself [τὸν δηλοῦντα τί ἦν εἶναι τὸ πρᾶγμα].” (1016a33-35 *my modification of Sachs’ translation*) There is an indivisible act of the soul which grasps, in a single stroke, the integral unity of an infinity of details, an inner-principle or generative idea. The indivisibility of the activity of thought is indicated in another sense, insofar as the unity of thought operates by analogy. Analogy itself is the form of unity with the greatest scope, since unity is known differently in genus, form, number, but they are all one by analogy (1016b30). What is this analogy if not a possession of memory by which the intellect gathers multiplicity into a convergence or focalization of multiplicity as an integral whole. Ana-logy is a sort of “*after-logos*” which is irreducible to any one of the particular accounts which it gathers. Each of the ways that being one is encountered already implies the analogy which extends unity in very different ways of being. The unity and diversity of senses of unity makes us aware of the diversity of ways unity is

distinguishable, and the unity of thought as indivisible acts. We can increase indefinitely the scope of this analogy by pushing experience to an inexhaustible task of exploring every corner of the universe and drawing more and more witnesses before the judges, ever increasing the clarity of the problem and illuminating dynamic solutions which grasp the qualitative flux as a self-unrolling and developing integral unity.⁶¹ This is just what philosophy must do when it investigates and wrestles with aporia, it encounters plurality, multiplicity, and “concrete numbers” in the experience of individuals and it must operate a sort of integral which includes an infinite multiplicity of details.

Discrete and Continuous Quantities

To start, ἀριθμός appears in the *Categories* under the genus of quantity, or more literally, “how-much” πόσον. A category is a way of answering a question, and number is a way of responding to a question of the sort “*how much?*” Quantity is divided in two by Aristotle, into provisional groupings under two headings; discrete [διωρισμένον] and continuous [συνεχές] (4b20). From this division number emerges as a discrete quantity, and number [ἀριθμός] is accompanied by λόγος in Aristotle's list of examples of discrete quantities. Under continuous, Aristotle enumerates five species, first lines, surfaces, and bodies, and then he says, “besides these”, are time and place (4b25). These two lists appear to be given a deliberate ordering, and since it is the *Categories*, it will be a logical order. Thus λόγος, as a ratio, presupposes the numbers which it relates, or as proportion, the relations it relates, and so both follow after number in the logical order. In spoken word, the syllable is a discrete or, definite quantity by

⁶¹ Is analogy not both the integral of experience gathering singular events and the pros hen unity of concrete natural entities individuating their singular *thisness*? Can we not go a step further and say that the abstract number is derivative from the integral unity of intellectual effort? It is not clear whether Aristotle went this far in conceiving a metaphysical interpretation of infinitesimal thought. It's easy to see that Aristotle preferred the concrete, organic, and psychological senses of integral unity to the merely mathematical relation of unity and multiplicity. It is perhaps for this reason that Aristotle was able to conceive of many of the basic insights to infinitesimal calculus without ever dreaming of formulating them mathematically. We will come to this problem in the next section.

articulating a single phonic act and its particular sound (4b35).⁶² Here we are not dealing with human speech which unfolds phrases by weaving words together. Categorical λόγος is not combined [συμπλοκή] (1a17). The discontinuous adumbration of discrete sounds is categorical insofar as each forms a distinct impression or trace [τύπω] of its own (1b27). It is in this sense that Aristotle says that two syllable lack a common boundary at which they touch together (4b37). The synaptic boundaries which make thoughts continuous are not found in the sounds but rather in an attempt to communicate affections in the soul (*Int.* 16a7) by answering a question or a self-initiated [προαιρούμενον] affirmation or declarative utterances [ἀποφαίνεσθαι] (17a20). The unity of λόγος in existence has the unity of effort as its original unity for which syllables and numbers are the derivative elements.

The logical order in which we understand continuity proceeds by the successive additions of elements from line, to surface, to solid body. This does not mean that a body is composed in this order, but only that they are *understood* in this logical order which is inverse to real existence. According to existence, we encounter bodies, limited by a surface, and the surface is bale to be cut by a line which terminates at two points. Lines and surfaces depend first on the complete body filling three dimensions. We also find, in this passage, that *time* precedes *place*, as a quantity, in the logical order under the division of continuity, while in *Phy.* 4.11, we find that *time* follows after *place* in existence, i.e. by following movement. Thus each form of quantity is an expansion and perfecting of the prior forms of quantity, as ratio or logos is a more complete definiteness [διωρισμένον] than mere number. So too the body is a complete magnitude, while a line is a mere abstraction.

⁶² On the series of condition which develops into human speech in the order of existence, see Aygün 2017 147-166. There is a subordinate series of activities which rises to enacting the complete form of rational speech.

What are we to make of the fact that time takes precedence over place in the logical order in *Cat.*? If place, as the inner surface of a three dimensional body, is a complete quantity, in what way is time a *less complete* continuous quantity in the logical sense? At 5a10 he says “as it is for time, so it is for place.” What appears now to be a parallelism will turn out to be a relation of asymmetric reversibility. Time and place are both similar and different and this disrupts the divisions on which the list was initially laid down. There cannot be a simple parallelism in the relation between time and place. Time oversteps the distinction. This is because body forms a complete magnitude and this magnitude is

Quantities:	Discrete:	Continuous:
Not Having Position:	Number Logos (complete)	Time
Having Position:	(Points)	Place & Body (complete)

quantified by the place which measures it as a finite magnitude. Time on the other hand, is not quantified, summed up, or totalized by its continuity. As we saw above, its continuity involves contingency that makes it a progression into an open future. Time only has any discrete unity at all by grace of its being *counted*, by its being *numbered*, that is, by the unity of the soul which experiences, recognizes, and articulates. Time depends on counting for its quantity while place does not. Time, unlike place, is both continuous and discrete. There is a further distinction. Aristotle makes another divide, between quantities having position, and those not. Time, number, and λόγος all have an *order* or ranking [τάξις], but no position [θέσιν]. Place is the only quantity which has position.

The activity of counting, like speech, is a continuous production by means of definite parts (numbers and syllables) which are “indefinitely” or perhaps better to say, *incompletely* produced in a passage. Aristotle says that numbers are infinite only because we can always think of another greater number. The infinity of number is not something static [μένει] (*Phy.* 207b10), but is produced or generated [γίνεται] (207b15). Number, considered as a finite quantity, may be

static, it may remain present, as five apples on a table, but number [ἀριθμός] depends on the more fundamental reality which is an *activity of counting*. The counting of time will not be sufficiently explained by the presence of a finite quantity given all at once. In *Phy.* and *PN*, it is not a mere categorical sense of number nor is it a categorical sense of time but a concrete sense of temporalization which involves both. Time “aporetically” involves both a discrete quantity counted, and more able to be counting in continuous passage. The reason is that it is continuous in relation to the motion while the discrete in the soul which counts it. The *sense* of time is the experience of continuity while the *thought* or *intellection* of time is discrete.

Counting definitively exhibits our theme of the abstract and concrete since counting for Aristotle sits halfway between them and touches both. Further, since the wakeful activity of the faculty of recognition itself (the common sense) is a kind of counting, the whole psychological domain for each of us will express this very spectrum of concrete and abstract modes of counting. Both aspects work at the same time for Aristotle in the common sense in an activity which involves both perception and intellection. Perception gives us *concrete numbers*, i.e. natural individuals; intellection gives an acquired generalization and association from memory. While the continuous has a concrete quantity, the discrete is instead an abstract quantity. The reason is that counting already implies recognizing and we recognize both abstract and concrete unity. Number touches an autochthonous unity of singular individuals (sensation) and concrete movements and also the generality of logical abstractions. Quantity considered in the eminent case of the indivisible unity of intuition as irreducible to quantity in the sense that Bergson criticized in *TFW*. Instead, the unity of activity and above all the unity of the soul’s acts of thinking multiplicity in unified intuitions is the fundamental sense of indivisibility. The activity of counting shows that the quantitative is both complete and incomplete, both summing up what

has come to be and an indefinite potential of counting more. The Aristotelian treatment of number is conceived dynamically in relation to the problem of concreteness and abstraction, ripe with insights for Bergson's qualitative multiplicity.

1.4 Bergson's Interpretation of Aristotle's Doctrine on Time

The impact of Aristotle's so-called "doctrine" on time and his "definition" of motion on subsequent thought, even up to the present, is undeniable. Yet it remains very obscure as to what exactly this impact is, since, it is also still somewhat unclear what Aristotle's own doctrine and definition should be interpreted to be or mean. An indication of the complexity of this situation is given by Derrida in the essay *Ousia and Gramme*, which surveys the retrieval of Aristotelian themes and considerations as they arise in the work of Kant, Hegel, Heidegger, and Bergson. Derrida is found defending Bergson against Heidegger's allegation that Bergson merely "reverses" Aristotle's hierarchy of space over time. He says that Bergson's "concepts of duration, *élan*, and the ontological tension of the living oriented by a *telos* retains something of the Aristotelian ontology of time." (Derrida 1982 62). Derrida deconstructs the opposition of space and time in order to draw out the residue of an aporetic sense of temporality in the Aristotelian texts. Derrida also insists that Bergson is in fact more Aristotelian than he himself had indicated (Derrida 1982 57). We have already followed the trail of bread crumbs which Bergson left, showing the way to his Aristotelian roots. Derrida further implicates Aristotle's account of time into a Bergsonian sense, and emphasizes that nowhere do we find Aristotle describing time in a cinematographic way (ibid). This interpretation is possible because Derrida relies on an ambivalence in the word *ἄμα*, which allows for the coexistence of the before and after, which is not simply a simultaneity, an instantaneous unity of the present, but also a coexisting involving a disparity and difference. In part 1 we examined Bergson's adoption of a temporal sense of "coexistence" in relation to dynamic distinguishing in TFW. Coexistence also provided Bergson's Hylomnemonic unity of experience with a way of describing the continuity of past and passage or being and becoming. This coexistence is irreducible to PTC.

Derrida takes a deconstructive approach to reading the *Phy.*, following Heidegger, which interprets Aristotle as proceeding “on the basis of *ousia* as presence.” (Derrida 1982 61). This implies that Aristotle’s account of time is at odds with itself, and that this indissoluble antagonism (that time is both a return to the same and an ekstatic passage to difference) opens both the approach to time as *presence* as well as an original temporality. Rather than simply reducing time to presence, Derrida draws out an indispensable foreignness as an accident or attribute of time by which we “might lift Aristotle’s text from the Heideggarian delimitation.”

Aristotle did not approach time on the basis of presence but rather asks what its nature [φύσις] is (*Phy.* 217b23). Nature is gradual, burgeoning, and “loves to hide” as Heraclitus indicated (Fr. 123). Based on a proper appreciation of the complexity and nuance of Aristotle’s sense of continuity (as irreducible to concept or PTC), his so called ‘doctrine’ on time is neither cinematographical nor eliminating temporal depth. Aristotle understands time, not on the basis of the present, as Heidegger and Derrida suggest, but on the basis of a relation between continuity and the wakeful activity of the soul which counts. We followed Bergson’s path through the problems of counting and number in TFW, which he developed into a distinction between continuous and discrete multiplicity formed the basis of his approach to real duration. Bergson takes the discrete or quantitative multiplicity to be a derivative from continuous qualitative multiplicity. Bergson’s distinction between discrete and continuous parallels the series of oppositions of Bergsonism: static-dynamic, closed-open, fully made-in the making. By connecting these oppositions to the problem of number and individuality (i.e. abstract-concrete and derivative-integral) we find an original temporality or real duration at the heart of the dynamic sense of being that Bergson developed out of Aristotle’s metaphysics of concrete intuition (or perhaps we should say Ravaisson’s interpretation of this distinction).

Bergson showed Aristotle's sense of place emerges in relation to the interiority of movement and quality—hylomorphism—which preserves its intimate continuity. Since the recent publication of his lectures, we now know that he also credited Aristotle with having a deeper sense of the relation of body and soul which is not simply cinematographical or derived from the analysis of language (HTM 270). What we *do not* find in Bergson's interpretation of Aristotle's doctrine on time, is any attempt to keep hold of the concrete qualities of natural movements, nor the interior indivisibility of continuous multiplicity. In parallel with place, Bergson does not claim that Aristotle simply spatializes time by placing now points on a line. Rather, he claims Aristotle buries the question itself in the eternal present. The diversity of movements are replaced with a uniform motion which is the measure of all measures. Ravaisson staked out the whole project of metaphysics on the effort to retain the differences and demanding that we reject the artificial generality substituting reality, a return to the concrete things themselves. Bergson's account of Aristotle's doctrine of time (HIT 156-66) leaves out any consideration of the problem of concrete movement. Bergson's interpretation reduces time to the uniform motion of the heavenly sphere, when for Aristotle, our experience of time involves the *concrete* nature of each particular movement. I will suggest, contrary to Bergson, that another interpretation can be given, informed by a "Bergsonian" approach to duration. Not that Aristotle definitively instituted a method for securing real duration. Instead, he uncovered an original temporality of continuous time *and* delimited the counted discontinuity. He concluded that, however antagonistic they are to each other, both constitute the phenomena of time.

We will now briefly recount and then critique Bergson's treatment of *Phy.* 4 given in HIT. I will conclude by suggesting an alternate interpretation, along a similar line to Derrida's, in which Aristotle is far more Bergsonian than Bergson himself would admit. Against Derrida, I

will insist that Aristotle does not approach the problem of time on the basis of the present, or on the basis of being as presence. Rather, Aristotle conceived time on the basis of a relation between the continuity of an original temporality and the activity of attention in a soul which counts. It is the continuity of time which ties it to concrete changes and precludes us making the “decision” to reduce it to an eternal present, or homogeneous impersonal time.⁶³

Summary of Bergson’s Analysis:

- (1) Time is analyzed in parallel to place (HIT 156, 158, 160, 166).
- (2) Time is born as soon as we distinguish a before and after (HIT 157).
- (3) Time is a number numbered, not number numbering (HIT 157).
- (4) The measure by which we count time is the movement of the heavenly sphere (HIT 159).
- (5) Time depends on a soul which enacts the counting of time (HIT 156, 160).
- (6) There is no consistent measure of time other than uniform circular movement (HIT 158, 159).
- (7) It is only the passive intellect of humans that counts time (HIT 161, 162).

There is one other point which Bergson *implies* but failed to call attention to or investigate:

- (8) There is a coexistence of counting and counted (HIT 161).

(1) There are serious problems with Bergson’s claim that Aristotle’s *account of time can run in parallel to place*. First off, time unlike place has parts which perish as soon as they are articulated (sec. 1.3.2 and 1.3.4). Time is destabilizing [ἐκστατικόν] (22b17-23), while place, in its most precise sense, is stable and “standing” [στάσις], holding an immobile orientation [θέσις]. Next, the eternal movement of the astral sphere seems to represent the eternity of time by the uniformity of its passage as the simultaneous returning onto itself. Continuously beginning again seems to parallel what characterizes the now according to itself [κάθ’αυτό] as making continuity (*Phy.* 222a10). Time also involves a “not-now” as ἕτερον; distinguishing a difference or articulating a discontinuity (222a15). Thus, eternal movement is a repetition of the same because it remains on the whole, immobile. Yet time is a perpetual advance into otherness (220a14) and is constantly displacing or dislodging like motion (221b3). Furthermore, place was found to cling

⁶³ On this problem in relation to Plato, see Sallis *Elemental Discourses* 138-152.

to particular qualities of bodies in contact and involving motion. No doubt place is static but its reality is manifest in our experience of natural and forced movements. The discovery of a universal sense of place does not mean we finish with a universal as off shutting ourselves off from all sensible intuition. Place, contra Bergson, is not reducible to the universal place, this idea is mere abstract material for thought if detached from the field of actual experience. We must return by intuition to the concrete individuals. In this sense, perhaps, place and time are, in a way, *parallel*, but this is neither what Bergson meant nor is it evidence of a cinematographical mechanism spatializing time.

(2) *Time is born as soon as we distinguish a before and after.* (HIT 157) Bergson does not comment on the nature of this before and after, except in an external and superficial sense: as the minimum perceivable difference of a change from which time is initially counted. In *The Perception of Change* Bergson referred to a “*before and after*” in a unfavorable way, as a sort of juxtaposition and abstraction from duration into space:

real duration is what we have always called time, but time perceived as indivisible. That time implies succession I do not deny. But that succession is first presented to our consciousness, like the distinction of a “before” and “after” set side by side, is what I cannot admit. When we listen to a melody we have the purest impression of succession we could possibly have an impression as far removed as possible from that of simultaneity, and yet it is the very continuity of the melody and the impossibility of breaking it up which make that impression upon us. If we cut it up into distinct notes, into so many “befores” and “afters,” we are bringing spatial images into it and impregnating the succession with simultaneity: in space, and only in space, is there a clear-cut distinction of parts external to one another. *Creative Mind*, 149.

Here Bergson thinks of the before and after as instants, immobile limits, or pure abstraction. They exist not as succession but as simultaneous: a totality already summed up and so, laid out in space.⁶⁴ We find almost the opposite in MM where Bergson refers to “a before and an after” as dynamic and qualitative:

Motion, as studied in mechanics, is but an abstraction or a symbol, a common measure, a common denominator, permitting the comparison of all real movements with each other; but these movements, regarded in themselves, are indivisibles which occupy duration, involve a *before and an after*, and link

⁶⁴ Bergson does not accuse Aristotle of reducing number to space, but he says that the Pythagoreans did; ASP 35.

together the successive moments of time by a thread of variable quality which cannot be without some likeness to the continuity of our own consciousness. *Matter and Memory*, 202-3.

Here, the before and after connect succession by an indivisible link of variable quality analogous to consciousness! This is precisely what we do not find in Bergson's interpretation of Aristotle's doctrine on time, though he had clearly thought about this alternative, dynamic sense. Bergson reduces the Aristotelian doctrine on time to the universality of empty time conceived as presence and abstracted from all qualitative continuity. Bergson's parallelism between place and time implies, much to the contrary of what he intended, a return to concrete time: a "primary time" which runs parallel to "primary place" as a mobility of provisional and concrete events of motion. Yet the Bergsonian sense of concrete continuity like the indivisibility of a melody is analogous to this Aristotelian sense of provisional place-time of embodied movement. The primary moment in which motion reveals place and time is sudden but is nevertheless within a continuous passage of the occurring embodied in place-time. The primary time follows after change has already been accomplished, after results have become manifest. This concrete sense of *afterness* clings to the evidence of change having been produced (sec. 1.1.3 and 1.3.2). In Bergson we find two interpretations since the before and after appears both as dynamic and static: one congenial and inspirational to Bergsonism (the dynamic progress of qualitative multiplicity), the other, its foil to be overthrown (CineMech, PTC, Substitution, etc.).

If we follow an interpretation like Jiménez (2017), then an original temporality of the "that by being which time is [ὁ ποτε ὄν]", is irreducible to the number counted.⁶⁵ The original temporality of movement is in fact that from which time arises when counted. We will draw this out further below. From this consideration, we can posit the question which we hope to answer

⁶⁵ Jiménez 2017 173. See also Király 2018.

with an affirmation by the conclusion: does Aristotle have a musical sense of before and after as Bergson had described it? (i.e. one which preserves its qualitative multiplicity)

(3) At the heart of Bergson's interpretation of Aristotle's doctrine on time is his analysis of number. In explicating Aristotle's famous distinction between "what we say is counted [ἀριθμούμενον] or capable of being counted [ἀριθμητόν] and that by which we count [ᾧ ἀριθμοῦμεν]," (219b8) Bergson translates these as the numbered number (*nombre nommé*) and the numbering number (*nombre nombrant*). Time is what is counted and not what we count by. It is not the unit it is what counts the elapsing of motion. In his interpretation of this passage he emphasized the activity of the soul in counting, that it is "only when the operation is performed [*effectuée*] that number exists." (HIT 157).⁶⁶ Bergson makes the relation of the counting and counted one which both distinguishes the activity of the soul (subjective) from the universality of time (objective), and yet necessitates their coexistence.⁶⁷ Time requires movement, but it is *not* movement; likewise, time requires a soul that counts, but time is not the activity of counting. Nor is time the unit by which we count, as a standard existing external to what it measures.

Despite a mix up in the Greek terms,⁶⁸ Bergson otherwise translates the passage conventionally. Bergson's emphasis that the distinction is between a subjective act and an objective time is less conventional. We will perhaps recall the distinction from TFW, between provisional counting and counting a totality. The universal time of circular motion is a totality, if not actual, at least by *foreseeing*, it always counts the same time as a uniform flow. "Time

⁶⁶ Many have misinterpreted Aristotle's doctrine on time as consisting in counting "nows"; see Senteny 2018. This interpretation involves a spatializing of time. Bergson does not give this kind of space-extension interpretations.

⁶⁷ "In this sense, the number which is time is indeed something external, objective, and yet there is this very precise affirmation by Aristotle that, if there were no soul, there would be no number." HIT, 161.

⁶⁸ There appears to be a mix up between the Greek terms in the manuscript. It Reads: "[T]here is the number that is numbered [ἀριθμητόν], the number counted, and then there is the number by means of which we count, I will translate "the number numbering" [ἀριθμούμενον],." HIT, 157. Here ἀριθμούμενον is being confused with ᾧ ἀριθμοῦμεν. Properly put the "number numbered" is meant to translate ἀριθμούμενον, while the "number numbering" is meant to translate ᾧ ἀριθμοῦμεν.

marches with equal steps” But the soul which senses time as passing counts a provisional time, in the subjective acts which are ongoing in relation to diverse movement in concrete situations in which are engaged in piloting movements towards uncertain futures. Bergson collapses the tension between subjective and objective and places time in the impersonal uniform motion. “Certainly Aristotle is careful to tell us that time is not the act of counting, it is the numbered, not the numbering, and therefore time is not the subjective internal act by which one counts.” (HIT 160-161). Bergson moves from the discursive activity of thought to the empty time of an eternal present represented by the uniform movement of the heavens.

Ravaisson, on the other hand, focused on the modern arithmetical sense of “numbered” as the concrete multiplicity which is measured by itself as an individual (sec. 1.1, 1.3.4). The ability to be counted is then due entirely to the positive articulation of a determinate way of being and moving (natures and forms). By this interpretation time emerges from concrete temporalizations encountered in experience. It is not like discrete quantity, but rather “is a concrete number, continuous as the quantity it measures.” (EMA 408). Not only is time embedded in concrete movement for Ravaisson, but it also involves an antagonism or aporetic sense: “time is the number which remains the same, but is always other than it was as infinite, it is not, it always becomes.” (EMA 409). Time, in Ravaisson’s interpretation, is not separable from either the act of counting or the “reality of movement”—which was his transliteration of ὁ ποτε ὄν (EMA 408). The reality of motion is the original temporality of the dynamic sense of being.⁶⁹ Bergson

⁶⁹ Some background on before and after will clarify the sense it has for motion. When Aristotle turns to discuss the meanings of the before in the *Categories* (14a27-14b23), he does not bring up motion, place, nor the contraries at all, as we might expect based on the *Phy*. Rather he gives four senses in a list ordered hierarchically, saying “First [πρῶτον] ... Second ... Third...”. (1) the first and primary sense given is said according to time, such as “old and ancient”; (2) followed by “*irreversible sequence*” μὴ ἀντιστρέφει... ἀκολουθήσις, such as “one is before [πρότερον] two” (4a30-35); (3) then “*order*” in general τάξις, such as in speech and science (14a35-14b4); (4) finally, what is better βελτίον or more honorable τιμιώτερον, which is said to be the most irregular or altered [ἀλλοτριώτατος] of all its ways “before” is said (14b5-9). The categorical or logical sense of priority is primarily temporal. There is a problem of how to square this with the fact that Aristotle says in the *Phy*. that before and after in time is *derived*

either didn't pick up on this sense of concrete number and its relation to dynamics or perhaps hid it if he had noticed it as a possible objection to his interpretation.

There is a confusion among commentators about the relation between time and place—running from Ross,⁷⁰ to Owen (1976), and still persisting in Roark (2011)—which seems to be due to their treatment of place as space (a homogeneous empty receptacle), rather than as a dynamic relation which involves powers of movement. From the point of view of a static space, with relations only “conventionally” determined, it is indeed hard to see how the character of before and after in space would become an irreversible temporal relation. The spatial interpretation centers on the appearance of a circular argument. Put simply, the before and after in motion cannot be defined in terms of temporal before and after, it cannot depend on time or else the derivation of time from movement would presuppose a prior dependence of movement on time. The problem of this way of approaching the problem is clearly characterized by Owen:

But can this direction [of motion] be derived from the spatial before-and-after we have just defined, without importing just the temporal priority we meant to explain? Evidently not. We might define a direction *abc for [the spatial magnitude], by saying that ac contains ab but ab does not contain ac; but of course we could on the same terms define the direction *cba ... And if we try to sharpen the condition by specifying where on the line the movement begins or ends, our explanation of temporal order becomes immediately circular. Owen 1976, 24-5.

Defining the direction of movement over a magnitude is taken to be arbitrary or conventional. Movement is primarily understood as natural movements, for which there are

from motion. Now, since the *Phy.* and *Meta.* do not concern only the categorical sense of being, but all four, we might be able to find a way to make sense of this difference. While we don't find any overt discussion of this relation to the categories in the *Phy.* or in the *Meta.*, Aristotle gave a whole chapter of book 5 to discuss the before and after, which helps rectify the accounts he gave in *Cat.* 11 and *Phy.* 4.11-12. Initially, Aristotle's list appears to be closer to the account given in the *Phy.*, but Aristotle's list of senses does not perfectly mirror the dependency relations for place, movement, time, which we find in the *Phy.s* 4.11. *Meta.* 5.11 begins with a general definition: before refers to whatever has greater proximity [ἐγγύτερον] to a beginning [ἀρχή]. But he goes on to divide this into two kinds: (1) those defined simply and according to nature, (2) those defined by relation, or somewhere, or by certain people, or chance arrangements (in other words, by accident, convention, or art). There is a *natural* order of before and after in place. The natural before and after will be the irreversible sequential relation which organizes natural bodies as they move throughout the universe (up and down) and is determined by their physical properties.

⁷⁰ Also among those who claim circularity are Annas 1975, and Cornish 1976.

certain fixed relations among the natural contraries. The movements proper to each simple body, for example, are determined directionally to fixed regions. Far from any conventional or reversible space, *place* for Aristotle is organized and related dynamic by the qualities of the bodies which occupy each realm. Places, realms, are determined by the quality of body which occupies that placement. Water quite obviously involves concrete properties and processes through which it occupies the bed laid for it by the earth and is embraced by air from above. Movement, following place, has an irreversible directionality defined by the dynamic relation between act and power of natural bodies.

Roark attempts to fight the charges that Aristotle's account involves circularity, but in contrast to Jiménez' or Ravaisson's interpretations of an original temporality or irreversibility, Roark approaches the problem by a "static" description. This consists in an attempt to empty movement of all its temporality, and make it a purely static thing, describing it, as he says, in "temporal-free terms." (Roark 2011 87.) It is important to mention that by *temporal terms* Roark means the "at-at" theory, which is essentially Newtonian, and assumes space and time to be merely homogeneous receptacles of movement. "At-at" motion is "at" times and places; this moment the moving body is *at* location 1 and *at* another time it is *at* location 2 (Roark 2011 77). Thus, Roark is correct that this interpretation is illegitimately applied to Aristotle, but his alternative is not an acceptable solution. He proposes that the before and after in motion be *statically* described in terms of "telic properties" which represent an "intrinsic capacity, power, or potentiality [for substance] to take on contrary states." (Roark 2011 67). This aspect of substance is what makes it, according to Roark, "*qualitatively plastic*" attracted to the state which they hold in power. As a needle is attracted to align in a magnetic field, so too a

potentially red object is attracted to the property red.(Roark 2011 70). This attraction is finite, and the telic property is “self-exhausting.” (Roark 2011 71).

If Roark had a more robust sense of temporality to draw from, not simply that of the “at-at” theory, perhaps the telic properties would have sufficed to prove the temporal-becoming which is implied in “qualitative plasticity” as well as the irreversibility of “exhaustion”. In the end, the temporal sense which Roark rejects is equally conceived as static. The temporal terminology he seeks to avoid is static: time stamps, dates, instants. Rather than make recourse to another sense of temporality, such as irreversibility, he is forced to convey qualitative plasticity as *static*. Rather than present these features of movement as *dynamic* aspects of natural substances, processes which continuously involve irreversible changes, Roark describes movement as a static extension, resorting to the language of “kinetic cuts” which mark off the limits of the movement. To make a kinetic cut will amount to actually arresting the motion. If we cut the movement from Athens to Thebes, then we must actually stop the motion and there must be a period of rest which makes the movements into two.

This problem of kinetic cuts is solvable if we understand it on the basis of continuity as we described above. Each motion will involve its own limits which are qualitatively related to the kinds of bodies which change in their own manner. Continuity is an irreversible succession [ἔφεξις] of potential parts. This is the sense of before and after as the original temporality of all movement, but *articulated* only when the movement is perceived to have been accomplished. Contrary to the static approach of Roark, the dynamic approach makes temporal irreversibility primary. The *measure* of time arises from a familiarity with the particular pace of a motion.

(4) Bergson sought to show that the measure by which we count time is a universal time, the uniform movement of the heaven. This reduction of time to a *single measure* is indeed suggested

by Aristotle. In the 14th book of the *Phy.*: “if then the first measure is a measure of all things of the same kind, uniform circular motion is a measure most of all, because the number of it is most recognizable.” (223b18-21). But we have many reasons to see this as part of a more complex and nuanced development traversing the problems and aporias of time, and one which, on its own, is incomplete and in fact mischaracterizes Aristotle’s sense of time. First of all, in the prior chapter Aristotle talks about the *ekstatic* aspect of time (222b17); that it is a displacement and source of decay and forgetfulness (222b19); and that it will never end not because it stays the same but because it is always “other and other” (222b6); always a beginning for something new. Further, directly after suggesting time’s reduction to a uniform measure, Aristotle concludes his analysis of time with a final clarification about number, which we can read as giving an alternative to Bergson’s subjective counting, objective uniformity. What we find in Aristotle is that the number of time can be taken either *simply* [ᾧπλῶς] or as some sort [τινός]. Aristotle says, clarifying the latter of these two: “It is also rightly said, however, that the number of the sheep and that of dogs is the same number, if the two numbers are equal, but they are neither the same ten nor ten of the same things, just as neither are equilateral and scalene the same triangle, even though they are the same figure, because both are triangles.” (224a2-6 *Reeve’s translation*). We have here a distinction between number as an abstract unity, and number as concretely related to limited classes of things which are countable. Triangles give a clear illumination of this point. We can count figures of triangles we make no distinction between equilateral and scalene, each counts equally as a triangle. Counting here would exclude other figures like circles and squares, since it is only counting triangles. Likewise we can count an infinity of different scalene triangles, and in so doing exclude all other forms of triangle. Aristotle confirms this in another context (*Met.* 5.6, 1016a24-34). Horse and human are unified in the genus animal, and so ten humans and ten

horses makes 20 animals. Ten humans is not the same as ten horse when we take the form of each to be what counts. Number, in this sense, is a *concrete number* which is related directly to the forms by which it groups its units. The numbers we count in natural movements are not artificial, but rather, are concrete lapses discovered in nature by sense perception and whose measure is acquired by memory.

Aristotle presents dialectically two alternative perspectives, one by which all times are brought together and subsumed under a universal, and another, irreducible to the first, which pluralizes time and connects it to the movements of concrete individuals. Now, as Bergson shows, we begin with the sense of time occurring along with any movement whatsoever: so long as we perceive movement, we perceive time. It is from this immediate and confused sense of time that we are lead back to the universal sense. What Bergson interpretation misses is how Aristotle *leads us back* from the universal to the individual, from the generality to concrete, as Ravaissou had insisted. Thus the temporalization of psychical energy in effort and memory become capable of raising the primary sense of time from its static entombment in an eternity of death, and restores the concrete dynamism of real duration temporalizing human life.

(5) On this point Bergson is faithful to Aristotle's text: *counting time depends on a soul to actively count it* (HIT 156, 160). We must problematize Bergson's presentation of this point, since it seems that it is here that Bergson's own "Aristotelian" roots can be most strongly felt when connected with point (8) the coexistence of counting and counted. Consider Aristotle's distinction between first and second actuality. For Aristotle, time depends on the soul, not by its *first actuality* but the *second actuality*: "waking" "sensing" "thinking". It is *counting* as second actuality. Not merely having the ability to count, but being *operative*, a being-at-work of the soul as it perceives motion. First actuality is an enduring preservation, like those sleeping at Sardinia

who awake without noticing any time had passed (*Phy.* 219a23). In order to count a movement we must know the type of unit we will be counting. We must come to have a measure by which to count, and all natural entities have a certain time of their own, which their life enumerates in passing. We must have some grasp of the whole, acquired in repeated experiences, which stands as our unit of measure. In *Meta.* 10.1 Aristotle says that knowledge and perception are measures because we recognize something (centrifugal) by means of its having been (centripetal) received. Knowledge and perception are measured more than they measure (1053a33). They are not innate measures but rather we are first measured by them, and this is as if a measure was held up to us and measured us, and from this we learned to measure other things in the same way (1057a11). Time is recognized (like fast and slow) by having encountered a elapsing that stands as the measure for counting. This unit must be first actuality in the soul, it must ‘stand’ as acquired knowledge. Thus, *counting* time will involve both first and second actuality working together—a coexistence of memory and continuous passage. This coexistence is the original temporality which involves the gradual passage of enactment. Following Jiménez, time as counted of perceived, i.e. by demarcating a before and after as having elapsed, is not the reality of time, but is merely the result of having sensed time. “Temporality—that by being which a thing exhibits those features that we mark as time [χρόνος]—exists independently of our perception (Jiménez 2017 178). While time is the number of the before and after perceived by a soul, it is not reducible to the product of this operation. The temporality, being continuous and concrete, relates to a that by being which whenever it is [ὅ ποτε ὅν] time is. We should refrain from translated this as “at which time” since “at” gives the impression of something instantaneous. Time does not arise from anything static or instantaneous. “While” does a better job of conveying the continuity of temporality. Instead of time conceived as an interval abstracted from

an objective uniform motion we get integrals of experience which allow the attentive soul to follow the temporality of concrete movement.

(6) *There is no consistent measure of time other than uniform movement, i.e. circular movement.* (HIT 158, 159). This idea follows along with Bergson's interpretation of a parallelism of place and time, which I have been criticizing. Bergson says we get an "indication only" of the move to reduce time to a single measure, to the uniform movement of the sky. Aristotle's point, as we have already suggested, was different, and was part of a dialectical argument weaving together the concrete and abstract dimension of number. The circular movement is unique in its simplicity: it shows its measure explicitly in its movement, which is continuously returning back and repeating. This is the abstract or analogical sense of the "unit" as a complete movement. This does not mean that every motion is reducible to the simple: the diversity of movements remain evident in individuals. The whole universe involves a plurality of measures (*Phy.* 224a34). The *general* functions as a point of departure for thinking, but it as mere matter, the form of the thought emerging in combination with the middle term, manifesting in work. Time as a concrete number will be the peculiarities of movements in the field of actual experience.

(7) I agree with Bergson that: *It is only the passive intellect (of humans) which counts time* (HIT 161, 162). The *sense* of time is not, however, reducible to the intellect's counting of time by a single measure. The sense of time, as Aristotle insists at various places, (especially *Mem.* 450a9-10), is due to the common sense faculty, which is shared by some animals. For this reason, Bergson's reduction of time to the intellectual act of counting is, on the face of it, suspicious. On this claim, Bergson finds company, even going back to the ancient commentators who also suggested that time must be intellectual and therefore uniquely human.⁷¹ Nevertheless

⁷¹ Among those who raise this claim are Themistius and Priscian. Philoponus provided an extensive summation of this problem, see Sorabji 2005b 218-220.

this interpretation lacks textual evidence while evidence to the contrary has been cited. The *sense* of time will cling to concrete movement.

(8) *There is a coexistence of counting and counted*, these two elements must be given at once (HIT, 161). Aristotle understands time, not on the basis of the present, but on the basis of a coexistence of continuity and discontinuity. This coexistence brings us back to the aporetic sense of time which is not resolved or reduced to the uniform measure, is not “decided” but remains “undecidable” between two mutually exclusive views.⁷² The duplicity of the now and other now—the disparity from which time appears and from which it derives its presence and measure—is irreducible to an eternal present or points in space. The present in duration appears as something enduring, irreversible, following *after* the other now.

The continuity of time *coexists* with its antithesis, the other-now which is not now. This primordial difference makes time appear. Uniform motion can be nothing more than a “Sardonic” slumber, an unconscious timeless sleep in which nothing is counted. First actuality, *completely-holding-itself*, is inactive like inertia. The point of rest in the soul is memory, the parts move (perception or motricity) as fixed on an axis. Through experience, a whole comes to “rest” in the soul. Each particular perception is only a part. This gradually acquired knowledge implies a movement of thought which involves irreversibility. Since the acquisition happens gradually and only by repetition of similar experiences, it makes a difference each time, and there is a gradual and irreversible process which cannot be reduced to a uniformity without difference. This seems to be exactly what, for Aristotle, is implied by the eternal motion, what it makes possible, and why time is in fact *infinite*, in *Phy.* 8.2. The eternal return of the same

⁷² Here the closest similarity we find in Aristotle is the undecidable choice between contemplation and practical (political) life. Here too we do not deduce an eternal truth but deliberate in the concrete and alternatively participate in the one or the other by taking them up fully and singly at the exclusion of the other.

(revolution) is what grounds the perpetual advance into novelty! The unmoved mover, above all, is the guarantee of novelty in the multitude and diversity of sublunar life. As we will see below, the sense of time as indeterminate and unlimited progressing into the future, is what definitively makes Aristotle's sense of time irreducible to static spacialization or an eternal present.

What prevents us from extending the unconscious preservation of the soul in memory to the multiplicity of singular moments of life, the integral past of which Bergson speaks in MM? No longer an impersonal collection of generality, Bergsonism describes a personalized and singular first actuality. First actuality affirms Bergson's own dictum that existence is not reducible to presence. The past exists, we can remember it, but it, in itself, so to speak, is "impassible". Already having passed, it will never again pass. The being that we remember exists *unmoved* and *immovable*, while we move our soul in recollecting. *Energeia* as practical action, as we saw, involves an openness to the future.

Aristotelian Aporetic and Ecstatic Temporality

Let's summarize this Aristotelian aporetic and bring in a few passages which Bergson neglected to consult in his interpretation. Time is conceived by Aristotle on the basis of continuity: it passes and its parts do not remain static. Time is counted: it becomes mixed up in the discontinuous and static reality of number and intellect. We have seen the role the intellect plays in counting time: it selects a *standard* [μέτρον], or a *measure* by which to count.

The two aspects of number or counting—abstract and concrete—correspond to the two forms of the now. The duplicity of the now is required for our sense of time as passing into otherness. The now *per se* is always the same, and if we were in this now and this now alone existed, there would be no sense of time. It is only on the basis of the coexistence ἅμα of two asymmetrical nows that time appears: a *per se* now which is like an eternal present, and an *other-*

now. These two *nows* are not commensurable, they have no common measure.⁷³ They imply a *displacement* ἔκστασις rather than a mere interval διάστασις. Time is not reducible to number defined as a discrete quantity. It is unlimited and quantities are never unlimited. They are present all at once, but motion and time departs from ἐξίστησι what had emerged τὸ ὑπάρχον (221b3).

We saw above, the before and after in place has both a natural/unconditional as well as an artificial/conventional/relative sense. It is less clear in what way time would admit of both natural and artificial relations. In what we have of existing works, Aristotle nowhere elaborates on the relation of natural and artificial time explicitly. The natural order of time would be that discovered in movements which belong to bodies according to their nature, as with the uniform motion of the heaven, the linear movement of simple bodies or animals. We might suppose that if we count a random length of time—just randomly counting to three—that this might constitute an artificial before and after since we are no longer drawing the measure from natural motion. This could be, but there is another possibility. Aristotle perhaps give some indication of this when he briefly contrasts between senses of before and after in time in *Meta*. 5.11. He says that before and after are defined by proximity to a source ἀρχή either by nature or conventionally (1018b10-14). Then, when he brings up time explicitly he says that we understand the past in terms of what is more *distant*, and the future as what is *closer* (1018b14-16). Presumably this is because the past only grows more distant and the future draws closer. This difference might reflect what Aristotle takes to be natural and relative. The *before* in the sense of *past* emerges in

⁷³ *Phy.* 4.13, delimits the nature of the now as either making time continuous or dividing it. Aristotle does not delineate a simple duality in these attributes of time. He multiplies these attributes: during some time, recently, just now, long ago, and suddenly; *Phy.* 222b7-27. The indivisibility of the now is its continuity which makes every moment “the same,” not as existing all at once or as a totality, but by being together in passing. Suddenly ἐξαίφνης refers to a passage of time that is imperceptible due to its minuteness; 222b16. It is not, however an instant, properly speaking, but the *moment* we notice its having come about, as also; *Nic.* 1111b10, *Ili.* 17.738, *Rep.* 515c. The moment is ambiguous not precise. Even the word ἤδη involves such duplicity, meaning already but also, of the future, means “just now” or hence forth, as “when are you leaving?” “just now” which is *when* the person suddenly walks away. Even ἄρτι “just recently” is a negligible or irrelevant amount, but nonetheless a continuity of passage.

relation to the after of something having already come to be and so its precise determination is already realized. So the *before*, in its primary temporal sense is what has already come to be, and from this perspective, the *after* refers to the present. The natural or unconditional sense of refers to the now as the actual present which follows from prior events. If the “after” is in the future then the present is the starting point and what it is closer to has not yet come to be and, as we said above, could be otherwise (sec. 1.3.2). This is why Aristotle gives the example of the Nemean and Pythian Games. As in *Phy.* 4.6, it is the *unlimited*, distinguished by addition, which goes on to characterize the continuity of time. This might also shed light on the crucial distinction between time counted with a measure and time sensed indefinitely (*Mem.* 2.). The measure must be discovered and derived while an “indefinite” time is not entirely measurable because it is what has not yet come to be. We are fixed on the future as coming closer to the present. With the example of the two games, they each happen at a certain time of the year based on a calendar. We might say in the fall, that winter comes before spring since it is closer to the now. Even if a determinate quantity of time is assumed, the future is still indeterminate in so far as it cannot be said to have come to be. The point to take away from this is that a future oriented temporalizing intentionality is irreducible past oriented and the former is an ingredient in animal life. They seek food and safety by an indeterminate perception of the future possibilities. For animals making use of perception through a medium, a distant perceived entity must be pursued or avoided and the animal acts in accordance with what is nearest to coming to be. We cannot completely determine the future—what will come to be *after*—when the now is the starting point because it hasn't happened yet. Animal movement involves anticipating vaguely “when” something will happen and fleeing or pursuing based on anticipation. The same temporalization

is required in artistic production. We must build a foundation before constructing the walls and after that the roof.

We can employ a general measure in ideal conditions and our reference to the measure seems to clarify our understanding by broadening the horizon in which we think of time. This generality, this universal time, cannot alone account for our sense of time. It can only account for the past oriented sense of time as already having come to be, and as static. Time *in the making* is open, dynamic, and passing. These two temporalizations coexist in human life: deliberate choice *προαίρεσις* being the concrete unifying activity which draws on experience and past deliberation in order to anticipate the future that it elects to raise and maintain by undertaking it as a pursuit. The progressive realization of effort links what has already come to be with what we can do now to shape our future. It is not a cause in the way our ancestors are already a cause of our being alive, but the way that tilling the field, filling jars for fermentation, or building a foundation are generative powers of something not yet realized and which will perhaps not come to be after all if care is not taken to ensure their development. Time alone is not enough to bring about the future possibility, it requires effort guided by prior experience.

Alright, now that we have restored the complexity of lived temporalization, let's go back to the aporetic. The time of each concrete movement coexists in a *unison of becoming* in which only one measure counts: time is everywhere the same. Now, we ask, is this common becoming attributed to the uniform movement of the heaven or the soul? But this question also asks whether time is subjective or objective. Bergson's interpretation, on the one hand, objectifies time by placing it in uniform movement. But, on the other hand it also impersonalizes the subjective by characterizing the intellectual intuition by the strange remark Aristotle made about intellect entering the soul as if through a door (HIT 164). This way of pushing time to its extreme

case, that is, to an impersonal contemplation of uniform motion, misses what is most important and interesting in the ultimate ambiguity on which the Aristotelian aporias of time turn. The two factors, movement and spiritual energy, each provide their own irreducible addition to the sense of time, and yet they each more and more take on aspects of the other. The soul turns back on itself and the heavens are a sort of living intellect. Aristotle rejects that the soul or intellect is a circular motion. Instead he says in DA 1.3, that the soul is an agent [ποιεῖν] of the movements proper to the body having life. It moves the body in infinite variations but they are one activity. The soul is analogous to the unmoved mover which organizes and preserves the movements in the whole. Aristotle argues in this same passage, that (1) the soul is intimately connected to the body and is the agent of its proper motions, (2) the intellect is a *stillness* and seems to be unmoved. This is in agreement with the position he develops later in the work, that the intellect is not determining of the soul as a whole, but rather life is. Life would correspond to the movements which are imparted to the body, always circling back on itself, and moved by the unmoved activity of the soul. Discussing further the difficulties of the relation between movement and the intellect, Aristotle suggests that even demonstration and definitions are movements, but not circular movements: he writes “always taking up another middle term and ending term they proceed in a straight line, but revolving motion turns back again to the beginning.” (407a30) But this is not the whole account of thinking, but only applies to discursive thought. Intellectual intuition [νόησις], he says, is like rest, or halting [ἐπιστάσει] (407a35). We cannot now go into any depth on the problem of the relation between body and soul, or body and intellect. The community of body and soul is a continuity of peculiar movement actualized by the soul that moves the body. The intellect, is absolutely still and standing firm.

If we consider the now *per se* on its own, its mode of existence stands like first actuality. This now is an acquired, unconscious, immovable limit, separate and unaffected by all motion. We nowhere sense this now as an instantaneous perception or as a “moment” in time, nor as an eternal present. It is never present but it is that from which presence in general emerges as recognizable. The measure is discovered in concrete but extracted. We *sense* time as continuous. We can, however, intellectually grasp a sort of *static* now, analogous to the acquired universal, arising from the memory of past events. We are brought to conceive of a *coexistence* of past and present in the life of the soul. Experience is a compound of memory and perception. The attention of philosophical inquiry itself is a wakeful effort holding them in tension. There is a passage from the *Problems* that touches on this temporalization of philosophical investigation.

[W]akefulness is not due to the intellection [νοεῖν] (for then the soul is more bounded [ὥρισται]), but to change, since those acts of thinking [νοήσεις] are wakeful in which the soul investigates [ζητεῖ] and questions [ὑπορεῖ], and not those in which it perpetually contemplates [ἀεί θεωρεῖ]; for the former is an unbounded [ἄοριστεῖν] sort of thing, whereas the latter is not. *Problems* 917a31-4.

So perhaps contemplation—being static and consisting in rest—we will not experience a distinguishable differences necessary for us to sense time, contemplation being a rests in the static-eternal-immovable. The majority of thinking in philosophy occurs as investigation and questioning. Time itself, as aporetic, is a *questioning* at work in sensing motion. Time involves a horizon of un-foreseeability as in the case of waiting for fruit to ripen or fermentation to complete; we confront an open future which is not yet settled in a continuously advancing present that is ekstatic. Someone intends to read but they fall asleep.⁷⁴ They embarked by choice

⁷⁴ *Problems* 916b9-19. Thinking is described as pushing off from what stands immovable. This “rising” of thought coincides with a warming up of the common sense and attention is awakened as discursive-thinking is funneled together into one thought. The parts all work together and converge in the gradual realization of a focalized thought [πρὸς τι ἐν τῇ διανοίᾳ]. Thought “pushing down so as to prop itself up [ἐρείσωσι]” from first actuality rises into the wakeful thought which moves and changes. The increase of heat raises or elevates the process of thinking, making it more wakeful and alert. Later in the chapter he calls this a pneumatic motricity πνευματικῆς κινήσεως or spiritual mobility. This might seem to be an overly corporeal account of intellectual activity, and as being perhaps incompatible with the accounts given in DA. The heat related to the increase of attention is related only to discursive thought, not the active intellect considered on its own. On this reading, thought is energized and moves by the

on a path of thinking-through to form one thought [πρὸς τι ἐν τῇ διανοίᾳ] but they are fatigued and when the thought achieves its unity, the stillness of its pose propagates through the *body* and they fall sleep (917a30-35). Book 18 from which this comes is full of other strange problems, all having to do with unpredictability. Phenomena related either to an unintended interruption of someone's intention, or falling into a somnolent ignorance from which we seem unable to escape or even notice its gradual onset, similar to falling asleep while reading. Chapter six asks, *why do people stay with base activities for a long time without turning to improve themselves?* Eight suggest that verbosity is not used in contentious arguments because in the passage of time the fallacy will become clear. With both problems our attention is turned to the temporality events which are open to shifting against our expectations. Nine wonders if the pleasure of organizing historical accounts around one event is due to the fact that we pay more attention to easily learnable things (since the pleasure intensifies activity by concentration). But doubt is then cast on this by reference to the fact that what is bounded ὁρισμένον, which is a unity, and thus is more familiar γνωριμώτερον than the unbounded ἀόριστον, which is many and shares in the infinite. It would be silly to say that Aristotle decides that the unbounded is to be discarded on logical grounds when experience furnishes a plenitude of examples of its role in practical affairs.

embodied work which uses the common sense and imagination as a contributing factor and, in turn, draws on wakeful energy. But when fatigued, i.e. lacking energy, as attention “focuses downward” to stand up, it cannot stop the inertia of its “fall.” Thus the immovable point from which the motion of thought “pushes off” requires an effort which is expressed as a pneumatic movement intensifying and concentrating thought upwards. The force of thinking the universals and general is one akin to plummeting. We mimic in a way, the very process in which the universal came to be, as Aristotle says, it is not due to alterations of the organs (including common sense and imagination) but to settle the contrary motion in the soul is like muddy water; only when the soul is still and clear, settled, can the whole itself take a stand in the soul. The force of the plunge both forms and sustains the universal, but this must be counteracted by an upward motion of ἐρείδω; 916b9, which means to plant firmly, press, prop up, or “raise up” in the sense of lifting oneself up by pushing down. This would help illuminate the relation between first and second actuality in DA. Second actuality of thinking being an exercise of effort pushing off of the first. Later in the chapter, the problem reemerges and the connection to *Post.* 2.19 and *Phy.* 7.3 is explicit. After reciting the problem, it is added; “For when a single leader stands still, as it does by a turn, the other parts tend to come to a standstill as well.” 917a30, Whether or not this text is authentically Aristotle's or peripatetic, it does not appear to be inconsistent with what Aristotle says elsewhere, and helps to visualize all that is at play in intellectual effort.

The lover of knowledge must in fact pursue the multiplicity and what is more difficult for us to understand! Is this not what Aristotle's qualitative, dynamic science busies itself with uncovering? Can philosophy really ever dispense with questioning what is problematic? The strenuous and even painful task of investigating and questioning cannot be ultimately left behind. We are also told that learning and wonder are a source of their own pleasures (*Rhe.* 1371b33). Here again, in *Rhe.* 1.111, learning is a settling down and resting, while wonder is invigorating and captures our interest. We end each of these problems without a definitive answer; they themselves remain aporetic and intriguing, enticing us to investigate them and try to catch the subtle inner-principles at work. Such is the *problematic* nature of the temporalization philosophical investigations and of life. Each new problem requires that we get an integral experience that is *sui generis* in its activity and dynamism. Problems appears to be opposed to the *topics* which mark the immobile limits at which a dialectician enters and leaves realms of discussion. Problems are not static but refers to the movements themselves which require from us, an effort straining our attention in follow them. The topics *stand* in the soul, they are places *τοπικά*. It is entirely consistent with the *logical interpretation* to accept the static-topical and discard the aporetic-problematic. This is the decision which takes the eternal present and on it builds an integral science of generic-impersonal causality which determines everything by necessity. Time needs to include both necessity *and* contingency since, for humans, we never escape the unbounded, infinite, contingent, ecstatic temporality of dynamic modes of being. Logical interpretations tend to treat the Problems as a sort of bastard discourse which ought to be merely provisional and later can be considered unnecessary once the system of concepts has been constructed. There is something dishonorable about it from the logical perspective, since it always implies that you are still ignorant. While this or that problem might in fact be overcome

with time, even if only to a partial degree, progress is no doubt achievable and knowledge had built itself up by the time of Aristotle. This does not completely eclipse the problematic condition of the dynamic sense of being. The logical interpretation easily loses touch with this problematic sense of time. The dynamic interpretation makes it indispensable.

If we take Aristotle to be approaching the problem of time on the basis of continuity—in the provisional sense of counting time or the unbounded sense of time involved in the original temporality of a developmental dynamic series of learning or investigation—then time retains its aporetic sense. At the heart of animate life is a wakeful searching and questioning involving indeterminacy. The indeterminate sense of time is an excessive sense of *time in the making*, not reducible to an already acquired measure nor to the present. Further, we have suggested an even deeper relation of Aristotle's philosophy with Bergson's, on the basis of the coexistence of the past and present, or being and becoming, in first and second actuality. The "ontology" which Bergson develops out of his investigation of memory (the past as irreducible to the present or presence) have an Aristotelian precursor. There is an integral past; an indivisible passage of qualitative transformation; a growing intensity and concentration irreducible to quantity. Aristotle's sense of time is by no means cinematographical nor kinematic. Nor is it formed on the basis of the eternal present, not again as an eternal return of the same. It is problematic, complex, involving different horizons of temporality linking power, force, exercise, realization and preservation: a proliferation of virtual temporalizations (sec. 2.1). Bergson, above all, adopted the *problematic* temporality of aporetic and ekstastic temporality as the defining features of *dynamics* as a basis on which to understand creative evolution.

1.5 The Indivisible Unity of The Infinite

1.5.1 The Metaphysical Significance of Zeno's Paradoxes

“The ancient philosopher who demonstrated the possibility of movement by walking was right: his only mistake was to make the gesture without adding a commentary.” (CM 144)

Bergson tasked himself with providing Diogenes omitted commentary. In fact, Bergson engages with Zeno in all four of his major works (TFW 113-5; MM 191-2; CE 308-314; TS 54; as well as several times in CM, and extensively in the 1901-1903 courses). What is most relevant about this recurring theme in Bergsonism, and why we should give a whole section to treating it, is that Aristotle too invested a considerable effort in mounting a response to these paradoxes in the *Phy*. Bergson did not, to my knowledge, provide any direct analysis of Aristotle’s solutions, or mention that his solution was in many ways, identical to Aristotle’s (i.e. by an appeal to dynamics). What is at stake with Zeno is nothing less than the reality of movement and time. For Aristotle, the continuity of motion, which implies accomplishment (power and act), as we saw above, is what will ultimately refutes the paradoxes, by a dynamic and interior sense of force. We will go on to find that Bergson’s approach to the problem of Zeno ultimately defined, for himself, the role of *infinitesimal thought* in metaphysics, and this explains why he called intuition a *qualitative integration*. Bergson saw his interaction with Zeno as decisive in the development of his method and used it time and again to indicate the direction of his dynamic approach over against the static and closed.

Zeno’s paradoxes place the intellect on an uncomfortable terrain, it pushes the intellect to resort to other means than the ones it’s use to. It prefers what is static, clear, simplified, reduced. This terrain involves infinity and continuity, which requires *infinitesimal thought*, in order to become intelligible. Bergson finds the whole epistemological question of the reality of motion to

be tied up in this antinomy or contradiction, as Worms calls it, which thought ends up in by proceeding as it habitually does, in pursuit of fixed concepts and units.⁷⁵ Infinitesimal thought is what provides escape from the contradiction.

Zeno's paradox is, for Bergson, the earliest philosophical formulation which puts on display the essential structure of the intellect and its limits, i.e. the cinematographic mechanism. We extract snapshots, summations, or averages which symbolizes or represent the flux. Generalization is a necessary condition for communication and aids in the coordination of action. In practical life, static signs are extracted and used as a call to action, involving an immanent force or energy (HIT 53). That is to say that signs remain and operate within dynamics and duration. It is a moment in the attentive activity of life which is tension and concentration (kaleidoscopic). The "attention to life" looks only at the static and predictable signs and the intellect becomes accustomed to dealing with things which can be neatly laid out in space (cinematographic).

We find this in the problems raised by Zeno and in Aristotle's confrontation with Parmenides. Parmenides, according to Bergson, fashioned the strict version of the law of contradiction: there is *being* or there is *non-being*, but there is nothing between them (HIT 94). This is a requirement for dialectical inquiry in Eleatic philosophy; it deals with what can be put into rigorous definitions and can be demonstrated to be absolutely irrefutable. Aristotle opposed this dialectical approach to a *physiological* approach and sought to charter the middle path between them.⁷⁶ This means that we cannot appeal only to the rigor of language, dialectic, or

⁷⁵ See *Worms* 2005.

⁷⁶ For a detailed account of this theme, see Senteny 2020, and Reeve's commentary endnotes to the *Phy.* (n258), which tracks the important passages of this middle path. Here is a summary of his citation of key passages: *Top.* 105b12, *Met.* 996a18, *Top.* 162b27, *DA* 403b1, *Met.* 1026a 5, *DA* 402b16, *GC* 316a5, *Met.* 987b29, 1069a26.

logic to grasp the reality of motion, we must also have perception or experience of motion in concrete matter and form.

The problem at the heart of Zeno's paradoxes lies in the concealment, the covering-over, or erasure of the difference between (1) the movement as a *mobility* is an indivisible passage actually perceived, and (2) the path over which motion passes, and the resulting state which comes to be after motion is finished. The latter, derived from the movement, is the path taken as a totality, after it is already completed. It is the *trace* of the movement substituted for the act of tracing. Bergson consistently insisted that this is clear in the case of the *Arrow*: Zeno says that the arrow never moves because it's always at some point on its path. Since a point is an immobility, the moving arrow is stationary at every point in its path. "But the truth is that the arrow is never at a point in its path; it is never there. As outsiders we take the movement from the outside, we see a space traveled, we divide this space as we like, we put an indivisible point here, another there. This is an artificial reconstruction of the movement with positions, immobilities." (HIT 98) Eleatic abstraction takes the synthesis of all the successive positions which the movement articulates, into a totality, the parts of which all exist simultaneously, i.e. as empty space traced by a movement which is now already completed. Movement is expressed by its opposite, by immobility, and this is a contradiction.

To avoid the contradiction we must place ourselves in the movement as a reality. We must "enter into" motion as something which has an inner character or intension. Thus the problem with Zeno, and problems called *logikos* relating to Parmenides, is that they are content to stand exterior to reality, rather than considering them relative to their interiority. The interiority, for Bergson, involves the continuity of *transition* (CE 313) The reality is its passage as an indivisible act. To grasp the reality of motion we cannot merely trace its path from without,

we must install ourselves in the progression of its transition. It is to this end that in *The Perception of Change* Bergson says we must ask Achilles himself to add a commentary to his participation in the contest. Bergson, speaking for Achilles, says “I take a first step, then a second, and so on; finally, after a certain number of steps, I take a last one by which I skip ahead of the tortoise.” (CM, 145) The indivisibility of motion for Bergson implies the power to accomplish a change in a continuous progress which is not endless, like our ability to count, but which is capable of accomplishing its *bound*.

It goes from *a* to *b* in a single bound⁷⁷; therefore it is something indivisible and one; it is an indivisible reality; if I look at it from the outside instead of putting myself in it, I perceive the trajectory *a b*; it has traveled the path *a b*, and then if I agree to say that what is real is not the transition, it is the position, oh! then, I will reason as Zeno did, that is to say that I will take each of the points through which the arrow passes; at each of these points there is a position of the arrow, and necessarily in each position it is immobile, since it was assumed that at that time it occupied this position. (HIT, 98)

It is the external reconstruction which is characteristic of the dialectical approach of Parmenides, and exemplified in Zeno’s paradoxes that derives from reality an unchanging generality, and covers over, ignores the “intimate essence” or “interior organization” of its passage (MM 191). The difference between the physical/concrete continuity and the trace or abstract extension emerges as the central insight giving birth to metaphysics.

Zeno’s paradoxes involve the false problems relating to confusing the “two ways” of counting from TFW: i.e. provisionally vs. by a totality which corresponds to the difference between the concrete and abstract. As Achilles approaches the tortoise, we cannot *actually* count an unlimited number of halfway points. A finite time of concrete motion does not allow for an unlimited counting of halfway points. Motion advances by “bounds” which implies a single bound which implies a certain capacity to sustain and accomplish results. A step cannot be moving without some progress being actually accomplished. Achilles cannot take steps as short

⁷⁷ Bound means both bonded, unified, and a motion, a bound as the verb meaning run or leap forward.

as Zeno insists he must in his problem. The reality of movement is not subject to the arbitrary rules which only the intellect can apply. In the mind we can go on forever, or indefinitely, at least in principle, but the activity of motion is linked to the power or its “bounds.” It is a finite force which must be repeated, as in the case of walking, and which always accomplishes some amount, in relation to the actual articulation implied by the kind of body and movement. After a certain number of concrete bounds Achilles will close the distance.

We must bear in mind Bergson’s early influences from mathematics, which brings into play the language of infinitesimal calculus. A remarkable work exists in French, by Jean Milet (1974), titled *Bergson et le calcul infinitésimal: ou, La raison et le temps* which is somewhat alone in scholarship for its exploration of this aspect of Bergsonism.⁷⁸ This conception of duration and intuition renders them in terms of integral and derivative. In our immediate experience, in our interior life, duration unifies an infinity of qualitative differences into an *integral* whole like the curve of a function. We can take an infinitely small fluctuation of the line (a differential) and we can convert it into an average, a straight line which represents the rise over run as a tangent. The tangent is a derivative with the respect to the integral, it is an average at that “moment”. Here the moment is not static but is an infinitely small variation. The derivative, on the other hand, is static, and is no longer infinitely small, is it a discrete value. Now, it is a fundamental theorem of calculus that we can go back and forth between derivative and integral. But, we do not reconstruct the curve using tangents, nothing about a tangent is at all

⁷⁸ Gunter wrote in summary of it: “The alternative mode of thought which Bergson came to explore was to be termed ‘intuition,’ and was to be conceived, initially, in terms of the infinitesimal calculus. Intuition (or ‘immediate experience’) was never conceived by Bergson as a kind of hunch or feeling, but as an attempt to ‘catch the bird in flight’: to follow motion, duration, change of all kinds without deforming them. Zeno’s conceptual arsenal (like Kant’s) bristled with static, discontinuous concepts incapable of depicting change. What was needed, therefore, was a mode of thinking which stressed continuity and dynamism, i.e., continuous change: ‘The continuity supports the movement; the movement supports the continuity. Bergson will not take long to fuse these two notions, it will be *Durée*.’” Gunter 1976, 245.

curving. The interior reality of movement is, for Bergson, an integral unity, and each differential is a fluctuation, fluxion, an inflexion of the same unifying integral. The integral includes differences at every moment, the curve traverses an infinite number of variations. This must be the case since curving means changing direction continuously.

Aristotle by no means conceived of movement in terms of traces left behind in homogeneous space. His approach attends to the dynamic and concrete reality of movement, involving continuity of interiority, especially in the case of alteration, learning, and habit. Aristotle's sense of continuity implies a qualitative multiplicity passing in an indivisible movement, conceived as integral wholes. As we saw above, some of the insights of infinitesimal thought were already involved in da Vinci's conception of painting. Ravaisson's interpretation of Aristotle had already moved towards framing motion and the concrete individual as integral wholes, unifying an infinite multiplicity of qualitative diversity. Leibniz, self-proclaimed retriever of Aristotelian substances, surely influenced the development of this interpretation.

In this gradual awakening of the *infinitesimal thought*, though it remained on the periphery in Greek science, nevertheless is found in Aristotle's dynamic sense of continuity. For Aristotle it is qualitative and involves temporal depth. It appears as a precursor to the infinitesimal in the senses which Bergson gave it. I do not attribute the "discovery" of infinitesimal calculus to Aristotle, since he was manifestly unaware of its most profound implications for mathematics.

1.5.2 Aristotle's Confrontation With Zeno's Paradoxes

Aristotle's refutation of Zeno unfolds over several books of *Phy.*, especially the second half, which is sometimes referred to as *On Motion*. The problem is not completely worked out until the final book of that text. One of the most decisive engagements with Zeno is couched in the complex arguments demonstrating the claim that time and movement are not composed of indivisibles (239b8). His refutation of Zeno is on the basis of his conception of the continuity of motion understood in terms of potential parts in succession.⁷⁹

The progressive forward thrust of motion is not capable, in a finite time, of measuring an infinity of actual finite distances, even if they progressively diminish in length; in this regard Zeno's paradoxes are sophistic. A real movement passes over an infinite number of infinitely small potentially distinguishable parts, but cannot move an infinitely small amount. Experience shows immediately that walking achieves a passage to the limit by closing the gap, and cannot move infinitely small amounts. The intellect *can* always go between a finite magnitude, or think of another number greater than each quantity it happens to think (208a15). In this sense Zeno touches on a crucial aspect of continuity and the nature of intellectual activity, but he fails to properly untangle the one from the other. Unlike the intellect, the movement cannot go on indefinitely, rather it gives out in finite measures and is exhaustible. We do not proceed by operations of intellectual division when we execute indivisible bounds of motion. Movement is finite because it exhausts its power to change by passing irreversibly into some other form. One of any two contrary qualities eventually succeeds in reaching its opposite if it changes continuously. The end of the motion is a threshold at which there is no longer movement. The

⁷⁹ Aristotle's refutation of the infinite is only a partial refutation. Aristotle adopts the infinite into his explanation of motion by reference to the dynamic sense of being. Motion can pass over an infinity of potential parts by a continuous passage in a finite time. It is the actual infinite, composed of finite parts, which is refuted.

potential to walk to Thebes is exhausted by reaching the city, and someone's potential to walk in general is exhausted by fatigue. Movements in the world, sublunar natural motions in particular all reach a threshold: up and down, heating and cooling, sleeping and waking, birth and death. Motion in countless examples displays achievements where in there is a passage, in a finite time, traversing an infinity of transformations among potential parts and nevertheless the limit is reached. The beginning of motion is not *articulated* in the same way and so it cannot be determined by a finite limit. This problem is entirely due to the continuity of motion. Since every part of motion implies an accomplishment, every part must already have succeeded in moving and thus is after the beginning (238a). If we wish to approach the beginning of the movement, Aristotle says, we will face an infinite task like Zeno's: "Since, then, it has changed in time, and every time is divisible, in half the time there will have been another change, and in half of that another in turn, and so on forever; so it would be changing beforehand." (237b25 *Sachs translation*) There is no indivisible, discrete, first part of movement, but rather a continuous time in which it changes and in which we could always find more parts ad infinitum before it. Since there is no movement in the now (237a15), and since the first part of movement is already moving, its parts are all continuous and none can mark an indivisible now. Thus no time of the movement, no part of the motion can be taken as *primary*, or first, because some movement must have come before it (237b6). This is a somewhat paradoxical sounding conclusion, let's make sure to make it as clear as the subject matter allows.

If there is no first now which delimits the beginning of motion, because it will always be after some motion has already been accomplished that we can say that motion exists. All parts of time are distinguished as a duality of "now and before" [νῦν καὶ πρότερον], discerned [κρίνοντες] minimally by this duplicity [δυοῖν] (239a15). This "before" must not be part of the

motion itself but must relate to the mover and the moved prior to their encounter, prior to the time of the movement, in another time than the time of the movement. The now in which we notice change is always after some change has already occurred. The time at which we first notice change will not be the actual start of the change but always follows after achievement.

Aristotle says there is no motion in the indivisible now (241a23). Thus for Aristotle it is impossible that something unconditionally indivisible be continuous. There is, however, a sense in which movement is indivisible for Aristotle, not in terms of its parts, but in terms of the whole, and this can only be if it has already been completed. Thus it is the *measure* which indicates an indivisible unity--the *unit of measure*--an indivisible standard by which we count motion. Every continuous movement and time has a quantity which it “measures out” and which we sense in our experience of the change as “now and before” or *after* and before. Each motion measures its own concrete quantity by bounding out the magnitude it is capable of producing.

Jiménez (2017 212) gives a similar reading of the relation between the divisibility of motion and the need for an indivisibility prior to the divisions. Movement is an indivisible act that gradually realizes a physical or concrete potential. The potential is divisible but not into parts which are *constitutive* of the actual unity. The parts are not constitutive but rather derivative, as points can limit a line, but the line must exist which is limited by the point. Likewise the positions or potential stops do not come together in order to form movements or times. The limits articulate the whole of the continuity, but we do not think of the points as continuous by rather what the points delimit. Jiménez connects this to the problem in DA 3.6, concerning the ability to think indivisibles (Jiménez 2017 207). He argues that Aristotle is saying that we can think of a continuity as an indivisible unity, not identical to the indivisibility of the point, but as no less unified. A line is composed of lines and time is composed of times, which is

just to say that continuity is composed of continuous parts, not points. The indivisibility of a line and a point seems to be the same, in a key aspect. Both have to be considered with respect to both activity and potentiality, and they each have actual unity/indivisibility, and potential multiplicity/divisibility. A point is potentially the end of two lines, it has the duality of a line.

The difference between a point and a line, or the now and time, is not simply a difference between unity and multiplicity, since continuous quantities are unities. The difference is instead one of abstraction, the reality of bodies, what Aristotle calls complete continuous quantities (extended in all three dimensions) has a surface as its limit. The body is not composed of its limit; the body it is not merely a surface, but rather a depth harboring powers. The surface of a body is determined concretely by the containing body. Likewise time is not merely the thresholds interposed in it as articulating it into separate epochs. Time is not the abstract limits nor the interval measuring them, but the continuity whose passage fills and sustains a passage from before to after. There are clear articulations of time when we consider two opposite motions following one after the other, some cold thing becomes hot, and hot things rise, so at time one there is a cold and stationary body and at time two there is a hot body which is rising. There are turns of events, irreversibly unfolding of all kinds of peculiar encounters in nature at which an inexhaustible infinity of details can be distinguished, but which also display determinate effects (like freezing, boiling, melting). The moment we notice that rock has worn away, already hundreds, thousands of drips have occurred and each has moved it but it is not for quite some time that the movement becomes perceivable to us. In certain weather, we don't notice clouds have moved for several seconds, but in reality they move constantly. This is all to say that our noticing of motion depends on concrete events of continuous change. But not every change is strong enough to be noticeable. We will not notice subtle fluctuations in feelings like

temperature unless they become great enough to grasp our attention. Despite these irregularities by which forces produce no results, every actualization of force involves some positive result.


Jiménez interpretation of Aristotle's response to Zeno is in agreement with the fundamental insight of Bergson's response. The indivisibility of a continuous quantity is akin to Bergson's "bounds", and these are, in turn, like William James, "buds or drops" involving finite accomplishments through the unity of activity, enacting an unlimited number of potential parts.⁸⁰

This duality of unity and diversity implied in dynamic continuity, forms the basis of Aristotle's conception of movement and nature. All the parts of motion are successive, they

⁸⁰ Whitehead, following William James, uses the problems of Zeno in order to expound a quite Bergsonian (and *a fortiori*, Aristotelian) duality of standpoints, an asymmetrical reversibility of infinite divisibility and atomic unity. Whitehead quotes James in *Process and Reality*, "Either your experience is of no content, of no change, or it is of a perceptible amount of content or change. Your acquaintance with reality grows literally by buds of drops of perception." *ibid*, 68 (*Some Problems of Philosophy*, Ch 10). Here we can take the buds and drops to be the same as Bergson's "bounds" as an indivisible act. Whitehead calls the passage of these droplets, these bounds, "acts of becoming" *ibid*, 69, and also a duration, or a concrescence. Furthermore, Whitehead makes clear that he takes a mathematical interpretation of Zeno as directly linked to the question of infinitesimal thought. He claims that Zeno's whole problem relies on an "ignorance of the theory of infinite convergent numerical series." (*ibid.*) The missing premise is the convergent unity, the integration of infinite multiplicity in a finite operation bound or bud. Zeno's paradox is, for Whitehead, a valid argument if we ignore the infinitesimal thought. It relies on two premises (1) if "something becomes" and it is always (2) divisible into prior parts, there will be a limit which precludes the possibility of a prior and conditional becoming. He says "At the beginning of the second time there is no next instant at which something can become." *ibid*, 68, Duration, for Whitehead is different from time; duration is the felt reality or intuition, what he calls, following Descartes, the formal reality. Time, on the other hand, is an objective reality, and so is discontinuous, or atomized. Time is the temporalization between many drops of experience, while the droplets each have their own indivisible unity of feeling. Time is not a process of becoming like duration, it is instead a discontinuity and not a *continuity* but rather a *contiguity* arising retrospectively. So the drops of experiences are like the bounds of movement that actually accomplishing something within its power, which provide the answer to Zeno. Whitehead clears this up in *Science and the Modern World* ch 7. See, 125; where he cites two passages from Kant's first *Critique* and reads the second of the two passages from the section "*Of the Axioms of Intuition*" against the first, in order to mount a reply to Zeno's paradox. The first passage says, concerning the continuous quantity of time that "I can only think in it the successive progress from one moment to another." This implies that the problem of a first part of becoming which Zeno can attack and from which the inconsistency of the definition of movement emerges. With this passage alone Kant cannot defend himself from Zeno. Kant says that the increase of a continuous quantity starts with the intuition of a point and draws out a line from it. with a point we have only a limit, only an extremity of continuity. The second passage, on the other hand, says "space consists of spaces only, time of times. Points or moments are only limits, mere places of limitation, and as places presupposing always those intuitions which they are meant to limit or determine." So the intuition does not emerge from the points or moments since these must come from the intuition first so he says "mere places of parts that might be given before space and time, could never be compounded into space or time." So the infinite diversity is divisible but only as a secondary and retrospective grasp. The reality which becomes, the process of passage is not time but duration, is an indivisible act." the act itself is not extensive, in the sense that it is divisible into earlier and later acts of becoming which correspond to the extensive divisibility of what has become." PR, 69.

always come *after*. Aristotle makes use of the infinite in thinking about the beginnings of a continuity. Every part of motion follows after the beginning and so we will never reach the beginning if we analyze the motion in terms of the parts of motion, since every part comes after and the intellect will always be capable of finding a part between the interval.

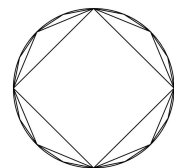
It seems that Aristotle conceives of motion as involving a subtle acceleration, a gradual rising akin to a curve. The beginning [ἀρχή] of the motion is not in the movement, but is in the mover. We cannot follow back the movement to its beginning because its beginning is not in motion at all, it forms no part of the motion properly speaking. “Why...when anything is traveling the movement is most violent in mid-course, but is gentler when beginning and slowing down?” (920b). This is a slightly poetic way of speaking but it seems to be expressing what only calculus has made mathematically rigorous. Consider how a curve appears to overlap with the

tangent which touches it.  There appears to be a continuous section of the line in which they coincide, but this is due only to the minuteness of its change. By analogy movement also arises by infinitely small amounts before we notice it. After a certain amount of divergence it becomes noticeable.


Aristotle had only a very crude mathematical model of the infinite to draw from, the Pythagorean one, which conceived the “even” or “unlimited” in qualitative terms, as we saw above (sec. 1.3.2) as with the rectangular figures, which eventually, when drawn to infinity approaches more and more closely a perfect square. Leibniz himself squared the circle by an infinite expansion of a square, and we know that another sort of transformation was attempted by Eudoxus and Antiphon, but was generally conceived by the Greeks to be a fallacy. Aristotle refers to Antiphon squaring a circle in *Phy.* 1.2. Aristotle says there that it is up to the geometer to refute the squaring of the circle on strictly geometric starting-points. These refutations do not

apply to Antiphon's approach (185a15). Aristotle does not elaborate on this, but it is perhaps given as an admission of the physical reality of such an operation which is nevertheless geometrically invalid. It is contradictory to the very postulates of geometry, which define a line and a curve by altogether different modes of construction so that neither can be defined or constructed by means of the other. We find in *Phy.* 2 that Aristotle believed Antiphon was partly correct in his understanding of nature, that he had identified the material component, though he failed to account for the formal component (193a12). The matter is partly responsible for *nature*, but Antiphon fallaciously equated matter and nature, because he observed that something artificial, like a bed, if we were to bury it, would shoot up the stalks of a tree, but never of a bed. The matter of the bed is natural, it is wood, and wood expresses a concrete, unique nature and a generative power. Antiphon's understanding of matter is correct insofar as it is concerned with this concrete way in which natural entities involve matter as a generative principle of movement (193a17). Antiphon missed the formal component, and Archytas is credited with having properly included both. *If* the operation of squaring a circle is understood to be, in a way, akin to the material component, (by expressing the way a capacity for movement implies an unlimited variety of transformations), *then* we can see how Aristotle perhaps accepted an aspect of Antiphon's operation, not in a mathematical way but in what would later be called "passage to the limit" or "convergence of an infinite series" insofar as that series consists of continuous parts.

Antiphon's operation of squaring the circle is different from Leibniz' but the desired result is more or less the same. Antiphon was attempting to show that there can be a square and a circle that have the exact same area. The proof of their equality is given by a construction using a ruler and a compass and requires that one repeat a finite operation an infinite number of times. A square is inscribed in a circle and



triangles are drawn with tops inscribed at the midpoint of each arc between the corners so that an octagon is formed. This operation of bisecting and adding smaller outer edges is repeated again and again until, so to speak, there is a “passes to the limit” and the thousand sided figure *becomes* a circle.⁸¹ The reality is that the operation cannot be actually repeated an infinite number of times using a ruler and compass, and in principle the infinite divisibility of extension implies that the operation theoretically would go on without ever becoming a circle. At any rate, the purpose behind the intension is to continue applying an operation which eventually accomplishes the passage into the form.

Leibniz operation was not performed with a compass but instead conjures up the intuition to expand the square infinitely in all directions. The following diagram is a crude illustration of this procedure:  We can, of course, find an infinity of interposed differences of shape in the continuity of the transformation. Each moment displays a figure qualitatively distinct from all the other figures. The shape of the second figure and the second to last figure are very close to being a square and circle, they have only just slightly changed, almost imperceptible to the naked eye. It is in just this same way that Aristotle appears to have understood the infinite diversity of distinguishable parts of a gradual changes in nature. Zeno, an Eleatic committed to the logic of Parmenides, cannot admit this infinitesimal conception, but the

⁸¹ See Reeves commentary *Phy.* n16, p. 189; according to Philoponus the procedure was to instead cut the corners off the square and whittle it down until it is a smooth curve. The lines will always remain straight and so will never become a curve. Aristotle also referred to Bryson’s arguments for squaring the circle; *Post.* 75b41. According to Apostle’s commentary the principle that this operation proves is not that of geometry, in which it is fallacious, but can apply to numbers. He likely posits this because arithmetical principles are taken to be more general than geometrical. But this seems very unlikely. Even the series of odd numbers, which “approaches” a square never really passes to the limit. Based on the comments from *Phy.*, it is much more likely that the operation applies to nature insofar as experience furnishes us with principles which undergo an infinity of transformation and yet make a passage to the limit. An infinity of infinitely small changes will eventually accumulate into a noticeable change; e.g. growth progresses by infinitely small additions and yet over time proceeds to a larger bulk.

physikoi, natural scientists, finds it to be a feature of all natural motion and for this reason they admit a material cause in nature which undergoes unlimited variations.

In order to think the infinitesimal fluctuation one cannot remain external to them, from the exterior there are only differences in figure. We have an infinite number of figures that span the transformation between the circle and square, if we remain external to the transformation then we have nothing but an infinite series of discrete shapes. It is by entering into the *interior* of the transformation that an *indivisible* unity emerges in the operation, or intention, productive of the transformation.⁸² The intention is a generative idea which enacts the passage in a single stroke. The passage to the limit will remain paradoxical from the external point of view, to the logical point of view which finds in each figure, instant, or tangent, another static symbol which substitutes the continuous reality. We cannot artificially reconstruct the continuity which goes from one shape to the next, but rather must discover concrete transformation in experience.

The indivisibility of the motion has an interior character and *concrete quality*. Just as for Aristotle movements are qualitative relations between bodies, so Bergson appears to follow Aristotle in saying:

In reality the movement of the mobile from *a* to *b*, it is something concrete, it could be an arrow which suddenly crosses the space *a b*, it could be a walker which crosses the space *a b*, in 10 times, in 15 times, or in 10 or 15 steps, it can be anything, but it's always something; it is a certain articulated movement, organized internally in a certain way. *History of the Idea of Time*, 99 my translation.

Aristotle shows great appreciation for this problem and conceives of motion as a concrete “passage to the limit”. Aristotle overcame Zeno’s paradoxes by rejecting homogeneous extension, the abstract notion of empty space and the sophistic chimeric concept of the void, as the theater of atoms. In this sense, if metaphysics was born in the paradoxes of Zeno, as Bergson

⁸² I think one could make the case that action $\pi\rho\tilde{\alpha}\xi\iota\varsigma$, for Aristotle, is an integral unity of multiplicity. Action and a concrete circumstance $\pi\rho\tilde{\alpha}\gamma\mu\alpha$ are continuous and divisible; *Nic.* 1106a 27, but they are also whole and unity; *Poe.* 1452a13, they even have magnitude; 1450b23-5. $\pi\rho\tilde{\alpha}\xi\iota\varsigma$ involves an infinite multiplicity of parts which form an indivisible integral unity. Like a plot, its parts (beginning, middle, and end) interpenetrate and are temporalized.

said, then Bergson followed Aristotle in responding to them metaphysically, i.e. in terms of the dynamic sense of concrete natural movement; on the basis the interiority of real continuity.

Could we not even go so far as to say: *sub specie continuous*?

1.5.3 The Role of Integration

We have seen how Bergson's encounter with Aristotle did quite evidently influence Bergson's philosophy in a profound and important way. This is especially the case with the dynamic and concrete sense of continuity and the irreversibility of developmental movement (Ravaisson's suite of continuous proportions). It is certain that traces of Bergson's whole understanding of qualitative multiplicity are to be found dispersed in the Aristotelian corpus. In this section I will show the central importance of integration in Bergsonism and compare it to the role of integration in Ravaisson's reading of Aristotle.

Bergson's ingenious insight into the method of metaphysics is summed up in the formulas expressing duration as an indivisible unity of a concrete multiplicity expressed in terms of *integration*. This formula is not itself duration but refers to something which can only be felt. An *integration* of a concrete infinite qualitative multiplicity is analogous to the integral in calculus, but it must aim in a different, inverse direction, according to Bergson. In IM, Bergson wrote that "This reversal has never been practiced in a methodological manner" (CM 190). The reversal must make use of the same starting-point of infinitesimal mathematics, but it must proceed in a different direction, i.e. that of concrete duration. It is of course Bergsonism which is meant to be the proper name of this method.

Bergson says that despite this lack of method prior to him, humans have not failed to have some insight into the qualitative sense of infinitesimal thought so that "a careful study of the history of human thought would show that to [infinitesimal thought] we owe the greatest accomplishments in the sciences, as well as whatever living quality there is in metaphysics." (CM 190) Bergson will define his metaphysics in terms of an infinitesimal thought of living qualitative multiplicity. This also suggests that we will find philosophers who have touched on

this living quality of integration even if they were unable to develop a method. The infinitesimal calculus is “the most powerful method of investigation known to the mind.” (ibid) So metaphysics “will continue in the direction of concrete reality, and not in that of mathematical processes.” (CM 191) And far from merely drawing a tangential analogy, Bergson places the terms of calculus at the heart of his formula defining metaphysics. “Having then discounted before-hand what is too modest, and at the same time too ambitious, in the following formula, we may say that *one of the objects of metaphysics is to operate differentiations and qualitative integrations.* (ibid.) And in the final line to that work, as if it was the final word on the essay dedicated to announcing the method of Bergsonian metaphysics, he writes: “In this sense metaphysics has nothing in common with a generalization of experience, and yet it could be defined as the integral (*intégrale*) of experience.” (CM 200) The integral is capable of preserving the infinite multiplicity of differences without generalizing them. It is by the interiority of *sentiment*, or *feeling*, passes indivisibly through multiplicity. Experience includes an infinity of details felt and remembered. An emotion involves this same qualitative multiplicity and our personality as a whole is the concrete indivisible unity of a multiplicity of memories.

The Integrals of Life and Memory

All living things involve this interiority which forms an integral unity from multiplicity. The implication is that when we attempt to *think* life, we will need to have integral thought which breaks away from the habits of intellect to decompose and translate into symbols. Describing this way for *thinking life*, Bergson said: “would not this bring about a consciousness coextensive with life and, suddenly turning against the vital thrust it feels behind it, is capable of obtaining an integral vision of life, though without a doubt one that is vanishing [fleeting].” (CE xii *translation modified*). The thrust of life maintains our attention and fixes it on signs and finite

thoughts. It is only by turning from this thrust of life, habit, and social obligation, that an infinitesimal thought can emerge of this thrust itself as an integral. This “turn” is performed in MM which is perhaps of eminent importance in the development of the method of Bergsonism. The integral emerges as a feature of psychological life in the way our past relates to the present. “Our past therefore manifests itself entirely (*intégralement*) to us through its push and in the form of a tendency, although only a small part becomes its representation.” (CE 5) This tendency is expressed as an effort, so any act of the will is a movement in duration between the memory and the anticipation of what is about to happen. Bergson calls this tension a degree of *contraction*. The past considered in itself, as a “pure past”, is an *integral preservation* of an infinite multiplicity and singularity of each moment of our life. There are also an infinite number of “degrees of tension” between the past and present, by which the soul “contracts” memories, each contraction is its own unique *integration* of an infinite of details. The integral is an operation in concrete duration, at every moment we sum up a new integration, form a new integral, a novel totality of infinite different moments of our past. “Everything happens, then, as though our recollections were repeated an infinite number of times” (MM 169) In MM, the word integration or integral is used 15 times, (more than any other of his works) and lies at the heart of his understanding of intuition and its opposition to intellectual habits. “Our reluctance to admit the integral survival of the past has its origin, then in the very bend of our psychical life -- an unfolding of states wherein our interest prompts us to look at that which is unrolling, and not at that which is entirely unrolled.” (MM 150) The integral past is opposed to the way the past appears in practical action and consciousness, i.e. as general and repeatable. The integral survival of the past must undergo a diminution in order to become “present”, i.e. to be actualized in memory-images or recognition. A representation is a finite trace which stands in for the infinite,

substituting the complexity of details (MM 98) with a mere outline or sketch.⁸³ The memory-image is a derivative, a substitution for the past event. The past as it exists in-itself is an integral past, the past as a “whole” we might say. This past is “impassible” since it no longer admits of passing, it is rather *wholly passed*. The method of Bergsonism consists in grasping this operation of integration by which the degrees of tension, contraction, or concentration are exercised in consciousness and intellectual effort. Practical consciousness will always ignore then subtle transformations and details. By Bergson’s method “[w]e will try to follow pure memory, integral memory, in the continuous effort which it makes to insert itself into motor habits.” (MM 156) This sense of the past “as a whole”, an integral past, is the basis of Bergson’s ontology and also his approach to the relation between mind and body. Metaphysics must discover the concrete duration at the basis of every problem, and to do so it must find the operation of integration in movement, life, and evolution. The solution for each problem emerges by an integration, and each act of integration requires a new effort (MM 185) and so “The final effort of philosophical research is a true work of integration.” (MM 185) Thus it is not by concepts or logical formulas, but by an effort which attends to the concrete duration of individuation.

Generative Ideas and Ravaisson’s Integral Individuals

Bergson no doubt draws inspiration on this point from Leibniz (HIT 318). This inspiration appears also with Ravaisson, and is indicated in Bergson’s reference to “the generative idea” of infinitesimal thought, as well as in Ravaisson’s interpretation of da Vinci recounted in his eulogy as a “generative soul” and “flexuous line” (CM 229-31). When Bergson insists that “metaphysics should adopt the *generative idea* of our mathematics in order to extend it to all qualities, that is, to reality in general” (CM, 191. *my italics*), we might see more

⁸³ See Lawlor 2003, chapter 1.

distinctly this subtle, flexible thinking—which is not simply cinematographical—at work in the metaphysics of Aristotle. Ravaisson had already applied the language of integration to Aristotle’s concrete composite individuals, the “integrality of real existence” (EMA 518). Ravaisson draws an analogy between four different senses of integral whole. At the lowest level there is the unity of a mixture which has homogeneous integral parts (EMA 422). Next there is the way syllables compose speech, not by juxtaposition, but by an *order* of sounds or letters which are the integral parts of phrases (EMA 518). Then there is an organic sense of integration in which the parts of the body are not static spatial positions but the cooperative activity of organs (EMA 519). Finally, completing the analogy by basing it in the most fundamental example of the principle: the concrete individual which integrates “the actual conditions in the field of actual experience.” (*ibid.*) With this last formulation we should think of the unity of the soul itself as an activity of memory and perception, growing, learning, and developing, i.e. a subordinate suite. The later stages of development integrate the prior progress and preserve the upward movement which is inherited from the prior effort and lends itself to new and greater abilities. We find an even more fundamental sense of integration in Ravaisson interpretation when he translates τὰ ἐνυπάρχοντα (Meta. 1070b22) “The particular principles of individuals are internal [*internes*] and integrative [*intégrants*]” (EMA 194) using these two words to converge on its meaning, and differentiate it from what is external ἐκτὸς. This term is built off ὑπάρχειν, a complex and indispensable word in Aristotle’s lexicon, meaning belong, include, literally “*begin-from-under*”, but means something like the emergence of a definite property or characteristic which is a causal ingredient in the constitution of the entities way of being. It is a strange word because it is also related to ἀρχή, meaning beginning, principle, and cause. We cannot dive into the subtleties of the meaning of these illustrious words here. For Aristotle, ἐνυπάρχειν refers to determinations emerging from a

principle, its particular inborn attributes which integrate and individuate the composite entity developing gradually in time. The form of a cat does not simply have activities which “belong” to it in the sense that we predicate a general attribute of a subject. It does not hunt and clean itself “in general” or by attribution but in concrete embodied actions. Instead of “attribute,” it means something like the inborn-emergence of an integral ingredient or the constitutive properties unique to its concrete instantiation. Like the hull of a ship which holds the whole thing together and making it buoyant and navigable. The hull is not the form, which is the being-at-work of the whole boat in sailing, nevertheless it is an integrative part of the form, an internal and constitutive element in the whole which exists only as integrated (1013a5). The hull is only a hull when it is part of a ship. Likewise the vital organs of the body must remain intact; their integrity must be preserved if life is to endure.

Concrete individuals develop in a series of envelopments and by a progressive condensation (EMA 522). In the developmental progress of human life, matter is not a quantity given in space, it is a thrust forward which is intimately bound up with the peculiar concrete organization of the body which rises up to meet the form and instantiate it (EMA 521). The subordinate series is an integration of multiplicity which unifies organic processes, vocal utterances, actual existing conditions in the field of experience, a concrete and unique composition of details. Each stage of life builds off those that came before, adolescence paves the way and propels life into adulthood. Again, a gradual intensification builds and evolves, rising to higher powers of acting: a perfecting of intensity and energy (EMA 448). There is no guarantee that each life will endure through into adulthood, but if this occurs, it is because the

integrity of its composition is preserved and prolonged.⁸⁴ Furthermore, experience and habit are the “matter” out of which the philosophical and political lives emerge. If either of these winds up emerging in a human life, it will be because their activities and upbringing lead to it and allowed for it. Practical wisdom will integrate all the virtues and provides them with a common purpose, it is the *directive* virtue (*vertu directrice*) according to Ravaisson (EMA 479). Thus it is within concrete facts of experience, in which the soul confronts the unison of becoming in which it is embodied, that the integral unity of a particular individual life is a growing integration which expands by learning and thinking. It is, again, by reference to the concrete progress of intensification which brings Aristotle closest to Bergsonism.

Bergson’s Account of the History of Infinitesimal Thought

In the *Course at the Collège de France 1902-1903* Bergson devoted the sixteenth lecture to recounting the history of the evolution of infinitesimal thought. Here Bergson characterizes this evolution in terms of “two ways” of comprehending the *infinitely small* (HIT 275) The first is negative, remains external and ends with the representation of empty space (HIT 277); the second is positive, an interior power that is *generative* of quantity, which he calls an intension or intensity (*ibid.*). The first is purely mathematical, but involves a contradiction. This contradiction made the ancients Greeks, to the exclusion of Archimedes and Antiphon, reject infinitesimal thought. The contradiction is fairly simple: an infinitesimal, or infinitely small part of space is a contradiction because space can always be further divided, and so no smallest part can ever exist. This purely mathematical infinitesimal is an “artifice of calculation” and one which, up until renaissance science and mathematics, was always treated, like Archimedes, as only a “last

⁸⁴ The latin *integrare* had a vital and organic sense, meaning: to make whole, keep entire by sustaining and maintaining. Integrar describes something uninjured, complete, untainted, spotless. We find a vital sense in Lucretius’ poem; 2.1146. No doubt this living quality of integration is found in Leibniz and Whitehead.

resort” (HIT 275). Bergson here, as in TFW, seeks to show that the reality of infinitesimal flux is primary and is that on which the abstraction depends.⁸⁵ The continuous integration of multiplicity is given immediately in intuition and is presupposed in all life and thought. It is the original intuition of an intention or intensity, which is a psychological reality, from which quantity is derived and on which its relevance always depends. For infinitesimal thought, the artifice of calculation, the “first way”, according to Bergson, depends on the “ingenuity” or the genius of the mathematician; an activity of the mind which is nothing at bottom but a concrete duration, spiritual energy. The first way is in fact “sterile, while the other one [is] fertile.” (HIT 276 my translation). The second way of treating the infinitely small as fertile implies a “positive notion and a reality” so that “the infinitely small fluctuations are what make up duration itself but infinitely small as intention, as intensity, because that is duration, it is mobile intention and intention is intuition” (HIT 277). By the second sense of infinitesimal, as fluxions of an integral of experience, what we come to is none other than qualitative multiplicity.⁸⁶

Thus Bergson distinguishes between a philosophical intuition of *concrete integration*, and an “integral science,” (HIT 334-6) which presumes all knowledge can be contained in one unchanging principle. This integral science is, instead, artificially constructed by reintegrated an infinity of derivatives into the greatest possible generality. Bergsonian metaphysics does not provide a one size fits all solution to problems but rather declares that all problems require unique solutions—the concrete effort or integration.

Conclusion

⁸⁵ I have discussed this problem in; Bagby 2020 12-14.

⁸⁶ Bergson also critiqued what he called integral rationalism; CM 130, or integral science; HIT 330-6. This consists in treating science itself as a logical system of concepts which are always already completely determined. He defends intuition as an alternative in which integration is an invention; MM 185, CM 51.

Ever concerned with discovering a way of communicating duration, Bergson attempted to find a method for *thinking* time, *thinking* duration, and this mode of *thought* must consist of an operation of *integration*: an *infinitesimal thought* that grasps as closely as possible to reality. It will not be static or general but a moving thought of concrete duration. Bergson was no “anti-intellectual”, he did not shirk back from mathematics or science to take refuge in emotions and instinct as Russel tried desperately to prove. He rather pushed thought beyond certain intellectual habits, which are exemplified quite acutely in a formal language like symbolic logic.⁸⁷ So Bergson formed a method which we might rather call “anti-symbolic” but which is in fact, perhaps, defined better as a more concentrated or more intense use of thought. It may involve some intelligence but one requiring far greater effort and attention. It is easy to quantify an intensity, to slap a symbolic representation on complexity and content yourself with general representations. It is quite evidently much more difficult to express all the nuances we find actual unfolding in duration and interior life. This infinitesimal thought which follows the multiplicity of continuity, the thought of concrete duration as each of us feels in immediate consciousness, is for Bergson, the highest power of all mental or spiritual efforts (CM, 190). This second way of comprehending the infinitely small, as the real continuity of our lived duration, required exploration and Bergson’s method of intuition which sympathizes with the interiority of enduring, sets out in this *direction* and properly marked it out for investigation. This turn of metaphysics away from mathematical abstraction appears as little more than a rehearsal of Aristotle’s middle path between the *logikos* and *physikos*, by turning to the concrete continuity uniting power and act. Potentiality is to activity as differential is to integral, they form a reciprocal dependence and asymmetrical reversibility, as Bergson said; “what lends itself at the

⁸⁷ See *Worms*, 2005, for a detailed discussion of the significance of the question in Bergsonism.

same time to an indivisible apprehension and to an inexhaustible enumeration is by definition, an infinite.” (CM 161). It is the infinite qualitative multiplicity of human development, rising in a subordinate suite and integrating its past into higher forms of action, that defines the dynamic and energetic senses of being. It is from within Aristotelianism and by following Aristotle’s revolt against Zeno that we see Bergsonism arise from this foundational moment. Metaphysics is born by the turn to intuition of concrete individuals as integrals of experience.

Part 2: Evocations of Aristotle's Philosophy of Effort and Energy

This part will elucidate the central role of an ineffable intuition of the dynamic sense of being—qualitative multiplicity—in Aristotelian philosophy. The primary goal is to show how extensive and decisive the role of qualitative multiplicity is in Aristotle's philosophy as a whole. I believe that qualitative multiplicity coincides with the dynamic sense of being as a whole. Bergsonian duration, in a sense, can be found in the original temporality of Aristotle's dynamic continuity of matter, power, tendency, movement, operation, and sustaining endurance. Moving to a more psychological level, it is a concentration, intensification, attentiveness of the soul itself. Bergson borrows Aristotle's word energy to refer to an incalculable kind of energy which is irreducible to kinetic and potential energy in science. Effort and psychical energy in Aristotle will prove to be both causally and epistemologically the same as Bergson's qualitative multiplicity, i.e. a self-augmenting causality which gradually intensifies and enriches its contents as it acts.

We can learn a lot from Aristotle if we take him to be describing qualitative multiplicity with his dynamic sense of being, paralleling Bergson's intensity and continuity. Moving from virtuality (2.1) to intensity (2.2), then to experience (2.3) and finally to musical and aesthetic experiences (2.4), I show that a comparison of Aristotle and Bergson on their most fundamental insights, can greatly improve our understanding of both of their work, and especially on understanding the history of dynamics more broadly. Since the truth of dynamics is something which we must experience for ourselves, and emerges by being cultivated gradually by our own efforts, this part will also serve as a means of exercising our own soul and training our awareness to reverse its habitual tendency in order to better sympathize with our own lived duration.

2.1 Virtuality: The Dynamic Continuum Between Potency and Actuality

The ontological distinction (of ways of being⁸⁸) between activity ἐνέργεια and potentiality δύνανμις is perhaps the single most patently *Aristotelian* contribution to philosophy, despite its having been widely misunderstood. While the problems relating to power had been probed by previous Greek thinkers, notably Plato (such as in the *Sophist*), and was even being openly debate by the Margarian's, which Aristotle discussed (*Meta.* 9). Nevertheless, a full scale *dynamic* approach to metaphysics, psychology, and physics awaited Aristotle's formulation and expansion. In this chapter we will directly examine the subtle distinctions which arise in the developmental and psychological dimensions of the dynamic sense of being. This will uncover the most important line of connection between Aristotle to Bergsonism, and to French spiritualism: i.e. *virtuality* as a reality which is irreducible to presence and language.

The full sense of virtuality in Aristotle is rooted in experience, and above all the evidence, uncovered in psychological life, of a continuity and intimate connection between body and soul. Aristotle's conception of the soul is intimately linked to his conception of life. The diverse activities of living things are rooted in nature and concrete motion.⁸⁹ To grasp his understanding of nature we are required to adopt the dynamic sense of being, that is to say, by attending to concrete individuals unfolding themselves by virtue of inner-principles. By joining this *dynamic* being of nature to the *energetic* being of the soul, there emerges a supple yet complex relation between capacity and actuality in which the continuity of movements in the soul becomes accessible philosophically (but not as concepts). It is by exploring the nuances of

⁸⁸ We will not here get into the details and subtleties of a problem which would take us far beyond the horizons of our present enquiry; that of "ways of being". We can only refer the reader to works like of Brentano's *The Several Senses of Being*; Aubenque *Le problème de l'être chez Aristote*; and Senteny 2020.

⁸⁹ See Fóti 1998.

dynamic relations in time that the complex temporal depth of Aristotle's seemingly static concept of hylomorphism is able to come to life in real duration.

Many Ways of Existing Dynamically

Aristotle says that all things are really double, since there is both actual and potential being. It would be mistaken to conclude from this that all dynamic relationality is reducible to a single concept defined by this pair. At the start of *Meta.* 9, which is dedicated to examining the dynamic sense of being, Aristotle already signaled this growing complexity by making them three “according to power δύνανται and actuality ἐντελέχεια and according to work ἔργον” (1045b33). In fact, δύναμις, ἐντελέχεια, and ἐνέργεια each involve distinctions within its own latitude.⁹⁰ *Things are said to be potentially, energetically and even, so to speak, entelecheically, not only in these three ways but each of these three individually is in fact said in many ways.*

Aristotle famously delineated between two senses of ἐντελέχεια in DA 2.1. Corresponding to the first sense is the possession of a capacity to act, such as *knowing*, and to the second corresponds the exercise of that activity, such as *thinking*. Already we see these three terms both overlapping and differentiating, an ambivalence which will be repeated again and again in many different ways. Aristotle draws in several more distinctions which cut up dynamics into further divisions along other lines. In *Categories* 8 qualities [ποιότητα] are divided between ἕξις and διάθεσις, active states and disposition, like knowledge and habit on the one hand, and facilities possessed by nature [δύνανται ἔχειν φύσιν], on the other (9a10-20). These two are distinguished in terms of a different temporality, since the first implies gradual acquisition and the second a partial possession prior to emergence. Thus, a child will have, by nature, a power to see and does not need to acquire this power, but a newborn baby will not yet be capable of seeing, even if they

⁹⁰ For a thorough examination of these subtle distinctions see Senteny 2020 63-108.

possess this capacity by nature (*Meta.* 1022b25-33). With these few different ways of saying potentiality and actuality we have already underlined an entire continuum spanning from spontaneous natural inborn potencies yet to be realized, all the way up to a complex activities, and finally to the integral preservation of knowledge in the soul. So let's follow this dynamic continuum and unfold its intricacies.

The complex integrations forming composite natural entities precisely identifies an intermediate between power and actuality in the inanimate compounds formed together in a mixture [τὰ μυχθέντα]. Mixtures are able to combined different elements in such a way that the potency of each is preserved [σώζεται], without being actualized (GC 327b13-33).⁹¹ The integration preserves the potencies of components in the mixture. This sort of integration will prove to be indispensable for organized bodies having life potentially. Mixture implies that fire is able to be contained in a compound like flesh, but the body is not thereby burned, though it includes combustible ingredients as well (earth). It preserves the potency of fire without actualizing it. The fire and earth are both really *in* the flesh, but not by a juxtaposition of actual fire and actual earth but by an integration in which they are held in balance, mean [μέσον], or proportion [λόγον] (DA 424a7-28; GC 334b22-31). The balance is not a neutralization of their forces, but a preserving and sustaining of the power which lets it go to work as positively contributing to the living and sensitive flesh—not *compressing* them but *releasing* their tendency to participate in flesh.

It is this sense of potency, indispensable for understanding the nature of composite bodies, which unites Aristotle's conception of nature to life and the soul. A body having life potentially is a matter which somehow moves itself by spontaneously dancing and leaping

⁹¹ See Sorabji 2005b, 290.

[ὀρχήσασθαι] (*Meta.* 1034a15).⁹² The body spontaneously dances to the melody of the soul. Here the middle voice of the verb is telling, dancing-itself is an adverbial substance whose being is not a static subject predicated by an attribute, but is a dynamism of constitutive properties and integrations of qualitative heterogeneity. The soul does not merely pull the body up as if it was a completely inert mass, but rather, the body rises up to meet the soul already moving and tending to growing. The ensouled continuity, especially in human life, sustains and develops many different powers and works, and they do not all have equal value or the same consequences. Some ground or make possible the emergence of others (e.g. memory follows after perception, and language follows memory), and others are reciprocally transformed by the relation to powers they make possible (e.g. logos retroactively transforms emotions). The events of development present a plurality of relations which temporalize the dynamic continuum as a subordinate suite of forces and energies.

Aristotle approached the task of defining the soul already assuming the need for a “dynamic” definition, that is to say, the sort of definition of a *composite* which includes matter and form (DA 414a15), of the sort which Archytas gave. There is a sort of syllogism, which acts as a dynamic thread of continuity, weaving complexity and multiplicity into a unity of causal convergence. The first term is the material, the second term is the activity (or “essence” τὸ τί ἦν εἶναι). The “body having life potentially” is a material cause, which must be related to an activity, such as digesting, sensing, or moving. These middle terms are the *enacting* of the potentials “held” by the living body, and it is on the basis of the middle terms, a “being-at-work” of forms, that the definitions of different kinds of souls are known. The definition must “include and display the cause” (413a13). “Include” translating ἐνυπάρχειν, implies that the power must

⁹² See Bianchi 2017, who provides an excellent account of these aberrant tendencies, and draws out the implications of this side of Aristotle in relation to 20th century French philosophy.

be placed in its proper position in the “series” [ἔφεξις] (414b20), i.e. its relation to the prior powers on which each power depends (as perception depends on nutrition), or any other powers which emerge later in the series that depend on it (as thinking depends on experience). The *inclusion* or *integration* of the cause thus refers to this successive development of powers, spanning from the body having life to the exercise of these activities of the soul that is growing developing, learning, and acquiring greater powers. The soul's activity and all its powers will depend on some particular organized body. The soul is “something that pertains [ἐνυπάρχειν] to a body” meaning that it is the *being-at-work* [ἐνέργεια] (living) in which that particular body rises into accord with the soul and so in a way peculiar to that body. A dynamic definition will need to involve a *concrete causal relation* of *this* matter for *this* form. It will also *display* or exhibit [ἐμφαίνεσθαι] the cause, i.e. as a reality given in experience, as a concrete activity exhibiting the peculiar quality of “work” implied in what it is to be that concrete individual. This work is a sort of movement, but not one that changes from one form to another. It is the Aristotle insists that “what is ensouled [ἔμψυχον] is made of both [ἐξ ἀμφοῖν]” and “the soul is the actuality [ἐντελέχεια] of some body” (414a17). Now, the formulaic expression of the soul, Aristotle insists, is irreducible to a single definition because each of the powers, each different middle term, will form a different definition based on its peculiar works (414b20-35). This means that we cannot merely deduce one from the other, each requires its own treatment and involves its own phenomena that must be experienced. Despite the irreducible diversity of the faculties, they are also intimately connected, as Aristotle says: “For always the one-next-in-the-series includes the prior-one in potential [δυνάμει].” (414b30). It is in this sense of a developmental series of a diversity of powers, that Aristotle relates his definition to a geometrical one, i.e. insofar as the geometrical demonstrations of a triangle differ from those of

the quadrilateral. The properties of the triangle need to be demonstrated in relation to the triangle itself, and likewise for the quadrilateral. They are irreducible one to the other. The quadrilateral can be understood by means of triangles inscribed potentially within it, e.g. in parallelograms. All quadrilaterals have eight triangles inside them potentially. This is not the case with the triangle, since it cannot have any quadrilaterals inscribed within it, and we do not use them in proofs for its properties. It is prior in series. Thus the series of powers of the soul, like figures in mathematics, must be examined both individually and as a development through successive parts involving more and more complicated compositions which depend on, but surpass, the ones which came before. We have here a *developmental continuum* or suite of subordinate parts, leading from the most rudimentary functions of life such as eating and breathing, and rising up through sensory and motor powers to memory, thinking, and deliberating. The intellect is analogous to the “perfect circle” at the end of an infinite convergent series of figures which approaches it and finally makes a passage to the limit. Is not the circle the perfect and complete figure from which all the rest are explained by being enveloped by it? And aren’t experience and intuition the activity of a complete life in which the multiplicity of forms of soul are understood in their integrality? The series progresses, not as mere toil like an indefinite enumeration, but by a passage to the limit across an infinitely divisible continuity of intermediaries. *Nous* is the simple integral function that contains the infinite diversity in it potentially. Human development is not a linear increase of a quantity of power, but an evolution involving transformation into many qualitatively different works and finally passes to a limit at which point it is complete. The body having life potentially begins to dance, the quasi-vegetative infant develops animal like mobility of a child, learning to crawl. It is only on the basis of the gradual development that experience and thinking later emerge in youth.

Thus Aristotle “links ideality...to the perceptive matrix” as Fóti (1998) shows, which is to say that he tied thought and concepts to forms of life and soul which extend beyond the operation and effects of thought.⁹³ Not only is thought dependent on experience and perception, but on the dynamic sense of nature and bodies. Foti, borrowing the language of Merleau-Ponty in order to demonstrate Aristotle's influence on the former, called this a “vertical genesis” and a “surpassing in place” (Fóti 1998 41). Each power surpasses while nevertheless remaining tethered to the powers that it depends on as prior conditions. The “heights” of the vertical rising, preserve the capacities of all prior works in the later developments.

After having gathered the middle terms (reproduction, nutrition, sensation, mobility, thinking), and having arrayed them in the order of their series of development, Aristotle proceeds to examine each in detail and expanded out the problems relating to each sense individually. In this successive investigation into each of these irreducible, and yet interconnected powers, the many ways that the dynamic sense of being is said, emerges again and again in important ways. As we will see, this multiplication of senses is primarily temporal, and unfolds a complex horizon of irreducible temporalizations in the ways that each one variously exists actually or potentially.

A problem arises for the nutritive power analogous to a problem which also arises for sensation. The problem hinges on the relation of “like and unlike” and it is on the basis of an investigation aimed at distinguishing what has being in actuality from what has being in potency. The problem runs like this: “is the thing which eats the same as or different from the thing eaten?” or “is the perceived thing like or unlike the thing perceiving?” In these cases Aristotle does not pick one of them but says that in some way they both right (416b8). Now, it is not “at

⁹³ Fóti 1998.

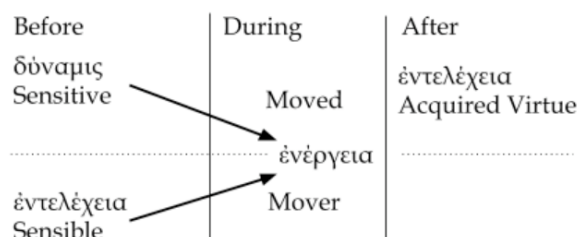
the same time and in the same respect” both like and unlike, but only either in different respects or at different times. Like is fed by like and also by unlike, and this is because the food requires digestion, and this process will convert it from “unlike” to “like.” In this case the animal body acts on the food and assimilates it to itself, the animal is not changed but the food is (416a30-416b33). Therefore, the food becomes *like* the animal. If we analyze all that is included in this process we find that we have three moments in development, (1) a potential food and a potential consumer (2) a process of consumption (3) the assimilation into the animal of the unlike, i.e. a completed conversion. In the case of perception the opposite direction will in fact hold, i.e. the *sensitive* will change and the *sensible* will cause the change but not change. The perceptive potency becomes like the perceived. Now, if the food is consumed by and assimilated into the ensouled body, the perceiver is likewise consumed by the sensible form which they perceive, we are consumed by, assimilated into the perceptible. When we eat, we actualize the world by our own action of assimilating it into our being; in perception, we are actualized by the world and consumed into its being. The sense organ is both like and unlike the sensible objects, and again we must differentiate different *times* at which it is first *capable* of becoming like, but in *actuality* is unlike, and a later time in which the unlike has become like. So “what is unlike is acted upon [πάσχει]” appears in the present tense, and “what is like is what *has been* acted upon [πεπονθός]” appears in the perfect tense (417a20). For this reason “the perceptive power does not have being as a *being-at-work* but only as a potency” (417a7 *Sachs’ translation*) implying that it plays the role of the thing converted, and not the thing moving or enacting the conversion. In this sense, the organs is like a “burnable substance” which does not ignite itself but needs to be ignited by fire for it to be consumed (417a19). The organ is not only potency, since it is, upon waking and

sensing, “burned” and “consumed” by a sensible objects as the activity of hearing or seeing.⁹⁴

The sensible bodies act on the sensitive and what was merely potent becomes *activated*. This means that “even the power of perception should be spoken of in two senses, the one as being in potency, the other as *being-at-work*, and similarly the thing perceived means both what is in potency and to be perceived and what is at-work being perceived.” (417a16 *Sachs’ translation*).

We have two pairs: perception exists in potency and actuality; and perceptible also is in potency and actuality. This four-fold distinction actually amounts to only three distinct terms. This is because the actuality of both is the same. We have two potencies to start, (1) a sensible object (2) a sensitive organ; the action of the sensible and the suffering of the organ, the activity and passivity are united in (3) the being-at work of both.

So from these differences between the ways of relating power and actuality, Aristotle uncovers two irreducible dynamic relations. First, in a material sense, as a sort of passive condition, something that is necessary for something else to develop but which is on its own not capable of “igniting” or bringing itself to activity. A child yearns for knowledge but also needs teachers and experiences; they are a potentially contemplative being, but in a different sense than the person who has already learned. The one requires entering into processes which will bring about a change, the potency is a potency to go from uneducated to educated; the other does not require that it be acted on nor change itself in order to enter into activity, it's only conditionality is that nothing *prevents* it from being-at-work (417a28). Sleep or fatigue, for example, can be a hindrance to thinking, playing the role of an obstacle which prevents the exercise of thinking, as humans are prone to, for example, fall asleep while reading (*Prob.* 18.7). This *energetic sense* is



⁹⁴ This is quite similar to Bergson’s pure perception; sec 2.3.

connected with virtue, so that the “potential state” of the mathematician, musician or metaphysician, when they are for whatever reason distracted from enacting their virtue, do not by that account become like a child who has not yet learned, they are not potent in that way, capable not of changing, or learning, but of *exercising* a power so long as nothing restrains or hinders its exercise. This is illustrated by the following diagram:

A potential learner and an actual teacher meet in the work of education. The process involves a temporal depth of different stages, each of which implies its own relations and consequences. We can place all the different works of the soul into this temporality, but in each particular case there are unique implications and consequences which prevent them from being reduced to one identical account. So the dynamic sense of being proves to be quite complicated, but it is a complexity which is meant to draw us into the concrete developments involved in the life of the soul in ethics and psychology.

The whole of one's knowledge lays dormant, inoperative, but it is nevertheless preserved, existing virtually. This virtual existence necessarily exceeds the modernist requirement of clarity and distinctness of an idea or presentation to consciousness. We will never be able to make this mode of existing of the soul present to consciousness since it is not waking, sensing, feeling, or thinking. Whatever degree of assurance we spontaneously feel about the necessity of the past, or our knowledge when we are not thinking, however evident it remains to the mathematician or musician that they persist in possessing their ability, this knowledge will never amount to clear conceptual knowledge. It is not on the basis of any logical or propositional knowledge, which could only arise with the actual exercise of thought. This knowledge is an integral preservation of virtuality. Far from being a foundation for a metaphysics of presence, the dynamic sense of

being is precisely what prevents us from accepting a logical or conceptual interpretation of Aristotelian philosophy.

History of The Evolution of Dynamics

We are working our way up to exposing the way the dynamic sense of being will be reprised in French spiritualism, and in particular in Bergson's philosophy of duration. There are many steps taken in the history of philosophy after Aristotle by which we can track the development leading to Bergson's dynamics (developed in sec. 2.3). The most important contributions to this history are Philoponus, Leibniz, and Maine de Biran.⁹⁵

Philoponus expanded on what he perceived to be a need for a middle ground between (1) "bare potency", the potency for matter (to be a substratum of two contraries), and (2) a capacity which is restrained, or hindered [κεκολασμένον], such as fire existing as an ingredient in a mixture (Cf. Sorabji 2005b 292). Between these two "extreme points" he finds that there is an entire expanse of degrees, comprising a "third potency", potency relating to an incomplete motion. He says:

the house that is being built is not potentially a house in the same way as are the stones and timbers, nor the developing embryo potentially a human in the same way as the seed, nor is the child who has come to the time for learning potentially skilled in grammar in the same way as is the newborn child, nor yet in the same way as the child who is finally being taught...one is closer to the form, another more distant.
Commentary of Aristotle's Generation and Corruption Philoponus 271, 1-24.

So this "third potentiality" is not either a bare, unrealized potency, nor a fully developed capacity which is being hindered, but is both preserving and hindered, both enacting and restrained. Furthermore, it implies a spectrum of unlimited degrees, not an simple on/off alternative. The difference between the *dynamic* and *energetic* senses, which we distinguished above, relating to the difference between capacity to develop and an already developed virtue,

⁹⁵ After Aristotle there are important philosophical developments of "virtuality" and "tendency" in stoicism and Neo-Platonism, the examination of which would take us out of the strictly Aristotelian contributions to the problem. These other influences were no doubt of profound influence on Bergson and Ravaissou.

cannot be taken as two utterly separate states, but rather we must see that there are unlimited degrees between them. Drunkenness lies in just such a middle ground, a partial hindrance which isn't fully sleep nor wakefulness. Now, we cannot enter into the complexities of the history of commentators on this use of a so called "third potentiality", we have brought it in here only as an indication of the way the certain complications to the distinctions concerning actuality and potentiality were identified after Aristotle.⁹⁶ I will only mention in passing, the important contributions of stoicism.

In Ravaisson's 1851 *Essai Sur Le Stoïcisme* (RSW 85-143) he writes that "Aristotle demonstrates that only that which acts is a reality, that being and acting are one and the same; that the act or action is being itself. This maxim is the starting point of stoicism." (RSW 92). But the stoics reject that this action is ever immovable or pure like thought thinking thought. Instead, "By the sheer fact of being active, it is therefore mobile, and consequently material and passive, and thus also corporeal." (ibid) The corporeal activity of the stoics is modeled on the active movement of effort, which is a "tension, τόνος, ἐπίτασις." (RSW 94). The primary contribution of the stoic conception of dynamics was that they directly linked effort and spirit [πνεῦμα], to degrees of intensity (see Long and Sedley 280-289). These will parallel the primary forces in Maine de Biran's metaphysical psychology.

Leibniz is the next, and perhaps most prominent figure in this evolution for Bergson. Leibniz adopted a physical conception of *force* as a way of critiquing Cartesian reduction of nature to extension,⁹⁷ as well as atomism.⁹⁸ Leibniz also borrowed the term "*entelechies*" to characterize his monads, and adapts the distinction between a "first and second actuality" by

⁹⁶ There are no doubt more subtleties discussed among the medievals, especially late medievals, which we cannot enter into here.

⁹⁷ See Sallis *Force of Imagination* 134-137. Bernet 2020 19-20, 47-86.

⁹⁸ See Rescher 1991 88.

calling them respectively “uncomposed” or “composed” (Monadology, sec. 20). An uncomposed monad is unconscious as “overcome by a deep and altogether dreamless sleep” (*ibid.*). Leibniz also contributes a new insight to the expanded taxonomy of the developmental conception of the virtual, by providing a more thorough analysis the role of *infinitesimals* and the *integral* composition of qualities or detail (HIT 328). The monad is really an inner-principle, a primitive *force*, and *activity* of the soul. This is all especially clear in Maine de Biran’s interpretation of Leibniz, in which he attempts especially to developing this middle ground between bare potency and full actuality. The middle ground between a dead force (held between balanced forces) and living force (removal of the obstacle), is what Biran called a “virtual force” or “tendency” which is actualized gradually. Parmentier gives us a clear analysis of this in an article on the virtual in Maine de Biran and Leibniz,⁹⁹ writing:

Dead force, as opposed to “living force”, is a force which collides with an obstacle and produces no movement, at least no sensible movement. “Virtual speed” is the speed of movement that the dead force would produce if it were released. Virtuality therefore establishes a relationship of continuity between the two modalities of the same force. Therefore, the dead force can be considered as producing a movement, but infinitely small, an embryonic movement, a conatus, an “effort”, transforming into a sensible movement as long as the obstacle is lifted or overcome. Parmentier 2016. Sec. 38 *my translation*.

The relation of continuity established between the living force and the dead force implies a middle ground between the unrealized potentiality (dead force) and the full actuality (living force) for which all obstacles have been overcome. The dead force was conceived in terms of *virtual speeds*, which arises when two or more forces are held in equilibrium. The balancing of forces, involves a virtual speed, which implies a potential for the movement which would result if all obstacles (the opposing forces) were removed.¹⁰⁰ This equilibrium of forces is not simply at rest, it rather moves by infinitesimally small amounts, it fluctuates imperceptible around a point

⁹⁹ On the differences between Main de Biran and Leibniz on the virtual, see Parmentier 2016 44-73.

¹⁰⁰ Galan discusses this infinitesimal wobble of balancing forces by referring to a bird which holds itself in place by a proportional counter tension. See Long and Sedley 282.

of rest. It is a force yet to be actualized, a tendency to move, like a compressed spring. This distinction between living and dead force was explained by Emilie du Châtelet in her 1740 work *Institutions de physique*, in relation to mounting an effort:

We distinguish these two forces by the words dead force, or virtual force, and living force. Dead force consists of a simple tendency for movement; such is that of a spring ready to relax, and the living force is that which a body has when it is in a movement currently. Dead forces are also called a pressing forces, because they press the bodies that resist them, and they mount an *effort* to disturb them from their place. Emilie du Châtelet 1740, 399. *my translation and emphasis*.

So virtual force is connected with effort by Châtelet, and opposed to living force. The continuity Maine de Biran describes between them involves the gradual removal of obstacles.

This is the Châtelet also used this terminology in her *Discourse on Happiness*.¹⁰¹

Similarly, Biran's virtual force involves effort which passes from one to the other. In this passage, it is infinitesimal thought to which he turns to understand its positive reality. Parmentier says "The idea that the dead force produces an infinitely small movement seems decisive here

¹⁰¹ Happiness is explained by Châtelet as analogous to the relations of virtual forces, obstacles, and living forces; *Selected Philosophical and Scientific Writings* 326. Happiness arises by having passions and being able to satisfy them. Here passion is a virtual force (conceived not as mere violent and disorderly passions but the sort of passion involved in learning or artistic expression). While the satisfaction is a living force, i.e. exercise. Now, between these there is also a gradual and continuous passage whenever the obstacle is not removed all at ones, but little by little. The liveliness of a pleasure grows by grace of a continuous intensification whenever the satisfaction is realized in a continuous engagement in virtuous deeds and receiving due praises from honest, estimable people. Châtelet outlines the major obstacles to happiness; 327, among them: prejudices, lack of health and the conveniences of domestic life. Then, on a deeper philosophical level, she explains that repentance, humiliation, and fear of death are among the greatest obstacles; 330. One of the greatest obstacles of all is not knowing what one wants, which would mean not having a deep passion for their daily actions. Happiness then consists in fostering deep passions which can be gradually realized in one's daily work. Again, if our happiness is dependent on other people's opinions and praises, it is far more likely to be obstructed; 333. Her ethics is a dynamic progression of effort gradually finding satisfaction in uplifting activities. Effort is a mobile middle term passing gradually into self-actualization and "self-esteem is always the more or less hidden motive behind our actions; it is the wind which swells the sails, without which the ship would not go." 334 *my translation*. But this is not an ethics of isolated self-sufficient subjects of agency; 339. Happiness is also dependent on virtuous action (in service to society) and love, which "places our happiness in the hands of others." 336. Châtelet's detailed and deeply insightful reflections on love provide a dynamic account of virtuality at play in romantic attraction and erotic passions. Hope and fear—by which we would predict a future about which we are uneasy and eager—arise and animate the energy of romantic attraction. Attraction itself is a tendency, virtual force, or spontaneous and nascent effort which pushes us forward. It is something which we "give in to" in hopes of being happy because of the pleasure of loving and being loved; 339. When lovers reconcile after an argument, it is as if an *obstacle* was removed and the passion reignited; 326. The importance of the theme of illusions, as being an integral part of passion, points to a deep appreciation for the inability to reduce life to PTC. Above all, Châtelet presents an ethics of inspiration which is highlighted with force in the final lines of that work which make manifest the sentiment which fills the sails of a happy life conceived in terms of integral efforts and passions.

since it makes it possible to consider that a force is actualized as soon as it meets a term of deployment which, paradoxically, prevents it from deploying.” (Sec. 40.) The “term of deployment” is also the “resistant term” and so the obstacle both prevents and is a means of enacting. The means of enactment is also a resistance to the very actualization if the tendency is not realized entirely in an instant. This is a seemingly paradoxical fact. Between the dead force and the living force are changes in degree, between infinitely small movements that are as close as possible to rest, and a gradual change. As Maine de Biran writes in his *Mémoire*:

The simple sensation of movement holds here in a way quite immediate to the apperception or relative feeling of power, of effort, that all *differential* expression we absolutely fail to represent in the limit this *infinitesimal fluxion* from one mode to another, which differs from it, but only by an invaluable instant of duration. *Mémoire sur la décomposition* 119 *my translation*.

The tendency which passes gradually from the virtual to the actual implies differentials or infinitesimal fluxions. These are not represented by the limit, but as fluctuations from one mode to another. This movement is a positive accomplishment of an infinite number of infinitely small movements, and this implies an indispensable sudden change, an instant of duration as the smallest noticeable feeling which is not instantaneous but an infinitely small passage. The tendency in this middle ground, as a gradually or continuously changing passage between the virtual and the actual, is employed by Biran to understand the inner psychological reality of effort. Effort was for him the paradigmatic case in which the *virtual force* is primarily knowable.¹⁰² The exercise of effort is a tendency in which force is gradually expelled, and where by a resistance is overcome. If we conceive of force and actuality as two alternatives that exclude

¹⁰² “The true origin (I do not say essence) of the idea that we attach to the word *force*, consists in the immediate power of the will to grasp and determine the inertial or resistant force proper to the muscular organs, and thereby to enter into a conflict of actions...In my sense, the muscular inertia is always surmounted, and the hyper-organic force, far from being relaxed [détendue] or as if paralysed by this resistance, believes [croit] in energy and activity, to the degree that this resistance increases.” Maine de Biran 2016 175.

the middle, then we will never be able to admit the continuity of effort. The force can be both dispensing and sustained, and the continuity of effort cannot be understood without this duration.

The force that is both inoperative and operative at the same time is called a tendency.¹⁰³

What is not yet realized is still obscured and a virtual speed is added to the actual motion being produced. The tendency reaches beyond the present conditions and relations taken in an external and artificial way. The tendency is both virtual and actual; sustaining and growing. Above all, what emerges out of Maine de Biran, du Châtelet, and Leibniz, is an understanding of force on the basis of effort as felt interiority and as a source of evidence useful for understanding force and motion. Thus they imply what we already found in Aristotle, i.e. inner-dynamism of peculiar principles, i.e. the composite unity of body and soul.

Dynamic Continuum of Force and Effort

From these considerations there are a few important conclusions reached in Aristotle's dynamic sense of being which we must now pass over in review. First, the "amount" of force does not correspond arithmetically or linearly to the resulting movements or effects (half of the forces will not always result in half the effect). Aristotle considered this problem of thresholds of actualization in *Phy.* when he concludes "For if the whole force [ἰσχύς] moved it so-much, it does not follow that half the force will move it any quantity or in any time whatsoever. For otherwise one man might move a ship, if indeed the strength of the ship-haulers and the distance

¹⁰³ Take the example of a person pushing a heavy crate across the ground. At first they push and it doesn't move at all, the force exerted is balanced, and it represents merely a dead force, an unrealized tendency. Then gradually it begins to move, it accelerates (expressed mathematically by a curve). The effort exerted throughout the course is felt, by the one enacting it to be (1) a maximum of possible exertion (since the crate is very heavy and it takes all their strength to push it), (2) it is felt to be accomplishing something, the crate is moving (3) it is felt that they still have a capacity to continue in exerting force, and that it will accomplish more movement which has yet to be achieved, which is to say that they feel that they can continue working. Just because all their force is being exerted, mounting every effort, does not mean that the whole capacity of their effort has been exhausted not the obstacle instantly removed. Work consists in sustaining and maintaining effort rather than simply exercising a force. The forces are sustained and varied by a continuity of effort which both is accomplishing work, and is still capable of accomplishing more.

they move it are divisible into the number [of haulers].” (250a15) Thus Aristotle observes that change involves thresholds at which movements begin and these thresholds are determined by the power and the resistance, there may be imperceptible, infinitely small movement which do not rise above the threshold of change, like virtual forces which have power but do not pass fully into exercising it and producing results. From this consideration we can conclude that dynamic being is irreducible to a quantity or fixed quality existing as a totality present to consciousness. The gradual realization of a tendency and the subliminal forces exceed totality and consciousness but do not for that reason stop existing. We can summarize this in the formula: *dynamic being is irreducible to PTC*.

The second consequence for dynamics, that we must take account of, is the fact that relations of power and activity involve several irreducibly different “ways” and each involves unique relations in time. While potential existence relates to prior or posterior times when it is actualized, it is not always related to past and future in *the same ways*. We must distinguish between at least this many different relations: (1) *energeia* as seeing and having seen (2) motion as changing and having changed (3) waking and sleeping (4) Already using and being able to be used (5) premature deprivation and having a power innately. Each of these is a dynamic relation which implies a horizon of temporality, a depth which articulates an irreversible passage.¹⁰⁴ But the difference is not the same in each case. (1) Having seen and seeing are “together” in the activity of seeing, (2) while in movement, having moved and moving are different. The movement is always having moved in the sense that it has accomplished some movement already, but it has not reach the end of moving insofar as it is still progressing, as we saw above

¹⁰⁴ I have pulled this list from a combination of *Meta.* 5.7 1017b; 5.22 1023a25-30; 9.6 1048a35-b7. The lists seem to indicate these irreducible ways in which we say things exist dynamically. Further examination in the next chapter will show that more nuances are indeed distinguishable when we take into account the nuances of complexity involved fabrication of artifacts, dynamic developments of perception, experience, and knowledge.

(sec. 1.3.2). The activity on the other hand is both acting and having acted in the same way according to the same power (*Meta.* 9.6 and *Phy.* 7.5). Both of these again are different than (3) alternating between waking and sleeping, which more or less, is a passing between *energeia* and *entelecheia*. In this case there is a priority of sleep over wakefulness; waking is an emerging from sleep and the soul preserves life by successively passing between them (*On Sleep.* 455b22). It is not a *movement* which is accomplished by awakening, although wakefulness will enable the exercise of motricity. It is rather like the way activity is both having seen and seeing, which connects past and passage in an indivisible unity. The enduring is in this case purely preservation, the inoperative state of sleep is not a mere deprivation or exercise, it is rather a fully positive state which is not merely dynamic or energetic but *entelecheic*, *holding-itself-completely* and *enduring*. The life of the soul endures completely while the activity of seeing can be interrupted by a lack of light or closed eyelids. These interruptions are not permissible to the enduring of life as it alternates between sleeping and waking, whose interruption would be death. The first three of these imply different temporal horizons in which past and future relate differently to the current condition that each describes. Quite briefly we can show how the final two are again heterogeneous from each other as well as from the prior three. (4) Use and ability to use again differ temporally by alternating. Unlike sleep, the capacity to use knowledge is not innate but must be learned. We say “capable” or “currently exercised” in this case in relation to the temporality of acquisition, preservation, and practice (*Meta.* 9.5). Finally, (5) in relation to deprivations which exist because the organism is in a premature condition. They innately have the power to see, but it is not yet ready to act because the organ is still growing into maturity. Likewise children are still undergoing many movements of growing up and this prevents memory from operating in the way that it must in order to be rational (*Mem.* 453b5). The

temporal horizon of deprivation is in fact a source of coming-to-be according to nature and as an innate power. Thus the premature deprivation is not a deprivation properly speaking but a positive force not yet exercising its power.¹⁰⁵ What seems to emerge in all these cases is that, due to the temporality, alternating or gradual development of dynamic relations, things remain open to the possibility of changing course or of having interruptions in the transformation. This is the ekstatic character of the temporality of developmental dynamics, open to future contingency: the promise implied in the power does not involve any necessity for future realization. In addition to being a continuous passage, it is also unidirectional.

Aristotle already had a perhaps more complex model of dynamics than what Philoponus was able to draw out and release in his commentaries. The irreversibility of processes of human development, rising in a subordinate suite of progressions, involves at least these irreducible temporalizations. Before and after are said in many different ways in relation to different moments in life, involving unique temporalizations of realization. The intermediate position of effort, involving virtual force, is both being enacted and restrained, both accomplishing and being capable of more. So long as it continues to act, a *tendency* remains in a middle ground between power and action. The gradual passage is possible because the sustained exercise builds off what has come before, develops further on the basis of what has already been accomplished.

Evidence of the Virtual Preservation of Power

The virtual exists but it is not something PTC nor is it something translatable into concepts or symbols. It can only be felt immediately. By what assurance do we know that we have the capacity act? Take speech for example. By what mental content, evidence, or emerging awareness do we sense, believe, or cognize that we can read, listen, or speak? Certainly one has

¹⁰⁵ Schumacher 2018 63-82.

memories of doing so and the whole of our past in fact seems to be permeated by the same sense of assurance that we *remember* this ability as well as remembering that our expectation that this ability would be preserved has been proven countless times. All of our daily life, for the most part, is propelled by a sense of assurance of the preservation of this virtual existence, power, or ability to communicate. There is, at each moment of waking life a complete preservation of sense which is the integral of experience, containing our power to think and express. It can certainly be restricted by degrees in cases of fatigue, drunkenness, etc. We also likely have memories of instances in which our abilities were hindered, and so, we also know the hindrances precisely because they prevent and impede the ability. Hindrance is also potentially evidence of the virtual existence we were trying to demonstrate. An effort which hits a void or an insurmountable obstacle becomes aware of its thrust by a kind of ricochet. Now, we might *exercise* this ability in order to prove to ourselves that its existence is really assured. In so doing we will find that one can indeed read, say, or listen to this or that sentence or word, showing ourselves that we can do what we suppose we are able to do. This demonstration will not prove what is truly at stake, since we will always think of a particular phrase or two, but not the ability as a whole, not the virtual sense which envelopes all the possible uses of language which is rooted in concrete effort and integral memory. Furthermore, we believe that we are able to use language in ways we have not yet experienced. There are many words we don't know and languages which we could learn. We have a certain sense of assurance of the ability to express ourselves in the future even though we will be in novel situations. We feel that, given a new circumstance, we will find the words to express ourselves. It cannot be by any explicit thought or image that we feel this assurance, nor a particular memory. The sense of assurance is an obscure apprehension of the virtuality. No concept, symbol, or actual thought ever could substitute for the virtual, it is ontologically

irreducible to all actuality and expression. Yet its reality is somehow evident, in the way one is certain that they feel a deep sadness or attraction: the sentiment is felt immediately and we never think to seek a cause outside of the lived experience.

The virtual gave Maine de Biran a way of explaining self-knowledge which goes beyond a “metaphysics of presence” and cannot be reduced to PTC. The “self” (*le moi*) does not know part of itself, nor does it understand itself by dividing itself, or using only a part of itself. It is knowledge of the whole and by the whole. Here, a part is something that is incommensurable with the whole, meaning they are of conceptually different orders, and are ontologically different. The whole is virtual and as such not reducible to the actualized parts it generates. The self comes to self-knowledge by actualizing the whole gradually, by enacting parts, but they are expressions of the whole and so cannot be taken as separate parts. How can the whole come to know the whole by enacting the parts without this reducing the knowledge of whole to its parts? The core insight here, according to Bergson but drawn from Plotinus, is that of contraction and concentration (HIT 204). We can think of this in terms of cross sections of his cone (HIT 229; MM 162). Take the unity of a cone as the whole and all the infinite number of section interposed from base to the point as degrees of contraction. Self-knowledge will be limited to a particular cross section, it is a contraction of the whole, one of an infinite variety of ways of concentrating the same whole. Thus there are two forms of self-knowledge, ones that are contracted (conic sections) and one that is uncontracted (the base). Ok, so much for the schematic, now let’s fill it in with the dynamic content. The base is the “integral past” of which we feel a “virtual assurance” but of which we do not have a clear and distinct consciousness. It is uncontracted and uncontracted is synonymous with unconscious. The integral whole includes an infinitely detailed qualitative multiplicity. The conic sections which are contractions of the whole, represent actual

processes of self-knowledge as degrees of tension. The events of actual self-knowledge all imply some particular embodied images, reflections, memories (parts). We have self-knowledge in the “primitive fact” which emerges by the recognition of our own motor activity in the resistance which it encounters.¹⁰⁶ As Merleau-Ponty explained: “By ‘fact’ [Maine de Biran] means something which is grasped in the nascent state of reflection, where reflection and reflected are in the process of distinguishing one another...an activity emerging from passivity.” (*The Incarnate Subject* 73). The resistance is a *sign* of our effort and a call to action (HIT 39-40). In the exercise of force the resulting movement is noticed, but since the obstacle is removed only gradually, the virtual and actual form a continuous whole. The parts are, therefore, integrated in the whole. There is an emergence of self-knowledge in the encounter of resistance because the resistance makes the motor capacity manifest, not simply in the actual exercise, but as extending beyond it. This implies that there are particular expressions of the whole which show that a power exists: by the exercise we know we have power. No particular enactment of it can represent the whole as such. The sign taken in isolation is derivative. This means that every contraction will involve particularities, each effort is unique but none has parts which are excluded in the other contractions. The particularity of each effort is rather due to the composition rather than the components of the whole. The components are in all cases the same, i.e. integral memory. Every sign is a trace of the whole. This applies to the infinite variety of contractions of the concrete self, each singular enactments of self-knowledge.

This model of self-knowledge helps us understand the way the senses can sense themselves without having to be activated externally. Not by any particular exercise, but rather by the sense of *being able*, as a tendency not exercised. The sense of sight for instance, even in

¹⁰⁶ This is a phrase used by Maine de Biran and seems to be consistent with Bergson’s understanding of motricity; MM 94-106. See Merleau-Ponty *The Incarnate Subject* 75, 80, 84; also, Lachelier 49-50, 56.

the dark, involves an assurance of the power to see an infinity of different things. We currently do not see if it is dark, but the power to see is assured, felt, and preserved. Perhaps we doubt it, and the pitch black might even make one feel they have lost their ability. This thought, nevertheless, is based on a prior sense of assurance: we doubt the conviction, and it is the conviction which makes us look around frantically to try and test it. This unconscious self-knowledge is a virtual force which generally propels all sensation to seek its exercise. We also feel a desire before we satisfy it, and even before we start devising ways to achieve it. We are not really conscious of it until we mount an effort to bring it about by overcoming the obstacles to it. We perceive darkness as the lack of activity or exercise, an obstacle, and so we have a sense of this virtual force which is awaiting exercise. Silence in music is able to stir up intense feelings of anticipation in the listener. It is not strictly a first actuality like sleep, and neither is it a “bare potency” as with the child who has as yet learned nothing and to whom geometry has no sense at all. These delimitations are not enough to express the assurance of quasi-unconscious self-knowledge. We require another sense of power, not as deprivation but an idleness that preserves and sustains a striving.

The idleness of sense organs is like a virtual speed which moves imperceptibly. Such is the self-knowledge of the so called “flying man” of Ibn Sina, who has a virtual perception of the whole of possible experience without any content of actual experience.¹⁰⁷ This virtuality is

¹⁰⁷ It is doubtful that Aristotle would have agreed to the impossible presupposition in Ibn Sina’s image which asks us to suppose a fully developed human as if created in a single stroke. This passage can be found in Marmura 1986 390. Self-awareness is necessarily rooted in the body and in motricity for Aristotle. The affirmation of existence would undoubtedly persist in deprivation of all stimulations, but it is not clear that Aristotle would think wakefulness and thought were really conceivable in isolation, in the same way that fire is devoid of qualities when it is not encountering other bodies in the plenum. While Ibn Sina’s point was that the soul is separate from the body, Aristotle would say that the soul is not without a body, and that thought is not without memory, experience, and an image. The floating man would never wake up and so would not really be aware (a Sardinian slumber *Phy.* 218b23). If we placed a fully grown adult into sensory deprivation, they would not merely remember having sense, and so merely be expecting or anticipating particular sights or sounds, but would also *sense* their power to sense, something that would not be possible for the freshly made flying man.

known not simply by reflection, it goes beyond the multiplicity of contractions of the whole, the whole itself which exists and is preserved beyond the particular contractions. It is not universal conditions of possibility, but a concrete integration of actual conditions in experience. Vision of darkness and hearing silence show that the bare potency of an organ is impossible in waking life. It must have a virtual force above and beyond the bare potency—a striving which we sense in the absence of a term of deployment. Aristotle says “ For even when we do not see, we discern darkness and light by sight, although not in the same way.” (426a20 *Reeve’s translation*). The passivity of the organ is not like a lump of bronze which potentially contains artificial forms, like statues, swords, or spheres. It is rather a positive tendency towards actualizing its own power by sustaining and living the activity proper to it. The sensitivity of the organs is due to their self-maintained homeostasis which tunes them in a balance or λόγος (DA 424b30; 426b7; 429b 15). The privation of stimulation is a quasi-affection because the organ holds itself in balance to sustain its sensitivity. Furthermore the power this balance makes possible is a tendency which positively exists and is able to admit of its own sort of evidence. This awareness is without definite content, namely of the capacity as a whole to perceive or think. It is not a concept or image; it is rather a *sense of direction* than of *meaning*. Now, for Aristotle this self-awareness takes place either in the organ itself or in its participation in a *common power* which follows them all (*Sleep*. 455a17).¹⁰⁸ This awareness of the common power, which is the push of wakefulness as a whole, is an integral tendency not reducible to the presentations derived from it, nor can it be conceived on the basis of presence to consciousness or the present. But we also cannot, on this account, deny its existence! It is by this obscure awareness of our ability to act, move, speak, or think which is the silent thesis presupposed as a sort of practical postulate in all

¹⁰⁸ For a detailed discussion of this problem see Twomey 2013 66-88.

effort. We cannot enter into the difficult question here, but it is likely that the “principle of non-contradiction” is in fact meant to signal this elementary affirmation of practical life. The evidence of its absolutely fundamental nature as a principle of being is revealed in acts of speech or in simply avoiding walking into a well or off a cliff (*Meta.* 1008b17). By taking a course of action at all, one has already silently affirmed that something can emerge as determinately this or that—during the same time and in the same respect—only if it fully *is* or *is not* emerging from a cause of being. We affirm our effort as something that the course of action can sustain. Even speech, apart from what is meant in particular, also affirms that the continuous variations of the voice will mean something. This affirmation is not of a logical order, but is nonetheless a prerequisite of demonstrative knowledge. One cannot refute nor prove the “principle of principles”, it is something given in an original “I can” which we silently affirm in concrete effort.¹⁰⁹ Effort, motricity κινητικόν, and choice προαίρεσις are principles of action by which we affirm or deny by pursuing or avoiding. Thus every course of action involves both a hetero-affection (sense of the circumstances) and an auto-affection, the intimate composition of which is our “conscious” activity which is vaguely aware of itself through the plurality of resistant terms encountered in the unison of becoming. There is no effort without the circumstances but its affirmative power exceeds any particular case.

An intangible, invisible, or silent virtuality coexists with our actual perception as it grows and develops gradually: i.e. the integral of experience. The developmental “I can” of a growing effort inserting itself into concrete situations in novel ways. It’s not the self-consciousness of an idealism or intellectualism. It is a “psychological monster” as the French

¹⁰⁹ See Claudia Baracchi *Aristotle’s Ethics as First Philosophy* 221-238. The principle is ontological, psychological and practical. It is not something static nor qualitatively neutralizing, but evokes the detail, complexity, and temporalization of the situations of human life.

idealist Brunschvicg said of Biran—but this seems to apply equally to the dynamic continuum of actualization in Aristotle—whose conception of awareness implies: “feeling should be capable of transcending the immediacy of the moment at which it actually takes place in order to attain, beyond the present of the immediate apperception, the virtuality which preceded the data of the intimate sense and which is destined to survive it.”¹¹⁰ And as Merleau-Ponty said in reply and in concession to the truth behind this fact, “we become monsters precisely because we temporalize *ourselves*.” (IS 75). Aristotle’s dynamic sense of effort and sensory-motor activity temporalizes the “*ἄμα*” involving enduing, sustaining and transforming dynamic relations (power, tendency, force, exercise, continuation, preserving, developing, etc.). Human life is temporalized on many different levels in relation to each of the many different ways of being capable, operative, and integrally preserving and sustaining. Thus the principle of non-contradiction does not say “the soul must be X at time Y” but that the soul involves a multiplicity of determinate temporalizations of causal ingredients in a unison of becoming. Effort, as the growing inner force passing from tendency into movements, habits, and thought, is the true principle, above all, capable of showing us the greatest diversity of temporalizations as it changes through the different stages in the suite of subordinate developments.

Virtuality, like virtue itself, is a *growing energy*, intensified by repetition and prolonged exercise, and at the same time, it involves an *effort* going to work in action. It is more than the dead force of a compressed spring, or the scholastic bare potency. Virtuality rises with the wave which it accumulates for itself, fills its own sails by the sustained winds of habit and character. It compresses and preserves potential energy like a spring, but at the same time it speeds up, accelerating by pushing off from the thrust which lifts it, in order to pilot itself more and more

¹¹⁰ Quotes cited from IS 75. *Recherche*, I, III, I, ch. 1, § 1; O.C, t. I, p. 383.

skillfully. The dynamic continuum subtends and engenders this very growth of spiritual energy, a vertical genesis by the grace of which there is a crescendos of passions and efforts of the heart and mind; of a concrete self, acting passionately and with precision in a unique historical context and in the life of an individual for whom intellectual thought emerges only when the conditions of learning and experience have been fulfilled.

While Maine de Biran and Bergson, no doubt, advanced and complicated the ontology of effort and energy, as well as development temporality, there are a great many threads of continuity with Aristotle's dynamics, as we have seen. We will uncover still more on this line of interpretation as we move now to consider Aristotle's sense of the intensification of life.

Conclusion

Aristotle's dynamic sense of being is not at all like "the possible" which Bergson criticized in *The Possible and the Real*, i.e. a "pre-existence under the form of an idea" (CM 102). This bad sense of possibility treats what was possible as a mere addition of a retrospective attribution of the finished state to its the prior conditions. *Hamlet* was certainly possible before it was written, but not as a complete idea which lacks only the predicate of existence or reality. Instead it was possible in the sense that there was no insurmountable obstacle, no absolute hindrance to its creation. This is a purely negative sense of possibility and if we wanted to know how Hamlet existed in the form of a real possibility, we would have to be Shakespeare himself in the creative act and gradually inventing the whole with all its detail. This is to say that possibility is a generative idea and one whose realization is possible insofar as there are no insurmountable obstacles. Aristotle touched on this in his criticism of the Megarians (who falsely concluded that to be possible something must be actual; *Meta.* 9.3).¹¹¹ In order to solve their absurdity, Aristotle

¹¹¹ They evade the problem of possibility altogether by reducing being to actuality. This involves the absurd consequence that "whenever someone has stopped [building], he will not possess the craft." 1047a3. Further, these

does not turn to possibility as the pre-existence of an idea, but to the negative definition of not-impossible: “a given thing is capable if nothing impossible follows from the assumption that the activity it is said to have the capacity for belongs to it.” (1047b25). Sentesy, following Brentano, argues convincingly that Aristotle’s sense of *dunamis* is not a mere possibility-reality relation which “makes them merely relative concepts, or features of a subject’s rational mind, instead of real beings.” (2020 83). While, Aristotle introduced the negative formulation of possibility as an “exclusion of external things preventing it” (1048a19), he does not move from this to an ideal pre-existence. Instead Aristotle moves to a “positive” sense of potential being on the model of force and exercise in which the potential is not a static concept, but a generative source. Ultimately, the strongest ground on which to build a theory of dynamics, is the inner sense of effort as a embodied action. In the next chapter we will see how the *energeia* of the soul, which intensifies itself by acting, is the evidence or principle from which Aristotle’s theory of dynamics is produced.

arguments do away with motion and becoming, since what is sitting will never be able to get up; 1047b15. See Sentesy 2012 34-38.

2.2 Aristotle on Intensity and Life

...προϊούσης δὲ τῆς ἡλικίας, ἐν ᾗ ἡ ψυχὴ τελεοῦσθαι ἄρχεται, ἐπιτείνειν τὰ ἐκείνης γυμνάσια...

as the time of life advances, wherein the soul begins to complete itself, one ought to intensify its exercise
Plato *Republic* 498b my translation.

ὁ δὲ κατὰ νοῦν ἐνεργῶν καὶ τοῦτον θεραπεύων καὶ διακείμενος ἄριστα καὶ θεοφιλέστατος ἔοικεν...τὸν αὐτὸν
δ' εἰκὸς καὶ εὐδαιμονέστατον.

the one who cultivates the mind by working it, cares for its improvement, and brings it into the best condition
seems also to be most dear to the gods...and it is likely this person is the happiest. Aristotle *Nicomachean Ethics* 1179a23-4 my translation.

There has been a long and complex debate among the commentators and medievals concerning the status of *intensity* and “latitude of forms” in Aristotle.¹¹² A great deal of obscurity surrounds this problem because Aristotle did not have one single term by which to refer to intensification or intensity.¹¹³ He had formally addressed the more [μᾶλλον] and less [ἥττον] as the possible predicates of certain qualities which fluctuate (*Cat.* 4a4, 10b30). This led to a debate among the commentators about the “latitude” of forms especially in relation to alteration and growth (i.e. their ability to admit of infinite degree and variation), and to question whether virtues like justice or charity admit of degrees. The problem of intensity was posed in relation to Aristotle’s logic and physics and his conception of continuity andhylomorphism, but generally lacked the deeper connection to psychology and ethics considered as a developmental interiority of life. This logical interpretation allowed Aquinas, for example, to deny that virtues and qualities can admit of degrees of intensity.¹¹⁴ I argue in what follows that intensity was central to Aristotle’s philosophy as a whole. It is the intensity of life itself, felt as a lived auto affection, which properly discloses the sense of intensity in Aristotle.

¹¹² See Solère 2000 and 2001, for detailed and extensive accounts of this history.

¹¹³ While he did not have a single term for intensity, I do not think it is correct to say that intensity “is never named by Aristotle” as Garcia 2018 31, does. It is actually a credit to the subtlety of Aristotle’s thought that intensity remained more concrete by retaining a multiplicity of terms by which it is concretely described in each context.

¹¹⁴ Solère 2001 585-587.

How Should We Approach the Problem of Intensity?

The primary concern in approaching the nature of intensity pivots on whether we treat it as something static or dynamic. It is by attempting to understand it as something static which is the source of our inability to properly appreciate its central role in Aristotle's philosophy.¹¹⁵ Intensity is not something built up piecemeal by assembling preexisting parts, but applies directly to the whole, as a whole. This means that a simple categorical sense of being will be insufficient. Producing-growth [φύειν], as an activity of life, is not merely the increase of a magnitude [αύξησις], but an intensification of *power* [δύναμις] developing progressively over time. Motion is also natural to animal life, but, the developmental growth of animal life [φύομενον] is not simply the summation of qualities and quantities, nor the juxtaposing of the movements of these two categories; alteration, growth, and local motion (*Cat.* 14b15-14b17). The categorical sense takes each kind of motion in isolation and as irreducible to one another. Life is not the abstract conceptual or propositional assemblage uniting growth-alteration-motricity in a way which we predicate attributes of a subject. The composition of life involves a concrete unity which integrates them all from the start in the indivisible continuity of form and matter. It is directly to this concrete unity that we must look if we are to understand intensification in Aristotle. We do not come to understand life by assembling categories as if juxtaposing concepts, but by living its integral passage. By the same token, we should not attempt to understand deliberate choice προαίρεσις as a *combination* of discursive thinking and

¹¹⁵ See Morrison 1987, who readily admits that "Our contemporary metaphysical prejudices are so opposed to degrees of being that people find themselves unable to make any sense of such a doctrine." 382. His analysis is primarily directed to analyzing the arguments and passages relating to degrees of being. He goes so far as to say that "the *Metaphysics* is pervaded with degrees of being." 396. While Morrison succeeds in advancing the discussion of degrees, I think the expanding the scope of what Aristotle considered to properly involve degrees will greatly help clarify topic. Above all, effort is what must be considered. I find Morrison's framing of the "intensity interpretation" to render it static and remains committed to the metaphysics of presence, as an attribute present in a subject; 383. Auto affection, as described here, can be taken as an alternative to his interpretations.

desire as if these two very different faculties remained discrete and self-identical attributes. Aristotle insists that they are more intimately fused, as an appetitive intelligence ὁρεκτικὸς νοῦς or discursive appetite ὁρεξίς διανοητική (*Nic.* 1139b5). They are two aspects of one and the same reality, not attributes of a subject. Language is inadequate for capturing what can only be known by being lived in its peculiar integration of concrete complexity. What I call the integration of complexity, is a rephrasing of what Aristotle called *entelecheia*, as the sustaining and energizing activity of ensouled life. When we come to understand the growing of intensity in lived effort, we find a unity of multiplicity given in a direct intuition, in the soul, by the soul, and of the soul. This, I will show, is the case most evidently with aesthetic feelings, but by way of analogy, Aristotle applied it to intellectual intuition and ultimately, to the intensity of life itself as a principle of psychology. Life, as an inner-force of growing, acting, and choosing, is what unites Aristotle's empiricism, psychology, aesthetics, and ethics. Once we see the role that intensity played in the vivid self-expressive energy of life, it becomes clear that in order to appreciate Aristotle's philosophy we cannot simply analyze the consistency of a system of concepts but will need to mount an effort of our own to glimpse the interior evidence that animates the system of terms which describe a lived intensity (qualitative multiplicity). This is to say that intensity is *inceptive*, i.e. initiated by an inner principle of action involving an auto affection.¹¹⁶ By

¹¹⁶ The term inceptive comes from late mediaeval commentators; See Solère 2001. The question was posed in relation to minimal noticeable degrees, or first instants of being; 599-601. Inception refers to the moment when movement or change in intensity or remission has manifested results. It is wrong, however, to assume that we start from a zero-degree point in order to rise in the inception of a first degree. This "starting from zero" is denied by Aristotle, for example, *Phy.* 215b17. Every degree of a continuity has some bulk to it, every becoming arises from something preexisting. Suárez hit on this, as Solère describes "In his view, intensification does not begin with a determinate first part of quality, since we can always imagine a smaller part." and "Concerning the genuine first instant of a quality, Suárez says that we must consider how the relevant cause of the intensification concretely acts." 600. The intensity arises, not from a first instance of being (instantaneously popping into existence), but from an "ultimate non-being" 601. This cannot be an *absolute* non-being, but like matter, or potency, it is a positive reality which makes possible the movement or intensification. A stationary Socrates is the ultimate non-being which makes the walking Socrates possible. It is not a pure negation, non-existence or void.

recovering the dynamic interiority of life, intensity can be freed from the scholastic and logical obscurity that render it static or abstract.

Where Can We Find Intensity in Aristotle?

In general, intensification implies a relation between an excess [ὑπερέχον] and an exceeded [ὑπερεχόμενον] which is “wholly indefinite numerically” (*Meta.* 1021a 4). Aristotle defines and provides bountiful examples of phenomena which involve such a relation, saying “Let exceeding, then be being so-much [τοσοῦτον] and yet more [ἔτι], and let being exceeded be being already included [τὸ ἐνυπάρχον].” (*Rhe.* 1363b7). He then lists many examples in which we judge something to be more or greater: more advantageous, greater goods, more choice-worthy, stronger, rarer, more difficult, nobler, more pleasurable, more sought after, more useful (1363b5-65b20). Not all of these involve intensification in its primary sense. The degrees are basis on a comparison: “since people often agree that both of two things are advantageous but dispute about which one is more so.” (1363b5). So, two things are both either useful or difficult and yet we can still discern that one as more so than the other. In this sense, we are comparing “this to that” at a glance and externally, rather than following a gradual intensification as it grows. Of this second sort of intensity, which gradually transform, we can gather many terms under two headings. First, we have the intensity of movements or speeds; faster and slower (*Phy.* 222b33) or accelerations and decelerations (*Phy.* 238a2). On the other hand, we have those which are more qualitative and related to the activities of the soul; ἐπίδοσις,¹¹⁷ ἄθρόαν,¹¹⁸

¹¹⁷ Increase; *Top.* 115a4. Advance; *Eud.* 1220a36. Free giving, progressing, voluntary contribution: *NE.* 1109a17.

¹¹⁸ Sudden movement in a bulk, concentrated force, burst; *Mete.* 367a30, *Sens.* 446b7. Intensity; *Rhe.* 1369b33.

ἀθροώτερον,¹¹⁹ φύω,¹²⁰ σύμφυσις,¹²¹ ἐπιτείνειν,¹²² ἄνεσιν,¹²³ συντονίας,¹²⁴ συντείνειν,¹²⁵
ἐπισυστελλόμενον,¹²⁶ πονεῖν,¹²⁷ ἰσχυρῶς,¹²⁸ σφόδρα,¹²⁹ ἐναργέστερον,¹³⁰ προσέχειν,¹³¹
ἐπιμελείας,¹³² and σπουδὰς.¹³³ In acceleration, the progression at any moment is both building
off of the prior movement from which it takes its initial momentum, and increases so as to
exceed it, thus including the intensity off of which it builds. Something similar is at play in the
second list. The progression of intensification builds off what came before while at the same time
growing beyond it. The common feature in the second list is that a *tension* changes gradually,
involving a qualitatively complex reality that transforms and build off of itself. We will see in
the course of this section how these terms fit together in describing the growing intensity of life.

We should not be surprised, therefore, to find that *energeia* intimately involves
intensification and is itself something that pleasure helps augment or *grows-together*
[συναύξουσι] with it in the mutual amplification of their integration (*Nic.* 1175a35). Work [ἔργον]
itself is something more or less intense, even if its products have a certain magnitude or
extension (quantity). The ἔργον is not merely the artifact, but is originally a gradual process in
the making. While Aristotle coined the philosophical sense of *energeia*, the term ἐνεργός was
already in circulation before Aristotle, meaning cultivate or develop (Xenophon *Economics* 4.9;

¹¹⁹ More concentrated intensity; *Poe.* 1462a19.

¹²⁰ Growing; *Phy.* 193b17.

¹²¹ Growing-together; *Meta.* 1014b22.

¹²² Intensify; *Rep.* 498b. Strained; *Rhe.* 1360a 25. Attentiveness; *Hea.* 287b2.

¹²³ Loosening, relaxing; *Pol.* 1341b41, *Rhe.* 1360a25.

¹²⁴ Intense exertion; *Rhe.* 1370a13, *Pol.* 1342a1, *Prob.* 882b1.

¹²⁵ Contribute, concentrate, intensify; *Meta.* 1050a23, *Eud.* 1216a33, DA 455a35, *Rhe.* 1360b7, *Poe.* 14959a26.

¹²⁶ Contracting, tightening, humbling; *Rhe.* 1404b17.

¹²⁷ Effort; *Nic.* 1138b27, 1154b8.

¹²⁸ Forcefully; *Pol.* 1342a6; *On Prophecy in Sleep* 463a8.

¹²⁹ Violently, strongly, intensely, exceedingly; *Rep.* 415b, 525d, *Prob.* 882a32, *Rhe.* 1360a27, 1413a30.

¹³⁰ More vivid, intensity of manifestation; *Nic.* 1097b24, *Poe.* 1462a17.

¹³¹ Attention; *Rhe.* 1415a30; *Nic.* 1175b7.

¹³² Effort; *Nic.* 1099b20; care; *Rhe.* 1370a10.

¹³³ Effort, strain; *Rhe.* 1370a13. Intensity of character, strenuous; *Nic.* 1176a17.

Plato *Laws* 674b). This intensity of the soul which grows and improves—as a spiritual energy—is irreducible to quantity or quality considered statically in the finished products.¹³⁴ Life is never finished off as an artifact. Rather it is the very process of its gradual intensification, the operations by which it goes to work, cultivates, and develops itself ἐπίδοσις (*Eud.* 1220a36), or else decays and diminishes.

Thus, the question of where to locate intensity in Aristotle's works ought to be approached in a very different way than it traditionally has been. Unlike late medieval and early modern philosophers, Aristotle, did not make an explicit distinction between the intensive and extensive.¹³⁵ In *Categories* 6 quantity is divided between continuous and discontinuous (4b20). Intensity, on the contrary, is a sort of movement; a growing, amplifying, or developing movement whose qualities are transforming and gain in richness as they progress. Quantity is not the heading under which intensity is discovered. A quantity is never more or less, only exactly itself (6a27). The number 5 isn't more or less than other numbers but either equal or unequal. Intensity is not simply a quality either, although qualities do admit of degrees. Intensity is not only opposed to the category of quantity, but to the disarticulated impressions through which the intellect fractures being into a multiplicity of categories. The individuation of human life variously involves all the categories in an original and utterly particular concrete unity. Life also involves a convergence of four different causes, but it is not by a synthesis or combination of them, but instead the *focalization* of diverse parts and processes, or more generally the many sense of being, in the individual itself. The multiplicity of impressions are mere derivatives, which we can analyze out retrospectively, but the intensification of its power and action, its

¹³⁴ Kant, according to Whitehead, gives an ambivalent account of continuity, treating it at first as quantity and then as intensity; as a fully given totality and then as a flowing, or passing. It is the second that is more Aristotelian.

¹³⁵ We do find the terms συντείνειν and ἐκτείνειν, meaning roughly, contracting and stretching out *Prob.* 886a29.

form, must have already integrated them all together in its “thisness” [τόδε τι] *Categories* 5 (3b10). Experience itself grows in intensity after induction has rounded up all the witnesses and the principles at work are discovered. Thus, the deeper sense of intensity, in Aristotle, is not merely an attribute of a substance (logical predication) but is related directly to the activity of a concrete individual in which subject and attribute are intimately related and involve an infinity of variations and details.

The real sense of intensity is distinctly phenomenological. It is the intensification of psychical energy itself, as the *being-at-work* of the soul. Psychological vividness grows by a *convergence* of contributing factors: sensations, habits, memories, experience, art, knowledge. The straining effort of attention grows by a convergent accumulation of experience and knowledge—both expansively, in a multiplicity of details, and intensively, by concentration into a unified direction. This concentration and intensification is exactly what characterizes the activity of the soul. Here again, it is not simply “concentration + intensification = spiritual energy”, but an intimately mixed *concentrative-intensity* or *intensive-concentration*. In general, as the soul grows and develops, it puts to work prior habits and behaviors by integrating them under the direction of a higher purposes which involve greater intensities of energy. This interpretation of intensity can be found in Félix Ravaisson’s EMA.

The movements, the sensations, the imaginations, the desires diversify and are ordered under the influence (*l’empire*) of a superior activity. Heterogeneity increases, and at the same time, simplicity. Life, by concentrating itself has become more intense, the action freer and more powerful, the unity more intimate and more in-dissolvable. *Essai sur la Métaphysique d’Aristote* Félix Ravaisson 434.

The effect of pleasure is to increase the intensity of the action to which it is linked, to fix the activity of the soul, and to divert it from all other action. Between action and pleasure there is an intimate relation and a constant proportion. *Essai sur la Métaphysique d’Aristote* Félix Ravaisson 443.

Intensification arises from a developmental progression. Transformation are possible in the concrete relation of matter and form, or better, power and activity. There are “pre-requisites” in learning that are analogous to the stages of development of all living beings. The relations among

these stages of development are concrete and the *movement* is the reality of this dynamic continuity of matter and form. The matter stretches itself out toward the indivisible form into which it develops itself. As an axe must come from an appropriate matter, knowledge and virtue must come from the fulfilment of necessary prior achievement in habit and education. Thus, we have a “whole of subordinate parts... enchained in a sequence of continuous proportions” as Ravaissou called it (EMA 533), an irreversible chain, or *suite*, of actions, or operations, that progressively informs matter. Each stage builds, grows, or progresses as a continuous increase in the power of acting, by integrating the previous stages and surpassing them. The continuous proportion is never merely the extension of a logical or numerical relation to psycho-physiological processes. An analogy underlies all thought for Aristotle, that is, the analogy which discloses the nature of relationality itself. This analogy is based on the immediate experience of life in which the activity of the soul is related to the body. Thus, we should think of the imperfect and immanent forms of life, such as human life, as a unity that is always gradually changing: progressing, developing, and growing in intensity (or decaying). Intensity the dynamic potentiality and self-temporalization of concrete substance. I will expand on this interpretation in order to underline just how indispensable intensity is in Aristotle’s philosophy as a whole. To start, I will show how Aristotle conceived of *energeia* as involving two aspects of intensification: of a power of action, and of a vividness of its manifestation.

The Vividness and Intensity of the Works of the Soul

There is a ‘*more and less*’ involved in the activity of life which temporalizes itself. In *Nic.* 1.7, Aristotle says that happiness appears to all as the best thing, but despite this obviousness “we still require a more *vivid* [ἐναργέστερον] account” (1097b24 *my emphasis*). The account that follows is given in terms of work [ἔργον] and the peculiar ways of being-at-work

[ἐνέργεια] of the different parts of the soul (1098a6). This discussion leads to the conclusion that happiness is a virtue in accordance to the activities proper to the human soul. Human life does not consist in idleness [ἀργὸν] but in activities (1097b30). What is relevant here is that the account given in terms of *energeia* is *enargesteron* the more vivid account.

We find *enarges* in proximity to *ergon* several other places, such as in the *Poe.* where Aristotle says that tragedy has all the resources of epic poetry, as well as the added effects of music and spectacles, which “engender the most *vivid* [ἐναργέστατα] pleasures by its composition.” (1462a17 *my emphasis*) and, continues by telling us that tragedy “has *vividness* [ἐναργὲς] in both reading and in works [τῶν ἔργων]” (*ibid*). The performances or works themselves are directly named as a source of *vividness*. Thus we can say generally that these *works* involve degrees of vividness. Further, tragedy is more vivid and can produce more intense pleasure [ἀθορότερον ἥδιον] (*Poe.* 1462a19) than epics, since the latter are less one [ἥττον μίαν], being composed of many actions (1462b3-7).

And the same connection appears again in DA 3.3 where Aristotle says that when sense-perception is “performing accurately [ἐνεργῶμεν ἀκριβῶς]”, we do not say that we “imagine that we see a man”, but rather we make this qualified statement only if we are not perceiving *vividly* [ἐναργῶς αἰσθανώμεθα] (428a13-15). This comes at a crucial moment in the treatise, as Aristotle is distinguishing imagination from sensible intuition, opinion, knowledge, and intellectual intuition [νοῦς]. The proximity again points to a deliberate association. Aristotle is saying that the proper *activity* of perception is *vividness* itself. Perception is an activity and vividness is not an attribute which is appended to it by predication, but the quality of the activity itself.

There is an intensity of activity involved in the attention of the soul: προσέχειν. Aristotle employs this word on a few important occasions and, most notably, analyzes it in detail in *Rhe*.

3.14.¹³⁶ Προσεκτικόν is the ability to sustain a listener’s attention, something that is required in effective speeches. The rhetorician uses the introduction or prelude as a way of catching the audience attention by an “appeal to the listener [τὰ δὲ πρὸς τὸν ἀκροατὴν].” (1415a30). Aristotle says “Hearers are potentially attentive to grandeur, private affairs, marvelous-wonders, pleasantries.” (1415b1 *my translation*). By appealing to the listener, the speaker draws on, or exploits, the attentive capacities of the listener. What they are able to attend to is what they are already spontaneously striving to hear. A catchy intro “makes them think the speech concerns these things” which they already care about (1415b3). The speaker may literally say “Give me your attentive minds [προσέχετε τὸν νοῦν], for this concerns me no more than it does you” (1415b13). The listener to which they appeal is an *entelecheia* of the soul which must be concentrated into attention, sustaining and preserving the enduring form, or operation of the activity of “*holding-to*” the speech. Attention is also an integral part of developing virtues. Virtues are active dispositions [ἔξις] (*Nic.* 1103a10) and character is “the active disposition by which we bear [ἔχομεν] ourselves well or badly with respect to pleasure and pain” (1105b25 *Sachs translation*). As we discussed above, habit and virtue rise in a dynamic continuum or suite [ἐφεξῆς] of subordinate parts in continuous proportion. Attention is the effort necessary for rising in the series of powers up to virtues and philosophical abilities. Vividness will thus be linked to a sustaining energy which keeps the attentive mind focused, as “a light that god has kindled in the soul” (*Rhe.* 1411b13).

¹³⁶ Plato uses this word in conjunction with νοῦς; *Rep.* 396b, 406d, 407b, 549d, as “concentrating attention” or “concentration of the mind” προσέχοντας τὸν νοῦν; *Rep.* 432b. At times it is even translated as “giving thought to” or “turning his thoughts to” something, even when νοῦς is not present in the text; *Sachs and Adams translations respectively*; *Rep.* 554b. No doubt its meaning is psychological.

The Aesthetic Intensification of Vividness

There is a closely allied phrase, used by Aristotle, which metaphorically gets at the intended meaning of *enargeia*. It is found in the poetics where he instructs the writer, that when constructing a plot, it is best to “place before the eyes” [πρὸ ὀμμάτων τιθέμενον], and this technique works by making the aesthetic effects “as vivid as possible [ἐναργέστατα]” (1462a23). Placing before the eyes is therefore a technique productive of vividness. There is a privileging of the visual paradigm implied in this term, but certainly, for Aristotle, vividness [*enarges*] is not *limited* to vision. To place before the eyes is itself a metaphor, and one which is characterized in the *Rhe.* as a “metaphor by analogy” [μεταφορᾶς...ἀνάλογον].¹³⁷ It clearly extends beyond sight to emotions, speech, music, mental imagery, dreams, thoughts, experiences, etc.¹³⁸ If we want to understand the deeper meaning of vividness, for Aristotle, we must not hastily reduce it to an instantaneous apprehension or a static attribute predicable of an unchanging subject. It is rather something felt or lived. The technique of placing before the eyes is produced by an aesthetic virtue called *asteia* ἀστεῖα, grace or elegance. Aristotle provided several examples from poetry and explained: “‘of one having the prime of his life in full bloom’; similarly, ‘you, like a sacred

¹³⁷ It is odd that Aristotle never used the term *enargeia* in *Rhe.* 3.11, a chapter whose explicit aim is to explain what “placing before the eyes” means, considering that he is clear in the *Poe.* that placing before the eyes produces vividness. Perhaps there have been errors in manuscripts, and we find *energeia* where we ought to find *enargeia*. Aristotle does not even need to use it explicitly in this passage for the connection to be apparent. Has he not instead clearly indicating the very overlap between *enargeia* and *energeia*, such that the passage makes plainly clear the intended overlap in meaning. Translators have even tended to collapse the omission of *enarges*, rendering “before the eyes” simply as *vividness*. See W. Rhys Roberts, 158, whose discusses the problem. For an example see Freese 1926 translation of the *Rhetoric* in the Loeb edition, 1411b5. Instead of speaking directly about vividness we find Aristotle analyze the quasi-virtue ἀστεῖα, which, is a power of engendering *vividness*. It hardly matters if Aristotle had put *enargeia* in some places where we today mistakenly find *energeia*, since we already have overwhelming evidence of their intimate connection. Is there not also a great deal of overlapping of *enargeia* with what is clear δῆλον, manifest φανερά, as too *energeia* overlaps with usage χρῆσθαι, movement, while never the less between each we can find subtle differences which we should keep in mind and no wise collapse. I do not have space in this work to address this problem sufficiently, but I think that *enargeia* is to *energeia* what *entelecheia* is to *entelecheia*, i.e. a small modification to an already existing word to build off its meaning and develop it into a more subtle philosophically rich term.

¹³⁸ See Hedrick 2015, 57-66, who has a comprehensive account of its meaning in different contexts.

animal roaming at will’ expresses *activity*, and in ‘Thereupon the Greeks darting [ἄξαντες] forward with their feet’ the word ‘darting’ contains both *activity* and metaphor.” (*Rhe.* 1411b22-33, *my modification of Reeves translation*). The genius of Homer, according to Aristotle, is his ability to *bring to life* what he describes so that “the inanimate is made to be ensouled [τὸ τὰ ἄψυχα ἔμψυχα ποιεῖν] by metaphor” (1412a33). Homer evokes the interiority of the movement which is characteristic of *energeia* as a living activity “he makes everything into something that moves [κινούμενα] and lives [ζῶντα], and activity [ἐνέργεια] is movement [κίνησις]” (1412a10).¹³⁹ An *analogical metaphor* requires that the two things compared not merely share a quality or attribute, like completeness of a square and the quality of a just or upright person (*Rhe.* 1411b25), but that they have the relation as *activities*. What is it that is included in the three examples which makes them “activities”? Aristotle said, of the third example, that darting ἄξαντες is both a metaphor and an activity. There are several important things to notice about this. First of all, the Greeks are moving swiftly and so do things which are darting or shooting.¹⁴⁰ Thus, the two things compared have the same *movement* and share the same manner of *activity*. In *Rhe.* 3.10 he says that *asteia* makes us learn quickly [μάθησιν ταχεῖαν]. We find a *reflexivity* here between the content of the metaphor (darting) and the darting action of the metaphorical language itself. The word *asteia* also performs this reflexive action; working as *both* the name referring to a complex integration of expansive meaning into a simple phrase *and* a concrete

¹³⁹ Since this is in the *Rhe.*, it is within the realm of what seems to be the case, and what, for the most part appears as mixed up in the particulars. Life, movement, activity, and pleasure are all jumbled together in an indivisible feeling. We can later analyze these all out into separate parts and examine their differences and reciprocal implications. Nonetheless, they arise together in experience and are focalized in relation to the activity, which, so to speak, holds the whole thing together as indivisible. Activity involves movement and life but it is not reducible to them. A dynamism is implicit in it (and so too an intensification unfolding in a progression) but it is not merely the process of change. We do not, however, come to know the reality of activity by stripping it of its complication in life, pleasure, and movement or by reducing it to an eternal present.

¹⁴⁰ Like the shooting stars in *Rep.* 10; ἄπτοντας ὥσπερ ἀστέρας 621b.

example of this skillful evocative use of language in action.¹⁴¹ The activity of *asteia* is, so to speak, the *work* of a witty soul which places activity before the eyes; it is the *being-at-work* of a technique capable of evoking vivid evidence from inner sense. The analogy brings us back, by a *centripetal* motion to concentrate in an auto-affection which is a concrete activity manifest to itself by being lived.¹⁴²

Since it is an ability to teach *quickly*, it is a swiftness like *argos* in Homeric usage. The brilliant, glancing words of the *asteia* are bright, swift (*argos*) and vivid (*enarges*).¹⁴³ The closely coupled metaphorical sense of glancing and shimmering also implies a quick flash of light or

¹⁴¹ There is a proliferation of semantic tangling which comes packed in with this word. *Asteia* literally means “of a town”. According to the *Greek–English Lexicon* of Middle Liddell, *asteia* is sometimes opposed to *agroikos* [ἄγροικος] meaning *dwelling in the country, a countryman, rustic, clownish, boorish, rude, uncultivated*. This lends credence to a translation like *politeness*. The word appears to involve a ting of Spartan strictness which seems also to be an insult, as in *Rep.*; a charming simpleton (349b). Perhaps it also relates to what Socrates called “Laconic brevity” (*Protagoras* 343b); a short phrase that concisely portrays deep and expansive ideas or intuitions (like “Know thyself” and “Nothing too much.”). At one point Socrates does describe the Spartan sensibility in this way (*Rep.* 452d). But it was also opposed to ἄγροικος. *Asteia* not only involves this evocation of opposites, it interweaves other oppositions which turns into inconsistency if we do not take into account the ambiguity of terms. It also closely resembles words related to the night sky, like ἀστέρος *asteros*, meaning star, which likely adds to its grandeur and also implies the swift brilliance of a shooting star; *Rep.* 10; ἄπτοντας ὥσπερ ἀστέρας 621b. a “flashing glance” or even a spontaneous urge, or thrust of life itself (*élan*).

¹⁴² Plato describes an auto affection in the remembrance of a prenatal communion with the beautiful in the *Phaedrus*, saying that beauty “shone in brilliance among those visions; but since we came hither [embodied life] we have laid hold of its most *vivid* gleam [στύλβον ἐναργέστατα] through the *clearest* [ἐναργεστάτης] of our senses; for sight is the sharpest [ὀξύτατη] of the senses to which the body comes, though wisdom is not seen by it [the eyes], for wisdom would hand over [giving way to] wondrously powerful love, if such a *vivid* phantom [ἐναργὲς εἶδωλον] of wisdom were handed over as comes through sight, and the same of anything having so great a loveliness; but beauty alone has been allotted this fate, and therefore it is most apparent and most lovely.” 250d *my translation*. The act of beholding beauty is a movement which starts from being charmed and arrested by the appearance which proceeds to a returning to one’s own soul. This passage is energized, we are told, by love, wherein the soul filled by the winds of passion, snakes forward, undulates, and rises to meet the beloved. Memory ties the past into the present, love ties the present into the past, reaches into the depth of the soul and coaxes it out, inspires it to go do good works, and act as a beneficent spirit. Thus, a double movement going from present to past (arrest) then past to present (arousal) and to future (attraction), maps the tension stretching the soul into a depth of intensity and vividness. The memory of an original creative act of beauty itself, or the good, is contained in the very purity of the soul. The question of what causes us to experience beauty precludes the interpretation that it is something merely external and received passively. The aesthetic intuition is evocative and is aroused in each of us by the grace of the soul itself. Bergson is as close to Plato here as to Aristotle. The self-evidence of the soul to itself in its activity is not a pure beholding of a concept present to consciousness but it rather an obscure and confused feeling of the virtual, integral self that rises by passion or concrete effort as a moving cause. This awareness is not exhausted in any particular act and so self-consciousness is not something possessed, but lived in a dynamic, self-temporalizing intentionality.

¹⁴³ Used in the *Ody.* an epithet describing swiftness of 2.11, 17.62, and 20.145: “for along with him two swift hounds followed” [ἅμα τῷ γε δύο κύνας ἀργοὶ ἔποντο.].

sudden illumination. This use of *argēs* also appears in Homer to describe the brightness of Zeus's lightning bolts (*Ody.* 5.128, 131). Poetic language itself involves *motion*. The word metaphor [μεταφορά] which is related to ἐπίφορα [*epiphora*] transference (*Poet.* 1457b7) comes from φόρα, mobility.¹⁴⁴ Metaphor is thus a sort of *centrifugal* motion which expands out by a *transference* and *extending* of the meaning. The action of metaphor strikes swiftly and brightly as lightning that strikes suddenly illuminating a landscape at night.

Metaphor is something used [χρησθαι] in different ways [τρόποι] (1457b30). Aristotle outlines them in *Poe.* 21. It involves several different relations through which a transference can travel: (1) genus replaces species, (2) species replaces genus, (3) species replaces species, or (4) by analogy.” (1457b7). Aristotle provides the following examples for each: (1) “my ship stands here” mooring is a species of standing (2) “a thousand noble works has Odysseus accomplished” a thousand [μυρίον] has been used [κέχρηται] instead of multiplicity [πολύ] (3) “drawing off life with bronze” and “cutting with slender-edge bronze [bowl]” drawing off is used in place cutting and *vice versa* (4) “when B is to A as D is to C, then instead of B the poet will say D and B instead of D” thus the phrase “sowing [σπείρων] its divinely-nourishing flame [φλόγα]” so that the activity of sowing is transferred to the sun as a power of warming, and so the word is substituted for a word that would be the equivalent of the sun's activity of imparting its energy to the world (1457b29). In (1) we substitute something specific with the general, in (2), the general is replaced by something specific. In (3) we move between two specifics (a bowl draws off liquid a sword cuts and they are substitutable one for the other). Aristotle gives two examples to highlight the two different directions of transference. It should also be noted that in these two examples which Aristotle gave, bronze seems to play the role of a common underlying matter

¹⁴⁴ This is analyzed by Paul Ricoeur in *The Rule of Metaphor*, study 1 parts 4 and 5.

connecting the actions of the two forms bowl and sword. Finally (4) by analogy, the metaphor works by forming a relation between two different relationships; a relation between relations and an activity between activities.

The most striking feature is how central the role of action is in the second two ways (i.e. species to species and analogy). What the analogy adds to metaphor is the possibility of using metaphor as a way of getting at something which has no name. We lack a word for the life-giving activity of the sun and so we *substitute* our own intimate sense of sowing and fertility drawn from experience. By metaphor the poet evokes an inner life to express the action of the sun. The metaphor makes us learn quickly, we dart forward and kindle a light in the soul. The speaker, therefore, suggests a connection which the listeners will have to make for themselves and based on their own sense of movement and activity.

Linguistic expressions [λέξεως] make possible the evocation of vividness by installing us in a double movement; centripetal and centrifugal, both expanding and concentrating. This rhetorical device, employed in philosophy, joins the content of the metaphor with its mode of production, i.e. invention. The gleaming illumination of these lightning bolts of wit bring to life the very *vivacity* and *vividness* of the poetic act itself as an electrical energy.¹⁴⁵ This means that the power of vividness depends on the appeal it makes to the listeners own sensibility, it *evokes* and *instills*. The genius of an artist must be met by the attention and imagination of the listener. The expansive vision it opens is immediately evident to one who is paying attention and has the

¹⁴⁵ Vivid suggestion is not the production of a picture or image. Aristotle also says that “if they set things ‘before the eyes’ ...we ought to see [ὅρᾱν] what is being done [πραττόμενα] rather than what is going to be done [μέλλοντα].” (1410b). *Placing* is not static but rather *plunges* us into the temporalization of the action as it passes. The poetic expression of events is not a sort of retrospectively reconstruction of something settled, nor simply telling us what must happen in the future as if predetermined and foreseen, as if things were already made and closed. *Placed* in the action, we don’t merely receive a report of what happened, but we *enter into* what is its gradual unfolding in duration as if currently happening. There is thus a horizon of the future in which we do not yet know what the outcome will be. It is neither given in the present nor is it obviously deducible from what is given in its passage.

necessary background meaning. The semantic web is not formed, therefore, like a system of unambiguous elementary terms which are juxtaposed to form meaning in geometrical definition. Instead it is an interweaving of a complex web of ambiguities which have a concrete history and form a “system” whose parts, at certain cross roads, implicate obvious contradictions or inconsistencies (as *argos* means both darting and idle). Evocative language does not succeed by demonstrations requiring logical deductions, rather they are successful if they achieve an irresistible attraction which invites the listeners to make the connections for themselves and reenact the vivid activity by sympathy or imagination.¹⁴⁶ So not only is there a movement in the activity of making use of metaphor, there will also be a movement in the soul of the listener.

The analogous metaphor reveals a common feeling of life as an interiority of self-movement. As we have seen above, the disambiguation of life from inanimate is what provided Aristotle with a basis of *evidence* in place of a definition of the soul (sec. 2.1). Despite the

¹⁴⁶ The *aesthetic intuition* discloses a vivid evocation by means of language, music, or spectacle, which does not merely express an attribute of a substance, but suggests, invites the listener to pose the scene it in their own mind, to place before their own eyes, though their own act of mimesis, and so, produce for themselves the *vividness* and *vivacity* of motion and activity as the auto-affection of our own inner principles *at-work*. Thus the second example given by Aristotle at the beginning of *Rhe.* 3.11 seems to be decisive. The blossoming or blooming of youth appeals to the sensibility of the reader because we feel within ourselves the value this has for one who has felt it, having actually lived it. We feel sympathetic for the inner sense of life, an unfurling of movements in accordance with principles. This blossoming names a growing and amplifying intensity of life as manifesting in graceful work of spiritual energy. This gracefulness of spiritual energy manifesting in good works is identical to that which was repeated in Bergson, Ravaisson, and da Vinci as we saw above (sec. 1.1.3). I for one find Debussy’s *Prelude* to have succeeded in evoking this feeling of youthful blossoming, the inspiration for which he “drew-off” the poetic writings of Mallarmé. The deeper metaphor digs into utterly new modes of expression, the more vividly inner-sense can be made evident. The peculiar “graces” so to speak, of the different psychical virtues all show themselves in certain inner dynamic works of the soul as intentionality, and interiority. Graceful dancing is different than elegant speech, but they both appear to involve an inner capacity or virtue temporalizing itself. They make products which clearly show the mark of a keen intentionality, facility, and ease of bringing movements into being. Elegant speech makes use of the distinct characters, personae, complex emotional states, or intentions. Gleaming, darting, sowing, blooming, illuminating, glimpsing, roaming, eager, longing, twisting, yearning, stretching out, speaking, using, acting, moving, on and on we expand and contract. Darting or swiftness have distinct characteristics to them, and we can sense the difference between the quality of these movements and the blossoming feeling of youthful growth. The difference is evident but difficult to express in words. All these different activities and movements are known by sympathetic feelings as a concrete auto-affection of a peculiar intensity of psychical energy. Now, strictly speaking, the metaphor applies a plant-like *blossoming* to the *élan* of human growth and effort which has no name. The sun sows, humans blossom, and philosophers roam freely like animals. It is a transference of meaning to something which lacks a name which is above all the achievement of metaphor.

apparent attempt to separate entirely the animate and inanimate, there is nevertheless quite likely some *poetic evocation* employed by Aristotle in his transference of an interiority of the soul to nature, when he refers to a “desire” which directs the simple bodies (*Hea.* 310a34; *Mete.* 363a30); a striving and yearning of matter for form (*Phy.* 192a20); or when he says that if an axe had a soul, it would be the activity of cutting (*DA* 412b13). Aristotle clearly transferred the psychological character of *energeia* to the dynamics of nature and without going to a full on *hylozoic*, at least produced an *organic* cosmology: the whole cosmos is a living being and the simple bodies *imitate* life. The invention of the name *energeia*, as a vivid manifestation of living activity whose movements are unfolded by grace of the soul, is itself a sign of the creative spirit of Aristotle’s own life-energy. The linguistic power of evocation uses suggestion and sympathy in order to bring to life the intensity of feeling of spiritual energy itself. Both poetic metaphor and the energy of life itself involve an enriching intensification as tension and concentration.

The Ethical Intensification of Activity

Of the different *works* that the soul performs, some arise spontaneously and with pleasure while others are toilsome and demand our effort (*Rhe.* 1.11). But all these activities of the soul contribute to the purposive whole sustaining life and possibly leading it to an eventual flourishing εὐδαιμονία. A similar role is played by pleasure in the virtuous life. The activities proper to virtue are potent sources of pleasure and the pleasure that accompanies them is a contributing factor in the “steadfast” constancy of the engagement in action by the virtuous person. Pleasure is not merely something to which one’s character disposes them well or badly, as if simply an obstacle on the path to virtue. Pleasure plays a positive role by aiding in sustaining and strengthening attention. Aristotle notes in *Nic.* 10.5 that a musician will find it nearly impossible to pay attention to someone talking if there is really enjoyable music playing

in the background. The reason is that the predisposition of a musician involves a tendency or irresistible attraction that draws their attention and fixes it on the greater source of pleasure. This is not a purely passive infliction, it is rather *evocative* and *appeals* to the musical disposition which already belongs to the soul of the listener. The intensity of the pleasure is *inceptive* i.e. it has an inborn cause as the soul *manifesting-in-work*. Aristotle emphasizes this fact by specifying that the musician is a flute player and that what they hear is flute playing. The intensity of pleasure in a musician is due to their ability to engross themselves in the pleasure of playing the flute passionately (*Nic.* 1175b5). They cannot listen without subtly imitating it and this quickly consumes their attention because there is a pleasure amplifying and concentrating the activity. The most intense listening is not passive but involves an active participation: listening by producing the notes again as if playing along with what they hear (*Prob.* 919a36; 921a36).

The key here is that pleasures have a constructive and concentrating role in activities for Aristotle. Sustaining intensity; συντείνει, a psychical force contributing to concentration of energy and, as Aristotle says, pleasure contributes to its completeness (1175a33). This completeness is not a static state, but a dynamic condition like the prime of life (1175a35). Pleasure's influence seems to *draw together* the multiplicity of feeling into an intensive-striving and brings about the *focalizing* of effort so as to make all the relevant processes *converge* as contributing to action. Intentionality, and practical action in general, involve just such a *concentrating* of a multiplicity into a unified whole.

Aristotle describes the growing intensity of a converging multiplicity of activities and pleasures which are “conducive” to participating in a common power/ability in a higher order and unity. These pleasures “contribute to the growing-together [συναύξουσι] of the activity” (1175a35 *my translation*). The pleasures of music are *conducive* to a growing intensity and

concentration of energy productive of and sustaining listening and playing (see *Pol.* 1341a 38). Each activity has its own particular pleasures which help to focus and amplify that activity (1175a33). We are distracted by the pleasure of one activity when it makes us unable to pay attention [προσέχειν] to another activity: “the pleasure coming from the flute-playing diminishes [φθείρει] the activity of reason [λόγον]” (1175b7). The coexistence of the two activities, Aristotle says, leads gradually, by the one producing a greater pleasure, to drive out the other until the other activity ceases (1175b10). Pleasure sustains the activity by contributing to the intensity of effort and attention. Certain activities require higher degrees of effort and strain, and the pleasures, for the most part, are proportionate to the spiritual energy of the particular act. Intensity of pleasure is proportional to the intensity of effort in action. But the intensity of the pleasure is not merely a “more and less” as judged between two different activities (music is more pleasant than smelling a flower). More importantly it is a continuous “growing-together” [συναύξησις] which progresses through an infinity of degrees of intensity.

The same amplifying concentration is at work gathering many “means” into a single “end” characteristic of *practical-wisdom* [φρόνησις], which: “make us enact the thing related to the end. [ἡ μὲν γὰρ τὸ τέλος ἡ δὲ τὰ πρὸς τὸ τέλος ποιεῖ πράττειν.]” (*Nic.* 1145a6 *my translation*). Even among the virtues themselves there is a focalization and amplification into higher virtues which depend on the cooperation of them all together and rising in a developmental series. The skillful conducting of multiplicity into unity is the defining characteristic of *phronesis*, which is itself only a sort of heightened state of intentionality. It is like a funnel drawing into itself a multiplicity of habits, experiences, and deliberations of which it makes use of to intensify its effectiveness in action (1142a15-20). It is by grace of the accumulation of conducive elements that virtue grows, so much so that “all virtues will have already begun together when the one,

phronesis, has emerged.” (1145a2 *my translation*). Thus, the virtue to which all “conduct” [πράξις] is related, for Aristotle, is the one *conducting* life in such a way that it brings all the virtuous dispositions, habits, and activities together to contribute to a common end [τέλος]: i.e. happiness or flourishing [εὐδαιμονία]. This is explicitly in relation to pleasure as well; “it is not necessary for us to inquire what these pleasures are,” he says, “but whether they conduce [συντείνουσι] at all to happiness or not, and how they conduce [συντείνουσι]” (*Eud.* 1216a33). The conduct of one who has practical wisdom will draw-in and hold-in-tension a greater and greater mass of experience by concentrating together all of that which was developed gradually in education, sustaining its power, and brings about a strenuous, serious, intense moral character [σπουδαῖος] (which is the underlying model of excellence which Aristotle assumes throughout his ethics). Pleasures contribute to the confluence of activities which *grow* to produce happiness, and to the philosophical life, *augmenting* energy by increasing in tension and concentration.

Development is sustained by the pleasures that emerge from gaining gradually in facility and ease of action. In *Rhe.* 1.11 Aristotle says “pleasure is a sort of movement of the soul, an intensive [ἄθροον] and perceptible establishment [κατάστασιν] emerging naturally.” (1369b33 *my modification of Reeves translation*). This “establishment” is not so much a “settling-down... into a state” as Reeves and Freese (1929) render it. It is an active *building up*, raising, and emerging growth in intensity. Aristotle also reminds us that “care [ἐπιμελεία], effort [σπουδὰς], and intense exertion [συντονία], are painful... unless people become habituated to them; then habit makes them pleasant.” (1370a13). In practical deliberation, there is a *strain* by which an effort of the soul *draws together* a multiplicity into a single mobility in which all the different vectors bend and converge into the purpose. “Now nobody deliberates about their end—this for everybody has [already been] laid-down; but they [deliberate about] the means leading or stretch

out to [τεινόντων] them—does this contribute to its intensification [συντείνει], or does this?” (*Eud.* 1226b13, *my translation*)¹⁴⁷ Intensity, in Aristotle’s developmental sense, is the growing and evolving energy of the soul, the efforts of which are increasingly able to act with precision and effectiveness. Its *growth* is neither quantitative nor is it simply categorical (relating exclusively to magnitude, alteration, or local motion) but is a concrete unity of character lived progressively. Intensity is both sustained and increased, and so is not something static or judged externally by comparison.

Vividness of Intuition

In this section I will show that there are, for Aristotle, degrees of vividness which are integral to the production of knowledge itself. Things can be more or less clear, and more or less evident. Experience itself is the intensification of vividness by which the first principles of knowledge are acquired. Knowledge emerges by way of induction [ἀπαγωγή] as described in *Pri.* 23, *Post.* 2.19. Induction, involves a *vivid* awareness or experience, of the principles at work in the phenomena of nature and life. Induction achieves intuitions by bringing facts before our eyes or, more literally—like arresting and dragging suspects into court to testify to a magistrate—the phenomena bear witness to what experience has to teach us. Induction is ἐναργέστερος more-vivid than demonstration (*Pri.* 68b37) and the deductive depends on the former.¹⁴⁸

¹⁴⁷ The ambiguity of the translation of συντείνει [sunteinei] ranges from conduce, draw-together, strain, intensify, contribute and converge. In all cases, it seems to signify a focalizing concentration of a growing multiplicity. Plato uses τείνω verbs to refer to the intensity of human action and intentionality, such as, “I spoke with too great intensity [ἐντεινόμενος]” (*Rep.* 536c); or, when Socrates is detailing the analogy between the organization of the body and a well governed city, he says that the parts stretch out to be integrated by the soul; 462c, so that, in a well ordered city, all the members “tend [τείνοντες] to the same goal”; 464d. Intensity, in this sense, is conceived on the basis of concentration, effort, and tendency in the soul. Furthermore, it is a concentration which is developmental and so both embodied and psychological.

¹⁴⁸ We find a similar treatment of the inductive process in Hippocrates’ *Precepts* section 1, which says that the medical art must make use of “experience combined with reason. For a theory is a composite memory of things apprehended with sense-perception. For the sense-perception, coming first in experience and conveying to the intellect the things subjected to it, is clearly imaged [ἐφαντασιώθη...ἐναργέως], and the intellect, receiving these

The principles “come to rest” in the soul after, by experiencing many different instances, something *evidently displays* the underlying nature (*Post.* 2.19). This could happen in the observation of the drying up of sap, in the physiological changes which accompany emotions, or in the acts of the soul itself (*Prob.* 18). What is evident is not what appears immediately, but what only appears over time, by careful observation, when memory collects many unique moments together and we find the hidden thread connecting the changes.

Nature as a principle is responsible for engendering and giving direction to the motions or changes which grow-together and preserve the integrity of the individual. The inner nature is what induction must discover. Aristotle said that, while syllogisms through the middle term (demonstrative) are “prior and more knowable” the inductive is more *evident* to us (*Pri.* 68b37). This declaration mirrors the alternation between particular and universal, and the race-course that runs first towards and then away from the judges (*Nic.* 1.5 1094b). Principles are *evident in* particulars discovered in experience, but they are still jumbled or poured together (*Phy.* 1.1 184a23). The human body for instance appears to be healing and growing itself, it evidently acts according to principles, but the evidence showing this inner-principle *at-work* are not yet understood in terms of its component causes (the three principles, matter-form-privation, or the four causes matter-form-motion-end). Discursive thought considers the entity in relation to causes known through demonstrative knowledge, but this knowledge is necessarily dependent on the sensible intuition collected in experience as *evidence*. An intensification of evidence emerges from observation of many “witnesses”, from which the principles come to stand (episteme) in the soul. While there is a difference in kind between demonstrative knowledge and experience, there

things many times, noting the occasion, the time and the manner, stores them up in itself and remembers... So we must conceive of our nature as being stirred and instructed under compulsion by the great variety of things ; and the intellect, as I have said, taking over from nature the impressions, leads us afterwards into truth.”

are in fact differences of degree of vividness in experience, just as there are certainly degrees of activity which describes the intensity of perception or effort respectively. Experience as observation, is an effort of perception or perceptive effort.

How do the principles of the soul itself—I mean the fundamental ones which needed to be named; *energeia* and *entelecheia* —come to rest, to take a stand in the soul? If we take the “synoptic analogy [τὸ ἀνάλογον συνορᾶν]” of *Meta.* 9.6 (1048a35-b8) which proceeds by induction, which establishes the priority of *energeia* (with respect to ways of being) we find that it is made clear (δῆλον) by intuition. We can catch a glimpse of it in the action unfolding in thought. Aristotle draws an analogy by assembling witnesses from a heterogeneous assortment of natural relations involving activity. The differences should not be collapsed, as he says, “things are said to be actively, not in the same ways but analogously.” (1048b5). Indeed, we find a great deal of difference among the examples given:

what is building in relation to what is capable of building, and what is awake in relation to what is asleep, and what is seeing in relation to what has its eyes closed but has sight [τὸ ὄρων πρὸς τὸ μῦον μὲν ὄψιν δὲ ἔχον], and what has been shaped out of matter is in relation to the matter [τὸ ἀποκεκριμένον ἐκ τῆς ὕλης πρὸς τὴν ὕλην], and what has been completely worked out is related to the something left unworked [τὸ ἀπειργασμένον πρὸς τὸ ἀνέργαστον]. *Metaphysics* 1048a36-b4 my translation.

The relation is both the same and different in each case. Builders do not innately have their art, it must be acquired, while all animals have alternating periods of sleeping and waking. Seeing and having eyes shut is not the same as sleep, although the eyes are closed in sleep. One does not stop or start having the ability to see by closing the eyes, though it does stop being used. So, these are not the same; they each imply different temporal relations. Nevertheless, these three encompass the sensible intuition: how it is *dunamei*, *energeia*, and *entelecheia*. A builder feels their *ability* to build as really existing; the open eye which is seeing is really *at-work*; sleep is a preserving of the soul in which it endures by “*holding-itself-completely*”. These three distinct ways of being dynamically exist evidently in the immediate givens of our sensible intuition: we

know them by living them. The difference is stretched even further by relating matter to the finished product of an operation of working or making. In artistic production, something is either fully-worked-out, or it is something left idle, unworked. The unworked is *able* to be worked, it has power. Thus, we see that the *dynamic*, *energetic*, and *entelecheic* senses of being temporalize reality in a variety of different ways all of which are implicated in the temporalization of the soul. Analogy presents being in a way that is irreducible to quantity or concept. Furthermore, the analogy is not a way of reduction, subtraction or diminution, but of gathering, collecting, and intensifying the differences and perceiving them all together as a mixed ensemble.

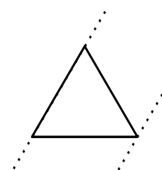
We are presented with another set of opposing terms describing the dynamic sense of being in *Met.* 5.7 which exemplifies this irreducibility in analogy:

we say both of what potentially [δυνάμει] sees and of what actually [ἐντελεχείᾳ] sees that it is ‘a seeing’ [ὁρῶν] and, in the same way, both of what is able to use its scientific knowledge and of what is using it that is ‘a scientific knowing’ [τὸ ἐπίστασθαι], and both of what has already begun to rest [ὃ ἤδη ὑπάρχει] and what is capable of resting [τὸ δυνάμενον ἡρεμεῖν] that it rests. Similarly too in the case of substances. For we say that Hermes ‘*is* in the stone,’ and that half the line ‘*is* in the line,’ and of what is not yet ripe ἄδρὸν that ‘it is grain.’ [σῖτον] *Metaphysics* 1017b1-8.

In each case we have a pair of terms that mutually displace one another and therefore cannot be coexisting together in the same part in the same way at the same time. But the value of the relata is not the same in each case. This matter which can be made into a statue is not the same as closed eyes. They have different temporal and developmental implication. But in each case what we have is a dynamic relationship which entails certain consequences. The analogy brings together differences and the convergence of them all in an intuition discloses an irreducible temporal depth of dynamic being which operates by sensible and aesthetic intuitions in a variety of ways at different times.

The intellectual intuition, such as of a mathematical truth, also works by “collecting” but involves a unique activity of thought in each particular construction. Aristotle tells us that “schemata are devised actively [εὐρίσκεται δὲ καὶ τὰ διαγράμματα ἐνεργείᾳ]” (1051a23 *my*

translation) and this activity is productive of “distinguishing [διαίροντες]”, and Aristotle adds, that if the schema had already been distinguished, then it would have already been evident [φανερὰ] (1051a24). But this doesn’t become evident until the diagrams have been drawn and actively distinguished, and thus for one who has already acted in this way, distinguishing, then it will be “immediately clear on seeing it.” (1051a27). But it is not immediate during the activity of constructing the figure and distinguishing its parts. This intellectual energy consists in the work of distinguishing each part, and then grasping them as a whole. The whole is not merely a juxtaposition of the parts, it must be an integration of the parts as interpenetrating and reciprocally dependent in a single principle. It is the cooperation of parts which form a whole that makes evident the principle as a unity of operation ordering the multiplicity—a directive or generative idea. So, Aristotle asks, “why are the interior angles of the triangle equal to two right angles?” The answer to the question, on the one hand, is that it is produced in the work of devising or inventing, by which a schema is distinguished or articulated. But the insight is not the process, it is what the process discloses, i.e. the unity of the parts all working together. The insight probably won’t emerge on our first attempt, we will have to practice the construction and it will become clear only after we think it through a few times. At any rate, it is only by going and constructing the diagram for ourselves, distinguish the parts, and letting the relations emerge together so that we see how its inner angles *necessarily* equal two right angles in principle. We see this necessity “because the angles around one point are equal to two right angles. If the line had already been drawn upward parallel to the side, why this is so would be immediately clear on seeing it.” (1051a27). The proof which he is referring to can be found in Euclid’s *Elements* 1.32. By actively drawing the parallel line which acts as the boundary of the angle, we see clearly how the angles will always be equal to



two right angles. The student in geometry will need to draw several different triangles in order to see how it applies in every case. But they need not see every triangle, of which there are an infinite number. Equilateral and scalene look very different and it is not immediately obvious how they are constructed by the same generative idea. The operative principle is discovered in being actively employed in distinguishing the different parts of each scheme. It is not just that we know it must be true because of the demonstration, but that rather a fact of it becoming immediately evident in each particular case once the principle is discovered. After having constructed the whole diagram, *manifesting-in-work* the *triangular-constructing-activity* of distinguishing, we acquire an integral or generative idea of triangular construction. The “complete picture” is more than a diagram, it involves a whole series of schematizations and operations by which thought moves within the idea. Having not only traced the lines, but underlined them with insight into the relations they hold together as a whole, the “why” will be “clearly [δῆλον] seen [ιδόντι] by the one who beholds [εἰδóτι].” (1051a28). This is because the principle has come to stand in the soul.

What this examination of the process of thinking reveals is a developmental way that thought is gradually constructed by a subordinate series of actualizations in which the powers of earlier moments are preserved and put to work in a new way in later stages. To put it bluntly in terms of fabrication; the schematizing activity brings about a “matter” which is then ready at hand to be put to work in thought. This is a theme Aristotle returns to again and again, that some prior knowledge is required which will play the role of matter for new thoughts to be produced. The power to immediately understand an infinite number of different particular figures is discovered or invented [εὐρίσκεται] by enacting them.¹⁴⁹ Thus, the soul harbors and sustains the

¹⁴⁹ On the sense of εὐρίσκειν as invention, see *Poe.* 1453b25.

powers which it acquires and develops my learning: its production and continuation are dynamic. The idea containing this infinity of possible constructions is indeterminate insofar as it can produce the plurality of cases using the same law of generation. But the idea is not indeterminate insofar as we have insight into the principle as the operation; the infinite is an indivisible integral. The thought grasps not only the parts (points, lines, angles) nor merely the assemblage of them as a totality of relations given in a particular figure, nor again the image in which the parallel line appear as drawn, but rather, in a way, grasps all possible triangles. It is not a thought that is divided, distinguished, or actualized in any determinate figure. It is not a generality but rather a directive idea which engenders the activity of thought.

The *work* of the soul is an operation of informing multiplicity. The human soul unifies multiplicity in perception, imagination, habit, language and virtue. Finally, philosophy focalizes the many senses of being; the diversity of causes; or the indeterminacy of pre-existing knowledge, into their formal, integral unity in concrete individuals. *Energeia*, after having been brought to light in the detailed observation of many different peculiar cases, thereupon shines brightly in the intellect, and illuminates the many ways that dynamic, vivid unities emerge from multiplicity by the work or *energy* of the soul—a spiritual energy. The dynamic sense of being is thus, above all, psychological and an expression of effort *πνεῖν* (*Nic.* 1138b28). Since even truth is only a contributing part of the activity of *nous* in human life, or what he calls the active-states of disclosing truth (*Nic.* 1139b13) truth is understood entirely in relation to the activity of the soul—as an energy going to work in order to *uncover* truth.

No doubt there are thresholds which an intensification reaches: a point at which we grasp the principle, at which a skill is mastered, or a virtue is acquired. This does not, however, mean that the knowledge, skill or virtue is static and no longer involved in intensity or movement. Yes,

one is either just or unjust, loving or not loving, but this is not way is determinate in their existence. We approach the threshold gradually by passing through many intermediate stages of development. Later, when exercised by a possessor, this still implies the intensification as a pre-condition, and one must rise again, now with ease and pleasure, to act with that same degree of tension. The effort becomes less burdensome but the energy is the same. In practical life, virtue is not a static state, we rise again and aim for the mean between excess and deficiency. We remain in a relative, logical perspective on virtue if we say it is not a matter of intensification.

The Intensity of Life

Life is self-expressive, for Aristotle, either spontaneously as desire or by deliberate choice προαίρεσις—but is it by the later that life comes to know itself more intensely. “living in its governing sense appears to be perceiving and thinking.” (1170a20 *Sachs’ translation*). We feel a continuous push of life, both as an interior-force of which we ourselves are the source and also its resulting movements. Aristotle touches on the duplicity of life’s vital push in *Nic.* 9.9 saying that Life is an activity whose exercise is somehow aware of itself.

[I]f one who sees is aware [αἰσθάνεται] that he sees, and one who hears that he hears, and one who walks that he walks, and similarly in the other cases there is something in us that is aware [αἰσθανόμενον] that we are at-work [ἐνεργοῦμεν], so that whenever we perceive we are aware that we perceive [αἰσθανόμεθα, ὅτι αἰσθανόμεθα] and whenever we think we are aware that we think, and if being aware that we are perceiving or thinking is being aware that we are [ἔσμεν] (since our being [τὸ εἶναι ἡν] is perceiving or thinking), and being aware [αἰσθάνεσθαι] that we are alive [ζῆν] is something pleasant in itself[.] *Nic.* 1170a27-35 *my modification of Sachs’ translation*.

This self-awareness is not a complete transparency in which the self thinks itself as a clear and distinct concept. It is not a static object which we are aware of but a continuously intensifying tendency. It is an obscure urge which we feel by living it. This is what we should see within his term wakefulness ἐγρηγορὸς, meaning both to awaken-oneself (like the middle voice) and to be aroused or stirred (passivity). Wakefulness implies an auto-affection of both vivid awareness of sensation as well as the vivacity of motricity κινητικόν—as being an interior source

of motion (*Sleep*. 455a17). Wakefulness is the self-awareness and mobility of the common sense faculty as something all the senses share together, as well as with the motor organs (EMA 449, as a convergence to the heart). It is somehow rooted in touch, and touch for Aristotle is almost synonymous with perception itself.¹⁵⁰ And yet the common sense is not in the skin, but we are told it resides in the heart. And yet, it is not really “in” the heart or the skin or any single organ,

¹⁵⁰ Above we examined the visual metaphors used in characterizing intuition in terms of light (sec. 1.1.1). There is a string of metaphors which runs counter to them which characterize intuition in terms of touch rather than sight. Below (sec. 2.4) I will examine the auditory paradigm relating to music. I cannot properly address the question of touch here, but I would like to briefly underline its involvement in metaphysical intuition and intellection. We could call this the ‘haptic model’ of intuition and thought. In Greek we have ἀπτός, ἀπτικός, σύναψις, θιγγάνω, λήψις, ὑπόληψις and even αἰρέω and ἔχω. In Latin we have *hensio*, *capio*, *cepts*, and *tenere*, from which we get *apprehend*, *perceive*, *discern*, *accept*, *retention* and *attention*, even a *tractatus* is a sort of dragging. Bergson employs many forms of *tenir* to describe duration, as well as *saisir*, meaning *seize*, *take*, *enter* and *know*. Something very similar is perhaps at play in Aristotle’s profuse and productive use of ἔχω, which his living, psychologically rich, invented term ἐντελέχεια builds on. A bodying *sustaining* and *holding* ἔχειν life potentially; *Cat.* 15b17-35; *Meta.* 1023a7; *DA.* 412a 13, 413b9, is a continuity; *Phy.* 227a9; *Hea.* 268a7; *GC.* 335a3; *Meta.* 1016a5, *holding-together* συνεχές heterogeneous parts which integrate as a whole. The potential parts participate or *hold-in-common* μετέχειν; *DA.* 413b8; *Rep.* 455d, and cooperate in the unity of the whole. The surface of the body is delimited by being contained by another body *holding-around* περιέχειν; *Phy.* 207b, 209b33, 211a. The Body resists the containing body and thus it occupies and *with-holds* κατέχειν a place of its own; *Phy.* 208b5; *Meta.* 1067a13. The living body has a soul and this *holds-itself-together-completely* and *sustains* itself as a sort of φνσέχην *sustaining-nature*; *Cratylus* 400a. The continuity of the living body is a higher form of continuity συνέχεια, a σύμφυσις *growing-together*. As we rise on the continuous developmental subordinate series ἐφεξῆς of psychical powers and works in human life; *DA* 414b29, *Phy.* 231b23, we come to various habits, active dispositions ἔξις; *Meta.* 1022b5; *Cat* 9a10, 12a 27; *NE* 1105b25. Attention προσέχειν focuses the soul, sustains its efforts through education *holding-to* the continued development of knowledge and virtue; *Rep.* 432b; *Rhe.* 1415b13; *NE.* 1099b20. Life is the continuous thread growing in power as it develops, intensifies, and guides itself more precisely, piloted ὀχεῖ; *Cratylus* 400b, and sustained by its own inner-sources. It is made complete by a gradual integration rather than by being a finished artifact or static result. Thus, it endures uninterruptedly ἐνδεδεχής; *Rep.* 539d; *Mete.* 347a5; *GC.* 336a17. This principle is not simply matter, form, motricity, or finality, but all of these together concretely as a sort of ἐχονόη *noetic-directing* of the soul enduring, sustaining, and unfolding in duration; *Cratylus* 414c. *Entelecheia* highlights the whole continuity of psychical life integrating the multiplicity by amplification through convergence of the haptic model of intuition. Whitehead does something similar by taking *prehension* to designate the primary encounter of feelings. Building on this stem –*hension* I will draw out the thread of continuity linking phenomenological process of development in haptic intuition, from sensation to reflective consciousness, to intuition. *Prehension* is sensation as an active way of taking the encounter up as relevant. *Prehension* is not mere contact but involves a living adaptation. From *prehension* we rise to *apprehension* in which a heightened perception is obtained, i.e. *apperception*, as Leibniz called it. *Apprehension* has two sides, moving either towards abstract and static forms of recognition or towards *deprehension*, i.e. a discovery or catching sight of something concrete in intuition. When apprehension is mere recognition it is what we call *comprehension*. *Comprehension* grasps a concept as static and general. Thus, it involves an *inapprehension* because it has lost contact with the concrete. This intellectual *comprehension* is something *reprehensible*, and must be submitted to critique. It’s *reprehensible* due to the *preapprehension* by which thought takes hold of the present in terms of generalities based on the past. Metaphysics will involve the investigation of what permits of *intercomprehension*, i.e. what can or cannot be translated and communicated. *Prehension*, as the event of feeling, will retain an ineffable quality which is *incomprehensible* by the standards of language or calculation. Only through intuition, which seizes the integral beyond expression, can we touch reality.

(at least not in the way we now think of experiences as residing in the brain) it is rather an awareness *common* to the body having life and yet each part still contributes its own peculiar works (hands, ears, mouth, etc.). The common sense as a ruling sense is “that towards which the others are all drawn together [πρὸς ὃ συντείνει τὰλλα]” (455a35), which is also that through which they all grow in intensity by concentration and amplification of experience. Now, we can’t go into detail here on exactly how this works, but what should be underlined is that the wakefulness of the common sense is both active and passive, being both a source of movement and convergence of sensations (456a7). Appetite ὀρεξις has its seat in the center and is the place at which force is concentrated and directed (*Mov.* 703a5). Aristotle says it is well-grown [εὐφυῶς] to be mobile [κινητικόν] and supply strength [παρέχειν ἰσχύν] (703a17 *my modification of Nussbaum’s translation*). This inner force of life [ψυχικῆς] is an inborn [σύμφυτον] spirit [πνεῦμα] (703a14). It is the nature of this *pneuma* to be able [δύνασθαι] to expand [αὐξάνεσθαι, ἐκτεινομένη] and contract [συναγόμενα, συστέλλεσθαι] (703a20-2, 702b23-4). These movements are its primary works ἔργα (703a19). They correspond directly with an increase and decrease of forcefulness, an amplification or attenuation of mobile intensity. Thus, the embodied wakefulness of life is this intensification of this perceptive and mobile spiritual energy.

The forms of living things, as *energeia*, are not merely static shapes or states, but rather life is an intentionality which is gradually amplifying and growing in intensity. This “process” or “developmental” conception of *energeia*, as an unfolding intensity, is evident in the works of life.¹⁵¹ Aristotle coined the term *energeia* as a way of pointing to the mode of existence of things

¹⁵¹ By process, I don’t mean that *energeia* is a κίνησις, which changes from one form to another or alters its attributes ἀλλοίωσις. Instead, I am thinking of process in the sense of Whitehead. This interpretation is by and large in line with Polansky (1983), who says “these *energeiai* are active like motions, yet stable like the beings in the other categories, they may be said to straddle the distinction between being and becoming.” 168. I cannot enter into the question of “the passage” that has generated a great deal of scholarship; Burnyeat 2008. I do not think that the division between *kinesis* and *energeia* is so strong as to imply that *energeia* is static or an eternal present. The coexistence of perfect and present tense is not a linguistic “tense test” but rather indicates the way completeness and

themselves which have peculiar processes that are not random or chaotic but follow from inner-principles and these processes manifest in various works, the appearance of which shows the mark of being the work of the soul. We do not merely form a concept or abstract representation of this work, but know it intimately as an auto-affection of life on the basis of our own experience. We must bring about a vivid apprehension of living activity itself which we feel in our inner sense. *Energeia* refers to the enactment of a form. It is not a form floating in an incorporeal realm, nor grasped externally by being reduced to the predication of an attribute to a subject. It is a form of experience which makes the soul aware of its own power of acting, and it is on the basis of this *intensification* of self-awareness that *energeia* gathers its force in philosophical discourse as well. The self-evidence of the soul to itself in its activity is not a pure beholding of a concept present to consciousness. It involves an obscure and confused feeling of the growing power rising by passions or efforts, as a moving cause developing greater powers of action. This self-awareness is not exhausted in any particular act and so self-consciousness is not something possessed or conceived statically, but lived in a dynamic, self-temporalizing intentionality. Auto-affection therefore involves the diversity of life, motion, and a plurality of activities. It is thus also a hetero-affection insofar as it always involves the peculiar character of each act (and having its own pleasures). The “self-knowledge” it produces is not a conceptual or propositional knowledge, nor a transparent self-consciousness. It is, instead, a subtle knowledge that cannot be communicated, in the same way that experience cannot be communicated, but must be acquired by each of us from our own efforts to learn and develop. Thus, Aristotle says:

the truth [ἀληθές] in matters of action [πρακτικοῖς] must be discerned [ἀποδεκτέον] from works [ἔργων] and from life [βίου], since they are the determining thing [κύριον] in these matters. Thus, we must

becoming are able to be compatible in certain processes, namely, those which unfold from an internal causal principle. This coexistence maps better onto the way first and second actuality are both connected and different. There is an indivisibility and completeness to *being-at-work* while at the same time admitting of becoming and infinite variations. Rather than subtracting motion (broadly speaking) from *energeia*, we must find a more complete form of motion which is life itself which lives and has lived: ζῆ καὶ ἔζηκεν; Meta. 1048b27.

investigate the things that have been said [concerning happiness and virtue] by bringing them to the test of works and life, and we must accept them only if they sing-in-harmony [συνᾷδόντων] with these works [ἔργοις], while if they are out of tune διαφωνούντων one ought to consider them mere words [λόγους].
Nicomachean Ethics 1179a18-20 *my translation*.

Conclusion

We have seen the way intensity is involved in the dynamic progression of life for Aristotle. The sensory-motor activity of the living body and attention of the soul are closely interwoven with the very evidence by which philosophy can emerge, that is, experience. From the vivid enactment of effort, virtue, and knowledge, evidence is uncovered for the soul's energetic intensification. The life of the soul, in its essence, is a growing power to act in more and more precise and effective ways brought about by effort. The developmental progression of learning and growing in skill lead to freer and freer action. Intensity is the primary way in which Aristotle understood life, and we will never understand this if we do not participate in it and live it for ourselves, as an "immediate data", so to speak, of feeling. Life, for Aristotle, is nothing like a subject-predicate relation, but is an integral unity and qualitative multiplicity.

2.3 Bergson's Hylomnemonic Integrals of Experience

At the end of TFW Bergson gives a condensed phrasing which gathers together all the insights of that book into one in a phrase which anticipates the cone which would be the center point of *Matter and Memory*. “between the idea and the action, some hardly perceptible intermediate processes come in, the whole mass of which takes for us a form *sui generis*, which is called the feeling of effort. From the idea to the effort, from the effort to the act, the progress has been so continuous that we cannot say where the idea and the effort end, and where the act begins.” (TFW 211). This phrasing parallels exactly a line from his doctoral thesis “If we penetrate deeper into Aristotle’s innermost thoughts, we find that a very subtle principle underlies all his arguments, namely, that there is such a connection and continuity of matter and form that you cannot say where form begins and where matter ends.” (ASP 31 *my translation*). Thus Bergson adopted Aristotle’s deeper sense of continuity and hylomorphism in relation to effort and spiritual energy. He also applies this formulaic phrasing to memory saying “There comes a moment when the recollection thus brought down is capable of blending so well with the present perception that we cannot say where perception ends or where memory begins.” (MM 106). Bergson adopted a dynamic sense of hylomorphism which he had already developed by appealing to the experience of intensity and continuous multiplicity in TFW, in order to explain the difference between sensations, perception, and memory in *Matter and Memory*. In this section we will examine Bergson hylomorphic or hylomnemonic, conception of the relation of matter and memory which form an intimate continuity in experience. After underlining the key features we will be able to spell out the implicit parallels to Aristotelian hylomorphism.¹⁵² In both cases—and despite Bergson’s interpretation of a “metaphysical zero” (CE 327)—matter is

¹⁵² Bergson said that, for Aristotle, the body is more spiritual and soul more corporeal than for moderns; HTM 270.

treated as a positive reality, more akin to a *mens instantanae* (HIT 257) as an infinite number of infinitely small fluctuation which are traversed in an indivisible passage. Matter is not inert or simply instantaneous, but a flux, the enduring of which is analogous to inner duration (HIT 255). Aristotle's dynamic sense of concrete matter is an ingredient in nature with its own positive reality and powers of resistance (sec. 1.1.3).

Bergson's hylomnemonism is, as this name suggests, a relation between matter and memory. Now, between these two extremes Bergson will interpose a great deal of intermediaries, such as sensory-motor schema, perceptions, affections, habit, recognition, and consciousness. At bottom is not space or static, but an embodied power of action (human body), and says "Let us start, then, from this energy, as from the true principle: let us suppose that the body is a center of action (MM 228). This is to say that the body is something dynamic and that, in a sense, is a "process that is dynamic all the way down" as David Morris (2018) put it. Let's work our way up through them then as a suite of subordinate parts growing in continuous proportions.

Sensation and perception are different by degree rather than different in kind or nature (MM 37). Perception, and along with it the symbols, representations, and concepts of abstract thought, are only *diminutions* of sensation. Perception is not of a radically different order of existence and so we do not need to explain how it emerge out of something that it is completely unlike (as the epiphenomenalist does; MM 89; HIT 199). The diminution from sensible image to perceptual image provides Bergson an alternative approach to understanding the relation from the classical (Cartesian) opposition of quantity-exteriority-extension and quality-interiority-unextended (first and secondary qualities).¹⁵³ The passage from sensation to perception is, in a way, the passage from actuality to virtuality. Bergson defines the sensory image as being

¹⁵³ This is the "bifurcation of nature" as Whitehead called it, separating primary and secondary qualities; *Concept of Nature* chap. 2.

connected in an infinite web of necessity, every point being linked to every other point in the universe by reciprocal determination. Nothing in this plenum of images, called the “material universe”, can move or change without it having received the motion from another point and without propagating this motion to other points: everything acts and reacts. Bergson writes:

No metaphysics, no physics even, can escape this conclusion. Build up the universe with atoms: each of them is subject to the action, variable in quantity and quality according to the distance, exerted on it by all material atoms. Bring in Faraday's centers of force: the lines of force emitted in every direction from every center bring to bear upon each the influences of the whole material world. Call up the Leibnizian monads: each is the mirror of the universe. All philosophers, then, agree on this point. *Matter and Memory*, 36.

So for sensory images, they are not mere representations nor likenesses, they are *things* and they are caught up in the web of cause and effect with the whole of the material universe. Representations on the other hand are detached from this web of causality: what we perceive is not the thing which is acting and being acted upon, it is not the actual thing but is a virtual image. The perception is not, as we often assume in our everyday sense of the word, something which simply reports the present reality of the material world; perception is not a speculative contemplation of the reality of the external world. Perception, as Bergson repeats many times, is essentially geared towards action. By perception we anticipate the likely outcome of the movements being propagated through the sensible world. Perception discloses the possible influence of things on the body of the perceiver. Perception does not primarily show us what things are but rather what relation we can expect our body to have with them. We perceive what will *likely happen* rather than what's *already happening*. Perception cuts up the visual field making certain colored regions more than mere a “data” but a recognizable solid with predictable causal properties which we anticipate at the same moment that we recognize it.

Since the sensory image is a thing connected to everything else in a web of *actual* causes, the perceptual image, as a diminution, is one which traces only the *possible* connections which are of interest to the preservation of the body (as a center of action). In the incessant becoming of

the sensory world there is nothing more important or relevant than anything else, only gradations of acting more or less directly, no objects are cut out from the whole of experience (MM 196-201). In perception, on the other hand, there is *selection* and *extraction*. The plenum of the sensory world is divided up by the vital interest of the living being. The actuality of the material universe is a perpetual becoming of all the parts as a whole—a unison of becoming. The virtuality of a perceptual image removes almost all these relations and retains only an outline or vague sketch of a virtual action. This image is not actual, it does not act and react on others, but rather is an unrealized potency, like a habit which is not being exercised. It is a lure which we tend to follow because of its relevance to our wellbeing or desire. The material universe is always acting and being acted on, it is always already relating causally, always changing in a web of causes with the whole. To be is to act and nothing is held in check as a potency. If we supposed this to be reality, having no virtuality at all, no power, no anticipation, no indeterminacy, no preservation of the past, or irreversibility: then there can be no individuality or development. This is the material world for Bergson.

Bergson delimits this reality under the theory of pure-perception. The pure-perception is a sort of thought experiment which we are each supposed to undertake for ourselves in our own experience. This is to say that Bergson directs us, suggest to us, an intuition of actuality—pure actuality. Bergson will later direct us to an intuition of pure *virtuality* with the theory of pure-memory, and from the combination of the two his hylomorphism is formed. Starting with matter, he says “in pure perception we are actually placed outside ourselves; we touch the reality of the object in an immediate intuition.” (MM 75). This is admissible as a principle of his metaphysical psychology by virtue of having given back to matter its qualitative detail, as an ingredient given in experience. We are placed immediately in the flux of matter as a plenum of fluent *qualities*.

Now, this experiment is both a success and a failure. It succeeds in showing us that matter is qualitatively rich and given immediately by the fact of our lived embodiment. It fails because we are unable to experience this pure activity without the intervention of memory and virtuality. The pure perception reveals that, in the seemingly instantaneous apprehension of sensible quality, like the color red, we actually contract together billions of vibrations which unfold in succession (HIT 255). This vibrating mobile matter is a force or tendency rather than a solid and is analogous to our own inner duration (HIT 254, 265). We “perceive” qualities as static because memory has stepped in (Lawlor 2003 20). For Bergson, memory does not follow after perception, they are contemporaneous and perception is already an intervention of memory. Experience arises in the compound composed of matter and memory: the memory is the formal ingredient (ES 113), and generally speaking, is practical and geared to vital needs—the attention to life.

In experience, the continuous thread of memory (MM 69) gathers the infinite nuances of qualitative heterogeneity. All *experience* involve a share in memory which prolongs the past in the present as a continuity. Pure perception would disclose a perpetual flux and passage in which no two moments can be distinguished. One would be held in the rapture of pure becoming passing continuously through qualitative transformation without comparing any difference between a before and after. While pure memory, on the other hand, would be the integral preservation of an infinite number of past moment, each singular, impassible, irrevocable, and unrepeatable. Experience falls between these two as an intermediary mixture of them both. The intermediary mixture is a degree of tension and concentration of energy. Bergson uses this continuity to explain habit, consciousness, and recollection. This dynamic continuum between matter and memory is defined by a fundamental relation of being and becoming: the coexistence

of the settled past and the becoming of the present (Cf. Deleuze 1990 55). Experience *is* the dynamic relation or continuity between a virtual soul and actual body.

The virtual does not act, it is not active, not exercised, or deployed. We must not think of the virtual as something that is less *real* or as simply not existing. It is not a “possibility” which is identical to a certain finite action, but differing merely in the predication of its existence (CM 100). The virtual images of perception produce the symbolic or representational possibilities taken on this model. This does not mean that virtuality is equivalent with the representation or concept of a possibility. The virtual is not a concept of a possibility (PTC) whose existence is negated. Bergson, in an attempt to clear this up, referred to it as a relation between the real and the possible, in order to show its difference from the virtual and actual (CM 91-106). The problem of possible and real is, for Bergson, a false problem born of the cinematographical tendency, that can be avoided by appealing to the dynamic and temporal relation of virtual and actual. The central feature of Bergson’s alternative consists in the rejection of a certain hypothesis, or postulate: that *to be* means *to be present* to consciousness (See Lawlor 2003 39-43).¹⁵⁴ In place of this postulate, we must take existence to extend beyond the determination of being consciously perceived, just as sensation exceeds perception as part of the whole (MM 37) the integrals of experience and memory also exceed presentation.¹⁵⁵ Consciousness is limited by (1) the bodies proximity to its surroundings, revealing a small part of the vast universe (2) the

¹⁵⁴ “With regards to matters of experience...existence appears to imply two conditions taken together: (1) presentation in consciousness and (2) the logical or causal connection of that which is so presented with what precedes and with what follows.” MM 147.

¹⁵⁵ This postulate must be dismantled and virtuality will provide the means of escape. At the bottom of this postulate is the assumption that the existence each of these two realities (matter and memory) is dependent on their meeting in experience. The sensory-image, having qualitative heterogeneity is thought to *depend* on perception, and likewise psychological existence is thought to consist entirely in presence to consciousness. It is habit and practical thought which has ingrained this postulate in us, and it is thus only with great difficulty that we can overcome it. Utility functions as a sort of spotlight and anything falling outside its narrow beam is suppressed and, as it were, hidden behind a veil. We have a perception of an extremely limited portion of reality, cutting out everything that is irrelevant to our needs.

narrowing of attention that makes an extremely limited portion of ourselves present, selecting our memories and repressing the concrete self: a miniscule part of the vast details or the integral past appear in conscious reflection (MM 143; cf. Merleau-Ponty 2001 99-106).

The majority of existence is unconscious, exceeding its presence in consciousness and the obscurity of this unconscious existence is due to our attention to life rather than simple non-existence (MM 148). What this means is that the whole past, all of one's memories and habits exist, and we know that they exist, but we cannot have an *actual* conscious presentation of them all at once, and it is *completeness* which most characteristic of the virtual and integral past. Consciousness is always incomplete, both in its operation and its object. It is selective and eliminates details. Due to our practical interest, we are accustomed to relating the virtuality of memory and the bodies sensory-motor schema to the present with the goal of anticipating the future, but we never question the process itself by which this is accomplished. Within action—living it out by actively striving—we tend to be concerned solely with the present state of affairs as it relates to our possible actions. The totality of present physical conditions can easily be taken to be all that exists. It is a sort of natural conclusion to reach if one never breaks with habit. Bergson says “our unwillingness to conceive unconscious psychical states is due, above all, to the fact that we hold consciousness to be the essential property of psychical states: so a psychical state cannot, it seems, cease to be conscious without ceasing to exist.” (MM 141). Our possible actions are always already showing up, become manifest to us, by our engagement with the actual perception of things and in relation to our motricity. We are already absorbed in perceptions involving the vague awareness our virtual powers; the possible actions we can perform or the ways of being acted on that we can endure. The whole of experience is organized in relation to this energy of our body as a center of action (CM 228). Our attention seeks what is

easily understood and can be recognized instantaneously in the present. Thus we will naturally be lead to treat of consciousness itself on the basis of what is present in an instant. Here we come back to a cinematographical ontology. In order to escape it we must reject the hypothesis that to exist means to be present.

To start, we must replace the instantaneous with a flux or differential in the process of becoming. This will imply that the becoming is not a totality is not given all at once. But this is not enough, we must look to a more fundamental continuity that, while never PTC all at once, still involves an indivisible unity. The thread of memory is what makes experience continuous, without it we would have an infinite multiplicity of heterogeneous fluctuations without interpenetrating or intrinsic connection. Just as no two parts of a curve (sections chosen at random), can ever be superimposed one onto another (since each curves in a unique way at each different moment of development of the gradation); likewise no two degrees of the sensation of hot and cold can be superimposed on another to explain the sensation of change in temperature—it is never simply an arithmetical difference (TFW 68). We feel the temperature when memory gathers the before and after, integrates an infinite variation and feels it as a single value. “The qualitative heterogeneity of our successive perceptions of the universe result from the fact that each, in itself, extends over a certain depth of duration and that memory condenses in each an enormous multiplicity of vibrations which appear to us all at once, although they are successive.” (MM 69). The pure-perception is not a pure-sensation, it is not a coinciding with differentials themselves in the infinity of nuances and constant flux. No, instead the pure-perception, being a form of perception, is an intervention of memory, like a lightning bolt illuminating a landscape (MM 189; Lawlor 2003 25). It has an instantaneous value only by being the moment at which recognition of flux is achieved, at which point the sign has been selected and perceived. That

does not mean that anything is ever actually *instantaneous*, perception itself unfolds in the duration of the attention to life which is the *form* of experience.¹⁵⁶ Attention is fixed by practical intentionality on the signs (results of action) as evidence of the state of affairs in light of the vital importance. Take a simple example from practical motricity: I am walking to the door which I intend to exit and suddenly I notice the path is blocked by a chair. The chair is a *sign* indicating resistance to the intended action. The signs recognized in perception are symbolically finite, they point to one action. A chair may suggest several different actions, in that case it is a sign in several different senses. The sign is a call to action. Even the sign itself cannot be understood in terms of PTC alone: it involves a *force of suggestion* as a call to action (HIT 39, 53). Habit propels us naturally to accept a symbolic representation in substitution of the original dynamism.

Language—and the intelligence which enacts and experiences its unfolding—is initially and for the most part incapable of expressing dynamic continuity. After a baptism in concrete duration, language undergoes the rites of initiation by which it is forced to recollect the dynamic progress and energetically follows a *suggestion* of an immanence within intensity (integrals of experience). The intuition emerges by an *evocation* or conjuration of a scarcely perceptible phantom, as if passing between realms, a monstrous quasi-presence or apparition. Language is no longer attributing actions to subjects, but is haunted by suggestions and insinuations which communicate no information but rather excite and inspire one to feel an auto-affection. Language

¹⁵⁶ Bergson considers the Kantian hylomorphism (of space and time as forms of intuition) to be unsatisfactory. Bergson denies the “metaphysical zero” of empty space, an intensity=0, as simply a negation implied by substitution (see *Anticipations of Perception*). Bergson escapes the problems of space by relegating them to the realm of utility. Space and extension can imply all sorts of false problems and contradiction—insoluble metaphysical problems—but spatializing, quantifying, fixing concepts, symbolizing, etc., all retain an obvious utility. Thus the objectivity of the Kantian synthesis of apperception is *practical* rather than *speculative*, and empty space as the “form” experience is nothing but mental abstraction and diminution which presupposes concrete duration. If we don’t want to say that Bergson has a “hylomorphic” conception of experience, because we wish to distinguish his from Kant’s, we can say instead that Bergson has a *hylo-mnemonism* of experience. Unlike Kant’s experience which produces intellectual judgments, Bergson’s hylomnemonism applies to feeling, emotion, and psychical life more generally. The compound of matter and memory is much more akin to the hylomorphism of Aristotle’s psychology. The life of the soul is dynamic and energetic; a continuity and development.

is not simply the tools used for describing and accounting, but an *incantation*, as Merleau-Ponty called it,¹⁵⁷ by which the words become organized and animated with a life of their own. Such language is successful not when the listener understands, but when there is a feeling of sympathy. This incantation awakens one's own sense of effort and we experience the intensity of our own duration.

Poetic power puts language to use in an altogether new way in metaphysics since, unlike poetry, its procedure is not merely using vivid imagery to make the story come to life, but to seeks to understand this "coming to life" itself. The poet exploits our inner sensitivity and passions, tugs on our heart strings. Their rhythm hypnotizes us, the charming language places us under a spell in which we dream up whatever they ask us to, and our imagination eventually conspires with every suggestion. It is in this way that they craftily manipulate us into the illusion these events transpiring actually matter. Once we accept them and invest our attention in being concerned for them, we are captivated by the thoughts and feelings of the characters. The poetic incantation uses illusion to provoke auto-affections of sympathy. Metaphysics, on the other hand, must also be attempting to awaken consciousness from its slumber and torpidity. Consciousness involves the repression of irrelevance in a contraction of importance which organizes memories by excluding many details. The arising of a thought, conception, implies that many other thoughts and memories lay asleep. The infinity of details which make up the integral past of the concrete self are obscured—just as the inexhaustible detail of sensible intuition needs to be rediscovered by the painter. *The artist places us in a dream, the philosopher installs us in concrete duration.* Both of them interrupt our habits, distract us from our attention to life, but the philosopher does this for its own sake. The artist distracts us from our own desires and convinces

¹⁵⁷ See Merleau-Ponty 2001 99, 110. This mode of language will not have the truth of impersonal objectivity but draws evidence by an appeal to experience. Its truth emerges in being lived.

us to place ourselves in the feelings and concerns unfolding in their narrative. The philosopher does not place us in a narrative but makes us rediscover the “prehuman link” between instinct as a spontaneous push of life and the intellect as a knowledge that is cut off from life (Merleau-Ponty 2001 110). So metaphysics installs us in the concrete duration of individual life where every effort and passion is *sui generis* and ineffable. It also brings to life the complex inter-relationality which the intellect can discern the parts of as inscribed in the passing occurrence. Metaphysics still needs intelligence—an intellectual effort performing integrations, and an ingenuity and skill at disarming our habitual tendencies. MM is above all an attempt to remove the veil of habit and bring us back to the pre-linguistic intensity of life and integral wholeness of memory.

The Cone

The form of experience is the hylomnemonic unity of intentionality (attention to life): the matter is the quasi-instantaneous flux (CM 89) of the entire material universe focused in on the body as a center of action and zone of indetermination (MM 32, 42). Ultimately intentionality and the attention to life are the work of memory, and properly speaking, it is memory which is the form of experience (ES 113). This is expressed diagrammatically by the inverted cone contacting a plane at its point. *The cone represents the continuity of matter and memory and explains the limits of conscious experience* (MM 150-170). The cone was chosen by Bergson for several reasons (Bagby 2020 9-12; Lawlor 2003, 43-51). Most notably because of its ability to represent unity and multiplicity in a continuous whole. This image is in fact borrowed from his interpretation of ancient Greek philosophy (ES 117-8).

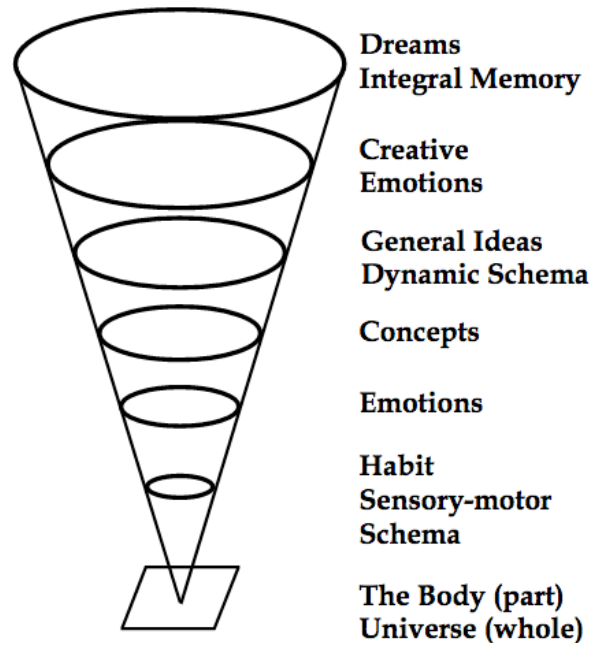
Bergson *inverts* the cone of Plotinus, for whom, according to Bergson, the point is the One and the base is multiplicity (HIT 229). In both version the middle region is where

consciousness occurs. Bergson makes use of Plotinus conception but transforms it. He retains the fact that it is meant to explain the relation of being to becoming and also in privileging the “height” (but gives this privileged position to the base instead of the point, and thus to multiplicity). “Being” with a capital B, is the integral past, as qualitative multiplicity, implying an infinity of details. This is the “heights” of the inverted cone, the soul in its least contracted form. Instead of a pure light radiating out from a single point and passing from unity to multiplicity, or being to becoming by diminution (HIT 219, 229), there is a convergence from the periphery to the center, from a detention of multiplicity into a contracted focus. The unity produced is not the abstract unity of the soul as subject, but the indivisibility of being and becoming in the continuity of concrete effort. Multiplicity collapses into unity by contracting itself into the “actuality” manifesting in the works of spiritual energy, as a realization gradually unrolling in duration. For Bergson the base is virtual, the point is actual.¹⁵⁸ The virtual potential of effort which has not yet passed into work, as with muscular effort, implies a degree of tension represented by an interposed plain on the cone. The whole of psychical life, like the whole cone, is not reducible to the point at which it terminates, this is only its most contracted moment. What Bergson called the concrete self (TFW 219, 231) is an effort which gathers the whole past into the actions it performs (thinking philosophically or creating art). The complexity and detail of the integral past passes through an infinity of diminution until it terminates in the body as pure becoming.

The continuity of the cone thus connects the activity of the body with all powers, forces, efforts, and activities of the soul; each represents a plane as contraction of spiritual energy. The point itself is the body as a center of action within the universe. Near the point, energy is so

¹⁵⁸ Derrida (1982) is wrong to say that “everything for him is actual” 62n36.

contracted that habit imitates mechanism. Rising up in *tension* we have emotions and affects. In the middle we find consciousness at work applying dynamic schema to images.¹⁵⁹ The dynamic schema are virtual organizations integrating a multiplicity of memories, converging them in a peculiar configuration so as to meet up with matter in order to solve a problem by inventing a solution (Lawlor 2019



70,76). The degree of complexity amplifies the intensity of the intellect effort and correspondingly great is the power of “moving” through representations which more and more complex schema make possible (ES 225). The middle section of the cone includes an infinite number of “planes of consciousness, a thousand integral and yet diverse repetitions of the whole of the experience through which we have lived.” (MM 241). Placed on a “plane of consciousness” we do not have a static image in mind. We are instead floating in a multiplicity of nascent suggestions of which memory is a power of both evoking and collecting (MM 228).

¹⁵⁹ See *Intellectual Effort*, published in ES 186-230; HTM 121-26. The middle region of the cone of consisting of “general ideas” is where consciousness reduces existence to presence. We do not think these general ideas like an image or concept, so much as think by means of them. We start from a general idea and produce representations having common relevance connecting the movements among representations (ES 202). Symbols, signs, representations, and concepts, make sense to us only because general ideas are already making them appear as relevant to begin with. This degree of psychic tension is somehow productive of both abstract cinematographic mechanisms and the dynamic scheme of invention (although the *attention to life* always ignores the dynamical elements, hiding them behind the veil of habit). Bergson find a complexly differentiated set of operations in this middle region involving concepts, attention, and interpretation (ES 210). It is somewhat surprising to see Bergson give such a positive account of the work of the intellect in his article *Intellectual Effort*; we find none of the “anti-intellectualism” of which Bergson was routinely accused. This is perhaps because Bergson was able to describe the work of intellect in a *dynamic* way, as a force of life. A mental effort is a living organization: “the very unity of life itself” (ES 225). In intellectual effort, the mind concentrates by a tendency towards a “mono-ideaism” which is not an abstract unity but a “directive idea” which focalizes complexity (ibid) and involves uniqueness which is *sui generis* (ES 219).

The dynamic schematization is not a static idea or clear and distant concept but a vague sketching which is capable of being filled out by memories and perceptions (Lawlor 2019 71, 85). They do not really “appear” at all, but we are aware of them vaguely, and yet somehow distinctly, or at least we suspect them capable of being immediately made clear by thinking through the representations which are folded into it.¹⁶⁰ Nearest to the base will be acts like invention and creative emotions which arise from their proximity to the inattentiveness to life of pure dream (ES 150). A creative emotion, if sustained by effort, will be very personal, integrating a great deal of memories, nuances, details. A great composer or poet will make use of the complexity of the concrete self—as in dreams we seem to draw from an unlimited supply of creative inspiration (ES 128).

Subtle, Inventive, Creative Intelligence

The intellect is thus, for Bergson, not wholly “bad” but rather its tendency, being the same as that of habit and life, is to attach our attention to the products it derives (symbols and concepts) and to hide both the process of derivation and the original duration in which it arose. Bergson’s investigation of intellectual effort uncovers a flexible, graceful intellect which moves in curves (ES 209). He shows us the integral side of intellect. This dynamic face of the intellect, involving dynamic schema, is opposed to the fixity of an image or PTC. The scheme is “in an open state, what the image is in a closed state.” (ES 227 *my translation*). The open, dynamic scheme is not something PTC like the image, it is elastic and mobile, its contours are not fixed (ES 214); it’s a composition of forces (ES 198) and orchestration of movements.

¹⁶⁰ On a particular plane of consciousness, we gather relevant experiences and the whole past is graded in relevance and progressively more is ignored as we tighten and contract down into the point of pure becoming. For example: to someone with a mastery knowledge of the scales and rhythms used in a genre of music, there will be a corresponding degree of tension that integrates all the memories on which they will draw when they go to explain anything relevant to the topic. There will be an infinite number of possible integrations of the past; MM 229.

In this text Bergson is very close to Aristotle. The title borrows the word *energie* from Aristotle's neologism, and it is clear that he takes this spiritual energy as something irreducible to the kinetic and potential energy of science (TFW 149-54; ES 99). Unlike mechanical conservation of energy, living energy involves storing up of greater and greater *virtuality*, in a zone of indetermination. It is the energy of effort, connecting the past to the future, which increases its own intensity by concentration and tension (ES 22). In psychical energy there is not a conservation of a quantity of energy, but a preserving and enduring of past time (TFW 253). This energy becomes "swollen by the whole of its past" (*ibid.*). Spiritual energy grows in intensity, evolves into novel forms, and becomes inventive. Thus, just as hylomorphism was Aristotle's central theory of causality, to for Bergson, spiritual energy is a principle of causality.

Bergson appears to have adopted an Aristotelian insight regarding attention and intellectual effort: that it is a convergence, focalization, and analogy (ES 9, 22, 195, 201). A similar procedure is followed in L, where Bergson proceeds by analogy to describe the difference between the vital activity of the living body and the mechanical, inert resistance of matter (L 49). His phrasing is palpably Aristotelian saying, life is the "ever-alert activity of a principle always at work" (*ibid.*). He uses this analogy to ground his definition of comedy as "something mechanical encrusted on the living" (*ibid.*). The mere suggestion of life being tied up in mechanism and having a material crust, is identified as a source of comical effects. We must sympathize with interiority in order for this suggestion to appeal to us. Bergson defines this evocation of sympathy in relation to grace; we laugh at the rigidity of a living body which lacks grace (L 29). Grace is the manifestation of the "effort of a soul which is shaping matter, a soul which is infinitely supple and perpetually in motion...this soul imparts a portion of its winged lightness to the body it animates" (L 28). We thus reason by analogy when we sympathize with

the inner life which is suggested to us in grace or comedy. “[W]e interpret...only by analogy with what we have ourselves experienced.” (L 166). When he analysis wittiness [*spiritual*] and wit [*esprit*] (L 104-6) one cannot help but to see a striking parallel to Aristotle’s analysis of *asteia*, the technique of “placing before the eyes,” and metaphor by analogy (sec 2.2). Both involve a sort of gracefulness in language, a facility for shaping language.¹⁶¹ And Bergson himself uses variations of Aristotle’s phrase “place before the eyes” at several points (L 163, 27, 30, 36, 44, 50, 122), and adopts the same emphasis on evocation and sympathy which we found in the *Poe.* and *Rhe.* Reading L with this in mind, it is almost as if Bergson is rewriting Aristotle’s missing part of the *Poe.* which deals with comedy. I would go so far as to hazard that *L’energie Spirituelle* is almost a rewrite of Aristotle’s *Parva Naturalia*,¹⁶² investigating the

¹⁶¹ A similar account can be found in Bergson’s early text *On Politeness*.

¹⁶² In Aristotle’s short and enigmatic text *Mem.*, we find Aristotle describes a sort of dynamic schematization guiding movements among images in the soul. The process of searching for a memory is a process of recollection; 451b10-452b7. A person sets in motion many things of different sorts until one comes about that is related to the thing that they intended to remember. Now, we can’t get into the details of this process now, but there is one striking similarity which we want to point out. In explain this process Aristotle says “for remembering [*μηνῆσθαι*] is the existence within of the power what sets the motion going, and this in such a way as to be set in motion out of oneself and those motions that one harbors [*ἔχει*]” 452a10-13 *my modification of Sachs’ translation*. Thus, *μηνῆσθαι* describes the potentialities that the soul harbors as principles by which motions emerge. This middle perfect form of the verb *μηνῆσκω*, meaning to remind, is difficult to translate into english. Aristotle at this point in the text has already employed many different verbs to describe diversity of aspects of memory and recollection.¹⁶² *Μεμνήσθαι* names the unique aspect of memory as tending to actualize itself as a potential to move itself in recollection. *Μεμνήσθαι* describes the enduring condition of *having* already oneself remembered. It is not a *process* but the cause of a process. It is not a feeling or experience of remembering, but a fact of having already remembered which is in potency. This *having* is the condition of recollection. We in fact already remember the thing which we search for. If we did not remember it the search would never begin. We remember it as *having already ourselves remembered*, even when we are not actively remembering or recollecting. We know that we remember something, but we don’t know what it is fully until after we have found it in a chain of recollections and remembered is actively. Now, *μηνῆσθαι* does not refer simply to an unconscious memory, but to a quasi-conscious power to move between memories in a chain of associations. That means *μηνῆσθαι* is irreducible to an image present to consciousness. It is a virtual tendency of which we are dimly aware of but that we do not conceive distinctly, or else we would never need to search. The potential movements which the soul believes it can and must make in order to remember, are initiated by the soul in the process of recollecting. Therefore I think it is incorrect to suppose, as Bloch (2007) does, that *μηνῆσθαι* is an image, but rather it is what make possible the movement between images in the retrieval of memories, it is a dynamic schema. It more closely resembles the unconscious preservation of first actuality than an activity of memory, which no doubt does involve an image. It is more like a dynamic scheme which we possess and which orders and organizes our chains of recollection, but is irreducible to those motions and images. While Aristotle’s and Bergson’s accounts of memory and recollection are by no means identical, they have this crucial commonality: thought and memory are not reducible to presence in consciousness and involve activities of intellect irreducible to language. Furthermore, Bergson’s distinction between habit memory and recollection (MM 77-84) has a precursor in Aristotle (*Mem.* 452a27).

community of body and soul dynamically, no doubt as if Aristotle were alive and knew what Bergson had found in science (CM 130).

MM implies a similar starting point to Aristotle's dynamic psychological hylomorphism (an auto-affection of the soul's energy) but its novelty appears to be Bergson's method which proceeds with the intension of reversing habit, dissipating symbols, critiquing the faculties of perception, thought, attention, and even memory, which is shaped by a practical orientation. Practical orientation is derivative and hides from us our integral self. Each effort is unique every action is singular, but habit tell us re repeat. Life appears routine, average, consistent, because we "do the same thing every time" and get the same results. We spontaneously believe that causality is impersonal and that we know ourselves in a simple conventional way by our name, or the way we look and the close we wear. Involuntary memory, the integral past, the concrete self all show that memory is not consumed by practical attention or the person who we present ourselves as socially. But according to Ravaissin's interpretation, Aristotle had already moved in this direction by basing metaphysics on the intuition of concrete individuals. Even the integral preservation of the past parallels Aristotle's "first *entelecheia*". Is knowledge, for the latter, not a preservation of memory to begin with? The tension and concentration of consciousness in the middle of the cone parallels Aristotle's deeper sense of *energeia* as a wakeful awareness.¹⁶³

There seems to be two senses of the word intellect in Bergson, one linked to art which is creative, dynamic, open, inventive, concrete; the other completely clouded by habit and symbols is derivative, static, closed, fixed, general. For Bergson, it seems that every moment of

¹⁶³ Bergson clearly also has Plotinus in mind in these texts as well, as lectures 12 and 13 of HIT make clear. We find all Bergson's favorite words to describe duration: sympathy; HIT 200, 202, unrolling; 207, attention, contraction, convergence; 204, dilation and elasticity; 230, multiplicity; 210, aspiration; 211, virtuality; 212, and even the cone; 229. Bergson followed Ravaissin in saying that Plotinus is more Aristotelian than Platonic, and there seems to be a common inspiration from all these and also Leibniz and Maine de Biran.

consciousness and life can be viewed as either an integral or a derivative, as a constitutive act or as the effect manifest to the interiority of experience. Bergson points to duration in which the integral and derivative coexist.

There is no doubt textual evidence to suppose that Aristotle had considered both of these as involved in the works of the soul, and that he had described a kind of integral of experience.¹⁶⁴ The binary alternative between relative (approximation) and absolute (concrete) knowledge is not so perspicuous in the case of aesthetics, and this can, I think, be extended to Bergson's metaphysics more generally. Intuition is an intellectual sympathy (HTM 28) and even if it arises by a leap into a new way of knowing, it does not thereby leave intellect, science, or the body behind. Intuition must go back and be tested and developed in conjunction with science (HTM 25). The problem here is that art is also something very ambivalent for Bergson, it is both continuous with habit and also opposed to habit. If it wasn't for the veil of habit, the superficiality of custom, or the generality of symbols there would be no need for art (L 150). The Artist must pull back the curtain, and unlearn the habits which hid the detail and complexity of both one's concrete self and the ineffable qualities of the natural world.

I look and I think I see, I listen and I think I hear, I examine myself and I think I am reading the very depths of my heart. But what I see and hear of the outer world is purely and simply a selection made by my senses to serve as a light to my conduct; what I know of myself is what comes to the surface, what participates in my actions. My senses and my consciousness, therefore, give me no more than a practical simplification of reality. *Laughter* 151.

We do not see the actual things but merely habitually "read the labels affixed to them." (L 153).

We see a tree rather than in ineffable singularity, a common place routine ordinary function rather than a unique moment, a generality of sadness rather than a *sui generis* nuance of

¹⁶⁴ We could perhaps consider the difference between προαίρεσις and διαίρεσις as the "two directions" of νοῦς. *Nous* is certainly intellectual for Aristotle, and in some cases, moves definitively in the direction of abstraction. But it is also intuitive, and cannot be reduced to the static eternal intellect which Bergson attacks as purely relative. See Baracchi 2008 who has gone into depth on this latitude in *nous*. The two direction could be described as, on the one hand, an intensification of multiplicity in concrete individuality and, on the other, a cutting up, simplifying, and abstracting.

psychological life with concrete significance. The artist brings out the subtleties and details of life (L 155).

There is always, between the process of philosophy and that of the artist, this capital, fundamental difference, that the artist, as Leonardo da Vinci says, always seeks to make individuals...instead of the philosophical, metaphysical intuition which relates to a whole category of things, to genres. The philosopher is not going to ask himself, assuming that the question had a meaning, what is the essence of this or that physiognomy and seek to give its intuition. But on the major problems, the problems of matter, of the organization of consciousness. On these great general problems are intuitions that the philosopher should seek above all, rather than the results of analysis. *History of the Theories of Memory* 23-24.

The philosopher is not an artist, their goal is not merely to bring things to life and stir up auto-affections, nor to captivate us with singular individuality. Nor, like science, is philosophy directed at the results of analysis. Rather, being at once an artist and a scientist, combining these processes and yet surpassing them in order to go beyond the limitations of each. Philosophy, in Bergson's sense, emerges in a suite integrating subordinate parts, the progress of which begins with experience of the concrete, dynamic, energetic ways of being. And yet we must, since philosophy is a form of knowledge, pass into some generality. Metaphysics must delimit a category of being (duration) and explicate its "essential attributes" (as Bergson does in IM). This intimate relation between intellect and intuition, and the continuity of developmental it implies, show us clearly the Aristotelian roots of Bergsonism.

2.4 Ode to The Music of Spirit

Most people will probably not find any music in the style of prose of the existing Aristotelian texts. Plato no doubt towers over Aristotle in terms of elegance and popularity of style, and this is no doubt partly a consequence of what texts happened to have been preserved. Aristotle has his moments of elegance, but a systematic formality remains—even to one reading the Greek, which will still come off as a bit dry, lifeless, and calcified. I do, however, think that when one considers the dynamic and energetic sense of being, there is life, complexity, subtlety, and even creativity to be found in Aristotelian philosophy. Despite how bad Aristotle’s technical writing is as poetry, some people will still find him somewhat clever, evocative, and perhaps poetic. It is by encountering his inventive, curious spirit—which is so characteristic of Aristotle—that one most easily *sympathizes* with him. As also from Leonardo—the scientist-artist-philosopher—we can draw inspiration from the works of an energetic and inquisitive spirit whose curiosity is itself a kind of music that we wish to imitate.¹⁶⁵ By tracking Aristotle’s ingenious use of language, one feels a subtle and singular personality behind the impersonal formulas, method, and doctrines. Behind ἐνέργεια and ἐντελέχεια we can sense a subtle, flexible intelligence which sought to name something so fundamental that no one had ever needed to speak of it. I believe that I have shown how both of these illustrious words describe a dynamic sense of being (as qualitative and continuous multiplicity) involving differentials, fluxions, and integrations. Since music was so central to Bergson’s conception of qualitative multiplicity, even from his first major work, written contemporaneously with his Latin thesis on Aristotle, we might end this study by asking: *What musicality is there in Aristotelian and Greek philosophy?*

¹⁶⁵ Paul Valéry was inspired by da Vinci’s mixing of art and intellect, “the spirit of finesse and the spirit of geometry.” Valéry 1972 78; and combined the opposed features of “the musicians of philosophy” with those comparable to architecture and system building; Valéry 1972 156.

But in order to answer this, we would have to, at the same time, recollect what is most fundamental about music for philosophy. In other words, *what powers or influences does music hold for understanding being?*

Take the *Prélude à l'après-midi d'un faune*, which evokes a sublime sense of *naturans*—burgeoning, blooming—the creative growth and spontaneity of life. By the graces of its manifestations we “might entertain the beauty all around us by deceitfully confusing it with that of our credulous song.”¹⁶⁶ A mixing of subject and object, of passion and action, creation and discovery, participation and acquisition. Awakening this “first urge” (*la ferveur première*), or original impetus, an *élan vital*, no doubt, ineffable but distinctly felt in the depths of its intimate striving. What is this effort of life? Its mere suggestion strikes me like a gust of wind, shocks me to my core by rapturous sentiments that become quickly clouded in the phantoms of vague memory, feelings, and fantasies. The power of its suggestion convinces me to adopt nascent efforts in changing directions as it dances forward. Just now it is blooming by a mysterious artifice, opening me to undertake, by naive ingenuity, to live it myself, in a progressively enriched feeling advancing out of itself into unforeseeable novelty. —the blossoming and darting flute, a sly evasive instrument. This flute even murmurs like water pouring out into a thicket of chords: a visible, serene, and calculated breath.

Where do these feelings come from? What are their sources and necessary conditions? *Nature? Memory? Love?* Or is it *Culture? Invention? Genius?* It is immediately evident that they do not come from mere intellectual recompositions of quantities, concepts, or by a juxtaposition of discrete elements. We can, and sometimes should, render music in an inert milieu; laid out in space as sheet music. It is practical, economical, industrious, and, can even be a vehicle for the

¹⁶⁶ Stéphane Mallarmé *L'après-midi d'un faune*.

propagation of creative emotions. This tool of exportation is not itself the origin of music.

Experience is no more built up of atomic sense data, reintegrated by the “processing computer” of the brain, than music is composed of individual sounds juxtaposed in succession. No! Music is living and has the integrity of life! Its *matter* is of course sounds, vibrations, and corporeal movements, but its *essence* is spiritual energy and its *moving cause* is passion and effort.

Schoenberg said as much: “[a] composer does not, of course, add bit by bit, as a child does in building with wooden blocks. He conceives an entire composition as a spontaneous vision. Then he proceeds, like Michelangelo who chiseled his Moses out of the marble without sketches, complete in every detail, thus directly forming his material” (Schoenberg 1967 1-2). Bergson also questioned the origin of music, and concluded that it is creative emotions which bring it into being. He distinguished creative emotions from an inferior model of emotions as “below intellect... [as a] mere disturbance following upon a representation.” (TS 252). Creative emotions, on the other hand, are “above intellect, which precedes the idea and is more than idea, but which would burst into ideas if, pure soul that it is, it chose to give itself a body.” (*ibid.*). The spiritual energy of a musical genius shows us this:

What is there more systematically architectonic, more reflectively elaborate, than a Beethoven symphony? But all through the labour of arranging, rearranging, selecting, carried out on the intellectual plane, the composer was turning back to a point situated outside that plane, in search of acceptance or refusal, of a lead, an inspiration; at that point there lurked an indivisible emotion which intelligence doubtless helped to unfold into music, but which was in itself something more than music and more than intelligence. *The Two Sources of Morality and Religion* 252.

It is laughable to try to talk about the genius of a composer in terms of atoms bumping into one another, just as it is to speak of love as a mere mechanism of genetics. A reductive logical interpretation of genre development in music renders invention as a mere replicating of past influences with random variations—without any reference to inspiration, invention, or effort. Certainly artists “put things together”, “synthesize”, and sometimes maybe even by

deliberate juxtapositions. They also draw material from predecessors and contemporaries. In truth, invention, for the artist, is often not a calculated process. Instead they might be overcome in an instant by the creative emotion as a whole, or as if falling into a delirium, one is installed in the mystery of the creative act itself by following an obscure passion. An idea always starts as a creative emotion and only later, by grace of movements tracing out and concretizing the curvature of its inflection and unique style, does it manifest in works of art. The vague and obscure causes can produce exceedingly technical and precise results. An artist might produce several different pieces from the same idea, feeling, or motives (as creative emotion). Here, effort is what is essential. The creative emotions must be used to propel the artist into production and a concrete effort will achieve the expressive form which they wish to produce. It is the effort to express the creative emotion which gives the work its peculiar qualities and concrete singularity.

Neither ideas or creative emotions can be collapsed into the individual artifacts they engender. Nevertheless these ideas, feelings, and creative emotions are suggested to us and, if we sympathize with a song, we will experience them. We are not merely experiencing the results but somehow, indirectly the cause which lies behind it—as with the signs of grace. This is why a song often feels both sad (as one might find a melody sounds sad despite perhaps having lyrics that don't explicitly describe sadness) and also feels as if the person who wrote it, or who performs it passionately, is sad. When we sing a sad song—which we imagine to be sung by a sad person and in a sad way—we adopt gradually this emotion and attitude. We produce its affective value and strive in prolonging the feeling which it suggests. We *sympathize* with the composer and we devote ourselves to embodying their inspiration and concrete effort, as if it were our own. We do not *know* their intent by confronting a transparent objective fact, but by

participating, conspiring, rejoicing, or mourning with it—we mold ourselves into being its maker.

An aesthetic intuition discloses, or at least suggests, the mobility of its production. We feel that a creative emotion motivated and directed its coming into being. We know this, not as an inert fact, but because we follow what it suggests and we feel the intensity of effort involved in producing and feeling it. The work does not *express* a concept (that is always the most superficial way of treating art, as signs signifying mental states). Rather it is a dynamic *suggestion*. The flute hypnotizes us by its charm, seducing us into imagining that we are playing along, chasing it and ultimately moving with it in the creative act through which it unfolds. It is the intuition of its grace; a sympathy with the effort and energy of another's soul. We rejoice or mourn, not because we identify attributes of a subject, but because we live those feeling intimately as if they were our own, and make them our own by participating in their efforts.

Léopold Sédar Senghor was deeply inspired by Bergson's TFW, which he called "the revolution 1889."¹⁶⁷ He wrote of an intuitive intelligence of rhythm that he identified as being at the heart of African culture and which he intended to make central to the Négritude movement. Headley describes this intuitive, rhythmic intelligence as *style*: "style that is not mechanical, style that is not the aggregate of discrete actions. Here we refer to style in the sense of being-in-groove such that there is a durational profile to both action and qualities of things."¹⁶⁸ Style is directed by a subtle intelligence and has the basic contours of Bergson's description of grace. Senghor's understanding of rhythm also makes it a fundamental mode of existence (as qualitative multiplicity). He describes it with elegantly winged-words:

What is rhythm? It is the architecture of being, the internal dynamism that give it form, the system of waves it gives off towards *Others*, the pure expression of vital force. Rhythm is the vibrating shock, the power

¹⁶⁷ Senghor 1970 181.

¹⁶⁸ Headley 2019 108.

which, through the senses, seizes us at the roots of our *Being*. It expresses itself through the most material and sensual means: lines surfaces, colors, and volumes in architecture, sculpture and painting; accents in poetry and music; movements in dance. But, in doing this, it organizes all this concreteness towards the light of *Spirit*. For the Negro African, it is insofar as it is incarnate in sensuality that rhythm illuminates Spirit. *L'esthétique négro-africaine* 211-12. Quoted from Headley 109.

Since rhythm is taken to be a fundamental mode of being, ontology is extended to an epistemology based on *sympathy* and *participation* which implicates the subject in the object which they think, feel, produce, or enact. There is an intimacy and intermingling between the subject experiencing and the object experienced. Headley aptly calls this a “reciprocal exchange of energy and influence.”¹⁶⁹ This is, of course, a description of qualitative multiplicity in which “several conscious states are organized into a whole, permeate one another, [and] gradually gain a richer content.” (TFW 122). This connection is so intimate that we will not be able to say where the perception or manifestation begins and where the effort ends. In dancing we embody the passions motivating us to move and the movements themselves are manifesting the motor-intentions but also are enriching its content which in turn increases the concentration of engagement. There is a gradually developing relation which unfolds in duration, rather than an object placed before a subject. If we try to place the entirety of the creative act in the artist, or of the appreciation in the subject, we would end up thinking that art expresses an idea, communicates a representation of something factual or fictional. The aesthetic experience is not one in which we merely recognize, interpret, or identify. It is one with which we fuse or unite production with product; we *sympathize*, *participate* and *conspire*. Rhythms are not heard but followed. We obey them until we catch the groove, dancing and eventually reinforcing it by stomping and clapping. Music, as an auto-affection, is the passionate embodied activity which exalts and rejoices in the creative energy of the soul itself. Thus, music is a nascent or embryonic philosophy of effort and energy.

¹⁶⁹ Ibid. 105.

Strophe: The Spirit of Energy in Ancient Greek Philosophy of Music

In this section I will further examine the role of intensity in the aesthetic feelings involved in music. I will draw on, and build off of, the above discussion of pleasure, auto affections, the inceptive character of the intensity and the hylomnemonic unity of experience. I will show that the intensification of the soul's energy in making music is the same as the intensity of life that we traced out in terms of qualitative multiplicity and integral experience. The phenomenological or lived sense of intensity, as an auto affection, is what provides the basis on which we can understand the nature of music. Inversely, music will help reinforce the dynamic and psychological senses of intensity. Finally, examining the connection of ethics and music, I will bring together the way intensifications are at the heart of Aristotle's philosophy of life.

There are many marvelous questions raised about music in the Aristotelian collection of texts called the *Problems* that appeal to the role of attention, sympathy, and degrees of intensity. "Why do many people singing together preserve the rhythm *better* than few?" (919a36). "Why do people listen with *more pleasure* to people singing melodies they happen to know beforehand, than if they do not know them?" (921a32). "Why do we listen with *greater pleasure* to a solo song, if one sings it to the accompaniment of a flute than a harp?" (922a). The problems examined draw up examples in which degrees of intensity of feeling are produced and sustained by participating in music. One proposed answer to the second question suggests that we listen with greater pleasure to someone singing a melody we are familiar with because we sympathize [συμπαθής] more, due to the fact that we sing-with [συνάδει] them, and we are told, everyone enjoys singing who is not forced to do it (921a36). The feeling of pleasure which arises in listening to music is thus identified as a participation that is *inceptive*—a free or voluntary

initiative undertaken and felt as an auto-affection. This parallels the account from *Nic.* 10.4 we examined above (sec 2.2), in which a flute player's attention becomes engrossed in listening to flute playing. Sympathy here involves participation and the greater degree of attention and participation, the greater the intensity of pleasure.

This proposed reason also echoes a principle laid down in Theophrastus text on melody. He wrote that “the movement productive of melody, which occurs around the soul is exceedingly accurate: when the soul wishes to articulate [ἐμμηνεύειν] it with vocal sounds, it directs the sounds...and it does so in accordance with what it wishes.” (Sicking 1998 101) The melody is a sign of the effort producing it which involves both the *want* and the *success* at steering its movements accurately (Barker 2004). Theophrastus tells us that it is by *leaving out* the notes which destroy the melody that its accuracy is achieved. If the intervening notes are heard, the melody is destroyed by the addition of what is not in tune (Sicking 1998 105). Theophrastus rejected the Pythagorean theory that melody arises merely from numbers and ratios. Instead it is due to the *selective accuracy* of the soul “there is only one thing that can be said to be the nature of music: the movement of the soul that occurs with a view to release from the evils due to the emotions. If it were not this, neither would the nature of music exist.” (Sicking 1998 106). Theophrastus therefore posited a qualitative and intensive rather than a *quantitative* underlying nature to musical expression. This qualitative approach makes effort and spiritual energy the fundamental element of musical expression. It is impossible to conceive of music, properly speaking, which is not an intimate participation of the subject in the object. A continuity between the passion and its satisfaction, the want and the accuracy with which it fulfills itself. The nature of melody is the growing and blossoming expressivity of the soul which acts in an adequate

manner to free itself from spiritual afflictions and affections by the pleasure that accompanies the effort which draws joy or consolation from its own free activity.

Another one of Aristotle's student, Aristoxenus, also made the intensity of psychical activity the principle of musical expression. He tells us unambiguously that the comprehension [ξύνεσις] of music is due to the activity of sense-perception *and* memory: "we must perceive the sound that is coming to be and remember that which is past. In no other way can we closely attend to [or keep company with, παρακολουθεῖν] the music." (Aristoxenus 1902 193 *translation modified*). This involves both hearing and thinking, so that "by the former we discern the magnitudes of the intervals, by the latter we contemplate the functions of the notes." (Aristoxenus 1902 189. *translation modified*). As Staufer explains, "the nature and value of music [for Aristoxenus] lie in the conscious perception of its sonorous patterns, not in the sonorities themselves." (Staufer 2018 35). This does not mean that it is purely cerebral. Training is required to develop the faculty of judgement εὖ κρίνειν "discerning well" (Aristoxenus 1902 33.20). Musical knowledge will remained tethered to the arts [τῶν τέκνων] as something which we have mastery of, πραγματεύονται, rather than a conceptual knowledge (Aristoxenus 1902. 33.21).¹⁷⁰ This training will, by intensifying the activity of perception, rise to accurate discernment (Aristoxenus 1902 33.10).

According to Sicking's (1998) commentary, it is possible, even likely, that Aristoxenus introduced the conception of δύναμις (*functions, powers, or forces*) in the second book of his *Elements of Harmony*, because he wanted to affirm his commitment to a qualitative-

¹⁷⁰ Aristoxenus employed an empirical method of observation to understanding melody but its data is not an external object, but is something that must be enacted and mastered. Thus, he calls it a mastery *pragmateia* πραγματεία which implies the concrete activity of doing what is known: it is *know-how*. The primary initiative taken to produce what will be enacted concretely with mastery for oneself πραγματεύεσθαι, (middle voice) one must delimit all the movements of voice that singing enacts, i.e. movement in place *Aristoxenus 1902 3.5-7*. This is a knowledge in which the subject and object are inseparable, and must be grasped in their temporalization. Melody is something *done* or performed and likewise the study of music is a mastery of concrete action *Aristoxenus 1902 165*.

psychological interpretation of melody. The *powers* are given in response to Theophrastus critique of quantity, in order to avoid the implication of equating music with the magnitude [μέγας] of perceived musical intervals. The values of notes in a melody—having a scale or mode which it moves through—are not merely “functions” of the ratios but rather of the perceivable quality that they have *musically*, that is, as organized deliberately. When we play the interval of a 5th it has a certain distinct consonance from which we tend to hear the tonic established by the lower note. If we play the 2nd and the 6th notes of the major scale after the 1 and 5, it will not sound like we merely repeated the same relation between two pairs of identical intervals. It will not “sound” like intervals but will sound like a melody. What we hear in the succession of the first three notes remains and gives a distinct characteristic to the 6th so that it is heard in relation to all three prior notes and in relation to the tonic.¹⁷¹ The notes rise and form an indivisible movement like a continuous curving, rising, falling, or leaping. A fugue is like an ambulatory line of sound. The gradual unfolding of sounds expresses a melodic relevance of the tones which are organized in their articulate movement. The δύναμις, value or power of each note is determined by the unique relations to the tonic and the series in which they are played. The feeling of the notes in succession involves a *power* as tendencies which the a continuity of expression suggests as if the passage to a note in the scale “wants” to resolve into others—

¹⁷¹ 1, 5, 2, 6 are the first notes of the memorable trumpet lead-in to the theme in John Williams score for *Jurassic Park*. The wandering notes of the opening line of Wagner’s *Tristan und Isolde* can also help us understand the “*dynamis*” of the notes. Each additional note seems to suggest a different key, it plays against our expectation. Here the artist makes a phenomenological or psychological problem explicit. We are listening to the music by expecting to place the notes in a fixed set of relations, generally called the scale or mode. As a listener we do not need to conceptually recognize the ratios or even what scale it is. We hear the unique character it suggests and follow its unity by anticipating the tonal consistency. A tension arises in the listener as we attempt to hear the melody in a key. A melody can be played using the same notes in accompaniment of C major or in A minor. This modulation, known as re-harmonization, makes the overall mood of the melody appear dramatically different. In C major it is happy, pleasant or energetic, while in A minor it is grave, stern, or sad. This can be exploited by additional modulations in playing technique, change of tempo, etc. The accompaniment sets the “mood” in which the melody expresses itself. The strange thing in *Tristan* is the ambiguity it forces us to undergo as we shift between moods that it suggests. The question in Wagner’s famous opening bars is whether or not the key actually is changing or if it has its own unique “modal” unity which is the modulation between keys and modes itself.

resolution or tension. A 4th suspended on a major chord “wants” to return to its concord of the third. A chord progression ending on the 5th “wants” to return to the 1st. With the patterns of melody, we come to expect its path by hearing them as ordered so that the movements can “set out” and “return”. Memory gathers the sense of harmonic consistency which arises in the production of the melody. Melody is a continuity composed of parts which exist in *potency* held in memory but in a more fundamental way of listening we feel the past subtly influencing our sense of the note we hear at the moment which in turn immediately motivates an anticipation. The sounds are heterogeneous but organized. They are akin to the integrative parts of animals and the melody to the developmental series of life. The value of a note outside the melody is more or less irrelevant to the value it has as composed in a melodic whole.

The active attention involved in listening to or making music involves a continuity. This continuity is not at all like a static quantity. There’s a peculiar form of continuity which defines melodic expression as Aristoxenus explains:

[i]t is not that one needs to pay attention to [intervals] coming to be from equal or unequal [magnitudes] in order to understand [the source of melodic] continuity, but to [pay attention to] the productive-nature [φύσιν] of melody and must attempt [πειρατέον] to attentively-observe [κατανοεῖν] and exert oneself enthusiastically [προθυμούμενον] to establish [τιθέναι] ‘what follows what’ by natural tendency in the vocalized intervals by song. Aristoxenus 1902 28.20-24 *my translation*.

Music comes about by the establishment of consecutive vocalizations, but it is not reducible to the consecutively analyzed notes as if taking each discretely. Instead following of each note by another is something which involves the continuity of the expressive effort. Again, as with Theophrastus the *nature* of melody is its productive cause, i.e. some psychological *initiative* and mobile *intentionality* with a *concrete form* that is *sui generis*. Aristoxenus starts with the act of signing itself as the *generative cause* from which his “elements” develop synthetically; his method advances by a training that involves both precision in sensitive discernment and subtle intelligence.

The sources of musical expression are consummated in the unified activity of a soul deliberately selecting and holding pitches with precision.¹⁷² The patterns chosen depend on the character and feelings which motivate its performance. The sounds are not discrete values but are rather the potential parts which, organized together, compose the integral intentionality of continuous expression. Aristoxenus warns that we will miss the fundamental nature of music entirely if we reduce it to either vibrations of air or numerical ratios. The essence of music, its nature, is that it is *suggestive* of character and wish, and arises from passion, effort, and spiritual energy. Good singing is skillful and the accuracy and intent are obviously sources of our enjoyment of an artist's performance. It is the precision of expression that marks great performers. And it is not the simply that we recognize the activity of a will, as a universal nor, *a fortiori*, does music make us think of the concept of will in general. We recognize the will in the concrete form it makes and as something inseparable from matter.

This qualitative interpretation of music was already implied in Socrates discussions of modes in *Rep.* 3, in which Doric is said to suggest a stern and tempered character while Lydian is relaxed, Mixolydian is tyrannical and lamenting etc., all of which are credited to the theory of

¹⁷² Musical apprehension involves “the coexistence [ἄμα] of something that remains [μένοντος] and something moving [κινουμένου]” (Aristoxenus 1902 33.30 *my translation*). The movement of a melody is not a continuous transformation of pitch but a move from note to note, resting at each pitch and leaping across an interval. A flute, for example, remains the same length with holes at fixed distances and yet there are variations and movements which arise by virtue of “the agencies employed in its production.” (Aristoxenus 1902 197). Aristoxenus delineates three kinds of continuity related to vocalization. First, a continuous movement in place τόπος, i.e. up or down in pitch like a *glissando* (Aristoxenus 1902 170). This movement alone is not melodic. Melody, as with Theophrastus, involves intervals which exclude the intervening pitches. The notes in a scale “stand” and “remain” when the voice holds the note for some duration. This is what preserves the integrity of the melody: *leaving out* the interval, being selective. The voice produces different pitches by tension (raising) and relaxation (lowering). But in melodic singing the movement of tightening or loosening are not sung, only the resulting movement which lands the voice on a fixed pitch is sung. In one sense melody is not continuous (in pitch) but rather leaps across intervals. But insofar as melody is something that is produced gradually and by a succession of pitches, it is continuous in the same way speech λέξει is, i.e. by following a natural order and growing the whole from a subordinate series of movements (Aristoxenus 1902 185). Speech uses changes of pitch semantically, like raising pitch signifies a question, or in accentuating syllables, but it does not do this by a deliberate *holding* of pitches. Speech fluctuates in pitch continuously, and if one holds a pitch the utterance becomes chanting or singing (Aristoxenus 1902 170).

Damon.¹⁷³ A mode somehow expresses the intensity and attitude of the character which enacts it. Aristotle reiterates this in the *Pol.* 8.7, which is mainly in agreement with *Rep.*, but gives an even more nuanced view in which Lydian plays a more prominent role (1342b23-35) and he emphasizes the healing and cathartic power of music (1342a10-17).

A guiding question is whether music should be used only as something merely listened to, or whether it must be taught—involving an active participation. Aristotle affirms that, the ability to judge musical performance depends on one having already engaged with or even mastered the arts, especially if they are to judge well (1340b15-40). It is on the basis of active participation that we must interpret the three “divisions made in some philosophers” (1341b34), which Aristotle is in agreement with. We should take them as three *tendencies*, each of which is essentially an intensity of spiritual energy: character [ἡθικά], concrete deliberate action [πρακτικά], enthusiasm [ἐνθουσιαστικά] (1341b35). His investigation moves between two extreme tendencies in music. On the one hand, as deliberate skillful action πρακτικά or inspiring and invigorating spirits [ἐνθουσιαστικός] (1340a13), on the other, a means of relaxation and amusement that releases tension (1342a1) and are *not* strenuous [σπουδαίων] (1339b18). The one extreme involves work, the other rest, but in both cases it is a matter of intensity or tension of psychical energy. One of Aristotle perhaps most interesting observations relates to the cleansing [καθαρτικά] and healing [ιατρείας] powers of music. This seems to imply an increase in tension giving way to a subsequent relaxation of energy: a trance like frenzy which then releases us from psychological/emotional afflictions. Aristotle said the *intensity* or *forcefulness* [ἰσχυρῶς] of passions in the soul is a source of purification, such as with enthusiasm [ἐνθουσιασμός], meaning both mystical frenzy and inspiration (1342a7). The listener undergoes

¹⁷³ On the difference between Theophrastus and Plato, see Sicking 1998 141.

an intense purging followed by a pleasure of relief (1342a15). He compares this enthusiasm to pity and fear (1342a7).¹⁷⁴ In this way, music is, for Aristotle, a dynamically progressing intensity of energy whose transformations bring about a qualitative evolution to the character of the soul, and the later stages interpenetrate with the prior in a global reintegration of the whole—a qualitative multiplicity.

Aristotle’s discussion of music in *Pol.* 8 also focused on the way the ethical effects of music arises in a *communing* [κοινωνεῖν] (1340a33, b24, 34) and by active *participation* [μετέχειν] (1339a17; 1340a3, b37). Music is an activity shared by members of a community and in which individuals join together in *producing* and *feeling* common pleasures—*sympathizing* (1340a3-13). A related set of questions arises in *Prob.* 19.27, which helps to make sense of this ethical and political dimension of music. The question is, how “even though melody is without words, [does] it nevertheless possesses ethical character[?]” (919b27) one proposed explanation given is that it *has* [ἔχει] movements in a different way from being passively *moved* by a sensible phenomenon (Cf. *Pol.* 1430a30). Unlike the movements of normal sensation, this movement has “a likeness to character” and is connected to concrete intentional actions [πρακτικαί], which are the signs of character (919b27-37). The ethical character of a melody is somehow reminiscent of the different dispositions, emotions, and attitudes which we sense to be producing them. These movements make us sympathize with modes of thinking, feeling, and acting. Melody or song [μέλο] is the vocalization of a spiritual energy at-work which both *has* and *makes evident* its character (920a5). The *work* of the soul intensifies and concentrates its attention in participation with the character, attitude, or intension of a concrete effort. We can sympathize with the joy or sadness by which the tune is sung. Furthermore, there is often a growing intensity of feeling in

¹⁷⁴ On the complexity of Aristotle’s treatment of the cathartic powers of music see Ferrari 2019.

the continuous expression, which progressively increases the richness of its contents. The results of these creative efforts are corporeal acts of signing or playing a melody. Not only is music ethical because it is a sign of the character directing and engendering its movements, but also because its suggestive power makes us both sympathize, imitate, and participate. This is of particular interest to Socrates in understanding the influence of musical education as part of habits and character development, which are conducive to philosophy. One who sings in a way which suggests the firm resolve of a courageous yet temperate spirit, will, by imitating a good character, become ready to be that way deliberately in the community. By singing these songs one is guided to fostering the character this music suggests. Lycurgus is fabled to have used music for this purpose in founding the Lacedaemonian constitution. Not only does music have the power to *suggest* a way of living, it also *fosters* and *reinforces* the peculiar attitudes, passions, and efforts of a way of living.

The indivisible unity or integrity of melodic production is explicable only by reference to the effort of the soul. Effort, here, refers to the continuous activity which is not accomplished all at once, but engages in an activity by constantly giving its attention to the details of its expressions and continuously participates in an integral unity, producing a global qualitative sense. A musical performance is a sign of careful attention and we sympathize with that attentive disposition and imitate it by listening closely to the notes they *choose*. We have a feeling of choice, of wish, and of effort—a delicate but deliberate spiritual energy that is alert and at work in manifesting its marvelous facility and ease at shaping matter.¹⁷⁵ The effect of music is not

¹⁷⁵ We might also feel sympathy at the apparent inability to play notes perfectly, as with the effects of glissando and vibrato, or the timbre of a raspy or whispering voice. The intensity of sympathy we feel is not simply what we would commonly mean by an intense person, or a particularly intense feeling. A “low intensity” of expression can be just as full of a reality; one can be swept away by minimal or atmospheric music. The *sui generis* form can be equally as definite in feeling and affects the whole soul.

simply the sympathetic feeling *that* someone is acting intentionally (effort in general) but *how* (concrete effort). We do not feel merely *that* the feeling is intense, but the intensity itself permeates its contents. This means that the intention is peculiar and has a *sui generis* character that we struggle to describe. In the same way we struggle to describe the difference between the taste of blueberries and strawberries. We intuitively know the singular character of a melody and can participate with its effort. It is not the attribute of a subject, nor the cogito of intellectualism, but more akin to the “I can” of a motor-subject which is not transparent to itself, but still evident in being lived and self-temporalizing.

Rather than being captured by analysis, or by intellectual reduction to necessary and general laws, music implies a dynamic and intensive progression conceived in terms of concentration and tension in the soul, which is at once sensing and remembering. It involves an intentional initiative irreducible to quantity or vibrations of sound (although it involves them both the way rhythm too envelops the parts it organizes but is irreducible to them). Musical apprehension and production are in fact qualitative multiplicity.

Antistrophe: The Music of Philosophy

Some raise the objection that if all the mathematical sciences require an understanding of the muses (i.e. the liberal arts), why is only one called ‘music? To that we reply that the function of music alone is to heal the afflictions of the soul and body. For this reason, philosophy is the ‘greatest music’, because it is healer of the afflictions of the soul, from which it is also called medicine of souls. Elias *Prolegomena* 31,8-25. Quoted from Sorabji 2005a, 301-02.

The analogy between music, organism, nature, and inner-sense makes evident a spiritual activity underlying reality but never showing itself entirely or permitting its capture in concepts. Music and life arise concretely in an inherited embodied circumstance. The soul integrates multiplicity with an almost innate grace, rhythm, or style. The soul’s music is the unbroken melody unfolding in a continuous experience of effort and memory. An original song, sometimes joyful but most often mournful, in which every moment is singular and unrepeatable. Taking

music as fundamental to philosophy—what Paul Valéry described as “musicians of philosophy”—who by being “particularly sensitive to what is produced and continually transformed in their inner worlds,” will “discover the nascent inner forms that can be described as intuition.” (Valéry 1972 155-156). Valéry describes the subtle psychological nuance of musical compositions as a “type of research” in which “no verbal description could approach the effects produced by these auditive images, for they are transformations and restitutions of the vital states they transmit, even if they are presented—*since we are dealing with an art*—as the arbitrary creations of an individual.” (Valéry 1972 154). Despite the individuality of each piece of music, we also feel distinctly and intensely these “affective impulses...forces...fictive lives, and deaths” that we are lead to believe that these merely heard modulations and designs are in fact made in accord with our inner laws of changing moods so as to be the “*auditive formulas* of those moods, capable of serving as models for an objective study of the most subtle subjective phenomena.” (ibid). Arnold Schoenberg professed to have approached musical composition in this way, at least in part, as a Salley has discussed in detail. He goes so far as to say that “[i]n its most advanced state, art is exclusively concerned with the representation of inner nature.” (Salley 2015 12). While, no doubt, Schoenberg found inspiration in the philosophy of Bergson, his music itself becomes an almost philosophical or phenomenological investigation (in sound) of developmental variation. There is, then, the possibility of an interplay between philosophy and music wherein philosopher and artist reciprocally influence and enrich one another. Bergsonian and phenomenological reflections are enriched by a participation in the subtle powers of musical suggestion that help to explore the vicissitudes of lived duration.

Bergson’s own childhood speaks to the depths of his musical influences. His father was a famous musician, and musical examples occur at all the major junctures in his thought from

TFW to TS. There is another important biographical counter thread from his life. His daughter was born deaf the same year that MM was published, a book dealing with many different language impairments. Bergson would later in his life suffer major difficulties with speech, which hindered his writing for many year. These are not in any way causally connected events but they do point to the fundamental duality in Bergsonism itself. Duration is described as the tension between a passing present always *becoming*, and a past that is never present but always *is*. By analogy there is a musical effort that manifests spirit and thanks to which we sympathize immediately in aesthetic sentiment. On the other, there is an ineffable energy of life which escapes being spoken of or expressed. The auto-affection is never a complete reflection, it's never an "object of thought" as a perfect duplicate of its cause. Music itself is not entirely present to consciousness, and yet its facts and evidence are felt more deeply and completely than any concept or proposition. It teaches us that the deepest truths are ineffable.

Music, as an object of circumspection and analysis, is not "available" in the way we often think of objects in the natural attitude, by our attention to life. We cannot pick it up, hold it, touch it, and look at it from every angle the way we might with a sculpture. Its presentation is never total and yet always complete, in that every moment gradually unfolding it is still fully actualizing the song. What we hear at every moment is something in flux, and yet also bound intimately to what came before and tending naturally to what follows: it is the curving of an integral. Analysis can be of great value to appreciating a piece, but more valuable still is the leap by which we install ourselves immediately in the generative idea which brings it into existence. We will need to play the song many times and adopt its *sui generis* form—a mastery.¹⁷⁶

¹⁷⁶ Glenn Gould, for example, undertook to embody the *sui generis* character needed to perform the individual feel as if a sort of method acting, requiring the adoption intent. We can analyze the subtle shifts in velocity and tempo and find an infinitely subtle intelligence behind the variations which is not itself a concept or variable quantity. Analyzing these variations is helpful, but it remains relative. The integral lies in the character or attitude.

The thread of continuity in music quite often involves considerable variations. Schoenberg made a crucial distinction between two very different forms of variation, which he called developing variation and variants. Developing variations involve successive changes in motive-forms which are comparable to development and growth (Schoenberg 1967 8). Variants, on the other hand, are mere embellishments which have no lasting consequences in the evolution of the motive development. No two moments of psychological life are identical and yet there is continuity. In developing variation some features are changed and other are preserved, and eventually growth is “strong enough to suggest the emergence of a new musical idea” (Salley 2015 12). Schoenberg greatly invested in the exploration of the possibility of continual horizontal developmental variation of motive. In his work we find repetitions which always involve differences. This is evident in his early works like *Pelleas and Melisande*, Op. 5, as well as in later atonal works such as Op. 19 and 25 (Salley 2015 22-37). He also applied this conception of development to advance within the history of European music itself, with the 12-tone technique (which he arguably used in a very classical European style). He connected his concept of developmental variation to the idea of organism. Here the organism is thought in a very Bergsonian way, as a qualitative progression of continuous multiplicity. A piece of music, should be organized in the same way life is organized and develop as life develops: it should *live*. Above all, if we want to know what is most fundamental in its existence, we must engage it with passion, care, effort, and energy. Salley makes a strong case that we cannot understand the dynamic sense of developing variation in terms of a dualism between musical object and listening subject. Instead, understood in relation to duration, “apparent changes to a musical object actually represent the attempts of a listener-subject to remember a basic idea within an infinitely variable flux of interpenetrating conscious states.” (Salley 2015 15). Of course we can

still talk about and analyze the variations in terms of rhythm, intervals, harmony, and melody as “musical objects.” The feeling they produce dynamically is irreducible to these terms of analysis, and we should not end with analysis but must go back and listen or perform them.

Spiritual energy rises through a dynamic series in which the intensity of attention increases gradually and enriches its content in the development of a concrete integration. The poet or artist integrates qualitative multiplicity by reaching deeper and deeper into themselves, in order to stir up creative emotions which will place a spell on us by an immanent force of suggestion. “By setting free and accentuating this music, they will impose it on our attention; they will make us involuntarily insert ourselves into it, like passers-by entering a dance...they impel us to set in motion, in the depths of our being, something which was only waiting to vibrate.” (L 157). The artist stirs in us the inaudible song of our soul so that “We would hear, singing in the depths of our souls, like a music sometimes joyous, more often mournful, always original, the uninterrupted melody of our inner life.” (L 150 *my translation*). This song of the soul is somehow preserved in memory but, for most of us, it escapes our notice. We need to hear the works of great composers to have it be awakened. Then, we might come to sing the songs of the soul for ourselves and feel them intimately by our own effort and auto affection.

Conclusion

Certainly, the philosopher will not be able to do without some artistic evocation, some wit, and so, some (inventive) intelligence, finesse, and skill, in order to escape habit and resuscitate the unbroken melody of duration which remains buried in familiarity of experience, language, and common sense. Music awakens a dynamic initiative informed by the hylomnemonic unity of experience, whose continuous melody appears by grace of an auto affection. It is not philosophy, since philosophers end up just talking or writing, even after

admitting that what they intend to talk about is ineffable! Bergsonism makes use of the power of evocation and suggestion, but also tarries with science and formulates generic formulas of duration itself (sec. 1.1.4), its most credulous act of all. Despite all Bergson's formulations and imagery, metaphysic's mode of production will always depend on a more fundamental sympathy and participation by which we leap suddenly into lived duration itself—a concrete effort. Only then are we truly in the absolute, integral, concrete reality. Without this absolute—the intuition of duration or what Maine de Biran called the primitive fact—philosophy will never truly begin. Since the absolute by which philosophy begins is concrete effort, each philosophical contribution will be a novel invention. Far from Bergson merely repeating Aristotelianism by following the dynamic sense of being, he had in fact embarked on the path of a creative philosophy which takes the act of invention itself as the principle, as an integration in philosophical intuition.

Apode: *How to Surpass Aristotelianism Without Abandoning Dynamism*

Bergson's decisive break with Aristotle is moral. Aristotle, no matter what counter tendencies we might find in his texts—whatever musical energy—his thought clearly runs squarely in the direction of closed morality and retains a metaphysics of teleology,¹⁷⁷ and male heteronormativity.¹⁷⁸ This is especially clear in his endorsement of slavery in the *Pol.* and *Eco.*¹⁷⁹ The dynamic sense of being, as an ontology of force, is capable of being used in a metaphysics of violence and domination: the hallmarks of colonialism and militarized industrial closed societies.

I think that Bergson's final major work TS was an attempt to purge the dynamic sense of being of these possibilities. Closed morality is depressing, humiliating, and intimidates in order to correct any deviation from conformity to the herd. It is impersonal, static, and hides its influence behind an illusion of being unchangeable and natural. With the force of habit at its side, it veils our individuality and suppresses our sympathetic feelings for those who fall outside the pale. The singular is eclipsed by the general, compassion sacrificed to utility. Open morality, on the other hand, is sympathetic, aspirational, and raises spirits with an effort filled with love

¹⁷⁷ This problem is well posed in Bianchi 2014. I think that Aristotelian teleology has two divergent tendencies: (1) towards static forms and closed systems (2) towards a temporalization involving tendencies, care, attentiveness, and piloting, or as an activity which invents its own purposes and adapts, rather than imitating a static model. Certainly, Bergsonism dispensed with the first of these, and with vitalism; CE 37-97. The second is retained in order to describe the interior self-temporalizing of force, effort, and spiritual energy in the attention to life. A dynamic and open developmental process involves a virtual structure or dynamic schema which draws on telic-temporalizations as a mobile and evolving quasi-teleology immanent to life as directed, sensing, and constituting a whole; Morris 2018 65-70, 183-4. Bergson explained animal evolution in terms of accumulation of energy, and "an elastic canalization of energy in variable and indeterminable directions, from out of which comes free acts." CE 256 *translation modified*. To reject teleology altogether means abandoning dynamism. Bergson's open dynamic systems are an alternative to closed teleology of vitalism and mechanistic determinism. No doubt his alternative is closer to Aristotle than it is to reductionism or materialism.

¹⁷⁸ See Trott 1-49; Hill 2012.

¹⁷⁹ *Pol.* 1.5, 1254a22-31; *Eco.* 1.5. Some have cast doubt on the severity of his endorsement of slavery; see Dobbs 1994, who suggests that Aristotle's criteria for "just" slavery must involve a path to emancipation. While this might lessen the brunt of his position, it in no way gets him out of Bergson's critique, nor makes his position defensible. Unconditionally, every form of slavery is unjust, end of story. Therefore, every defense of slavery, no matter how "considerate" it might be of fairness, is intolerable.

ἀγάπη (charity).¹⁸⁰ It involves a dynamic intensity that awakens a concern for the condition of other's lives. This step towards open morality was not taken by the Greeks (although it was imagined in Stoicism) "It would have meant condemning slavery, giving up the Greek idea that foreigners, being barbarians, could claim no rights." (TS 77). This is also involved in the legal status of resident foreigners in ancient Athens, called a metic [μέτοικος], who did not receive equal rights by law.¹⁸¹

Closed morality has contrived to form quasi-virtues which protect and preserve its privileges—an exclusive sense of integrity. Grace itself seems to be, to some extent, tied to the aesthetic and beauty standards of particular cultures. "Heroism" always runs the risk of becoming an outlet for violent fantasies reinforcing closed society. Nostalgia is a potent political affect which historically and still today is used to sinister effects.¹⁸² We find these forces at play in Greek societies. Hesiod's *Works and Days* is droned in nostalgic affects which reinforce a sense of superiority in the customs of an ideal closed society of the past (a Golden race). A conservatism which exalts a bygone era of human excellence which is contrasted to the degeneration of society in which one lives. A praise of work and scorn for idleness. Hesiod's influence is palpable in Aristotle's *Ethics and Politics*. Here we encounter a mythopoetic force which seems to emerge from social obligation itself as an impersonal force keeping people bound to closed society—a noble lie premising and rationalizing domination. Habit and the

¹⁸⁰ Here, Bergson is again very close to Ravaisson who exalted generosity as the natural mobility of humanity. See RSW 291-293; CM 252.

¹⁸¹ See Watson 2010 and Kennedy 2014.

¹⁸² Mallarmé told Debussy that his musical illustration "would present no dissonance with my text, unless to go further, indeed, into the nostalgia and the light, with finesse, with malaise, with richness" and that his music "prolongs the emotion of my poem, and sets its scene more vividly." Debussy 13. There is an intense nostalgia for youth that permeates these works. One of the dominant elements of this sort of nostalgia is a feeling that one has not fully appreciated the fleeting feeling of being alive, especially of one's childhood or youth, so that this nostalgia is perhaps more of a search for meaning, feeling, or depth of experience rather than an idyllic memory of past events consonant with the preservation of closed society.

mythopoetic powers of imagination work to close the heart and deaden our sensitivity to the suffering of others—a necessary condition for preserving despotism. Bergson finds the same deadening of sympathy in modern ethics. Utilitarian justice and rational obligation (Mill and Kant), while helping slightly elevate the force of cultural prejudice, bring in the intellect which acts as an anesthetic of sympathy which helps keep people committed to defending closed society and its calculative justice. The advanced stages of intellectual closed society in the west have tended towards isolated individualism and egoism. Closed society and egoism are actually closely linked, though they are also antagonistic. They are linked because both closed society and an egoist are self-centered.¹⁸³ Lawlor explains:

Even when a society advocates love of others, it really means a choice of who counts as the others to be loved; it always excludes others, and therefore no individual society excludes hatred (TS 39). Each society treats other societies as enemies from which it needs protection; this hatred is society's "primitive instinct" (TS 33). Like the individual, each society follows the natural need for self-preservation, which means that it competes with, and makes war against, other societies for the satisfaction of its needs. Lawlor 2018 88.

This hostile and competitive attitude of self-preservation in the individual is adopted by closed society (against its natural preference for the impersonal) as an adaptation in response to war. In fact, the emotionally repressive aspects of closed society are amplified by an acceptance and ignoring of the suffering of others—the trauma of war feeds into a numbing of our sympathy for the other. In a way, Bergson's point is that closed societies, after fostering the war-instinct, are haunted by a trauma which helps to keep them closed. The acceptance of the brutality of slavery in Aristotle itself is evidence that he remains buried under the veil of, and even worked to reinforce, the closed society of male citizens. What it takes to rise above the force of closed society is an opening of the heart, and this requires creative energy (TS 254-257).

Open morality and dynamic religion are based on a love of humanity without exception, and so, implies a nascent politics of emancipation. A creative emotion is an effort of attention

¹⁸³ See Lawlor 2018 87-89.

with a singular nuance, individualized by the object to which it applies (TS 45), but love itself is the essence of the creative effort (TS 95). The mystic will have an intuition filled with creative energy of love, that is “the very essence of God” (TS 254) as well as the “current of life” from which “beings have been called into existence who were destined to love and to be loved, since creative energy is to be defined as love.” (TS157). Life is not simply and spontaneously the realization of this creative energy. There must be “an individual effort added to the general work of life,” (ibid) and this will be immanent to the duration of concrete embodiment.

Bergson’s open, dynamic morality and religion are temporalized in the qualitative multiplicity of moral sentiments. Pity (TFW 18-19) is a gradual progression, passing from sympathizing with the suffering of another, to feeling superiority to their own appetites which no longer distract them when they face the plight of the other (sec. 1.3.1). This feeling of pity is the first moment in the developmental progression of the creative effort leading to ἀγάπη. In pity we turn away from advantage, gain, greed, interest, and utility, and are filled by the concern for another. It is not enough to feel pity, we must take another step and act: to do what we can to help others. There is a developmental series, a continuous proportion linking subordinate parts which grows in intensity and requires renewing effort. For Bergson, ἀγάπη is this *effort*.¹⁸⁴ The Christian mystics are only the best thing yet to have arisen, and they can inspire us to renew the effort by a grace which they embodied. What we need most of all is the propagation of creative emotions which will inspire the effort to act in concrete ways to propel society forward by opening our hearts to a future community of love. This love and this effort have humanity and life as their “object”, but this does not imply that the object is a general concept or static ideal. It

¹⁸⁴ Garcia (2018) criticizes the intense life as a sort of dead end; 129, and poses a dilemma in the ethics of intensity; as being pulled between the promises of wisdom and salvation (both of which involve the elimination of intensity). I think that the other-oriented approach of Bergson can stand as an alternative to Garcia’s representation of the problem which seems to me to be rooted in an individualist perspective.

is rather a sentiment that grows into a creative emotion, that is to say, an ineffable force of spiritual energy which is the generative cause behind acts of charity. Just as rhythm and dancing are the concrete embodiment of spirit, human life becomes the instrument of grace that delivers the oppressed from suffering, sows blessedness, and propagates creative emotions. Such is the nature of the path on which Bergson propelled the dynamism into an ethics of open integrity.

What Can Aristotle and Bergson do Now?

The way in which a philosopher might end up changing society is not always consistent with their intentions.¹⁸⁵ The Aristotelian corpus of texts has had varying effects in different historical contexts motivating many quite divergent paths of thought. Thomas Aquinas almost makes his metaphysics and cosmology into something pseudo-Christian (and even despite the fact he developed his reading by borrowing countless insights from Islamic philosophers). The Italian renaissance owed much to Aristotle, even if as a springboard to modern science (though it was more than a mere jettison of Greek methods, since they found a palpable degree of inspiration for careful observations of Greek science). Leibniz famously revived Aristotelian substance—against the tendencies of atomism, Cartesian reductive science, and scholastic abstraction—if only to transform *entelecheia* into his own integral unit of internal activity in the *Monadology*. No doubt Aristotle had a profound influence in German Idealism, from Schelling, to Hegel, and Maimon. We should also remember the way *entelechy* was used as inspiration for vitalism in the 19th century which challenged reductionism. The scientific use of the term energy in physics itself appears to be an odd future for a term which originally meant something psychical and nearly immaterial.¹⁸⁶ Aristotle's metaphysical psychology even seem to have been

¹⁸⁵ Hegel, for example, despite his undeniable racism, has been a source of inspiration for liberation and decolonial philosophy.

¹⁸⁶ Further treatment of this question is beyond the scope of this work. Bergson took issue with the law of the conservation of energy, or at least a certain interpretation of it which strictly permits universal and impersonal causal

reworked in certain respects in Freud's pleasure principle, catharsis, even cathectic energy, and the unconscious as a force of involuntary repetition (*Mem.* 453a15-32).¹⁸⁷ Aristotle's influence can turn up in unsuspected places, and often the novelty is more interesting than the original source that it surpasses.¹⁸⁸

The Aristotelian corpus is not a closed system, the parts of which form a totality of concepts whose value is something we judge as true or false by the criteria of completeness and consistency. It is instead a coordination of problematic fields of forces whose truth is proportional to the *sense* and *depth* it opens for philosophical investigation. The logical interpretations have largely fallen asleep to the power of suggestion evoking the evidence of dynamism in Aristotle.¹⁸⁹ Despite the pervasiveness and seeming obviousness of these interpretations, the Sagirite has nonetheless had a profound influence on 20th century continental

relation and therefore denies the possibility of concrete or personal energy understood as intensity and by which he defined duration; TFW 142-4, 152, 185; HIT241. The intensification of this energy is a source of indetermination rather than binding the present invariably to the past. It is with the irreversibility of the second law of thermodynamics; CE 242-4, that spiritual energy (indeterminacy, organization, adaptation, etc.) become acceptable to science; see DiFrisco 2015. The intensification of energy is the inverse tendency to the degradation of energy.

¹⁸⁷ See Bernet 2020 19-46.

¹⁸⁸ We can also think of George Clinton's *Funkentelechy* which describes the ability or creative energy thanks to which, as he says "there's nothing that the proper attitude won't render funkable" and furthermore that "the salvation of inspiration is the motivation." Funk itself is a marvelous *invention* harboring and piloting the *inceptive powers* of enthusiasm and musical catharsis through an energy exuding style and subtle intelligence. One could even consider the way music has been involved in political activism as something more or less Aristotelian. But we should not give too much credit to Aristotle here since, first of all, we can easily trace many of the central insights of Greek political spiritualism, back to Egypt. Furthermore, the inventive spirit of music and rhythm is not due to Aristotle himself, although he was sensitive to their influence on human life. No doubt when Senghor describes the aesthetic intelligence of African culture in Bergsonian terms, this clearly does not imply that they needed to be or had been influenced by Bergsonism in order for them to have it. The aesthetic he describes is something concretely related to a specific historical context. Senghor was pointing out how rhythm is itself a nascent critique of western epistemology and intellectualized closed society—a critique which was prolonged in Sun Ra, funk, and beyond.

¹⁸⁹ Now, the Aristotelian texts have, in Anglophone scholarship and translations of the last 150 years, largely been used in two ways. (1) As exemplifying a failed but admirable attempt to form a complete and consistent logical system of concepts capable of explain all reality. (2) As an ethics of virtues based on rational agency. The first is consistent with the logical interpretation, and it has tended to have the effect of inspiring an analytical and reductive approach to science and philosophy as a natural enterprise. The second has had the effect of reinforcing many cultural biases such as ableism, racial supremacy, male normativity, and anthropocentrism. The responsibility on contemporary philosophers teaching Aristotle must include carefully safe-guarding against fostering readings which endorse these aspects as acceptable. We can no longer permit the propagation of these exclusivist tendencies of closed society, but must identify them as something we must learn to surpass.

philosophy. This influence runs counter to the tendencies of intellectualism, reductionism, and logical atomism. This is due to Ravaisson and Brentano, who respectively influenced Bergson and Husserl. From these two “branches” a *philosophy of music* evolved in European philosophy and beyond. It involved the development of the themes of dynamics, concreteness, the primacy of experience, virtuality, intentionality, effort, habit, temporality, affect, moods as well as fostering a deeper sense of embodiment, a greater appreciation for emotion and the subtle works of the soul. Thus, in the most recent episode of Aristotle’s influence, it is his subtle ingenuity and careful observation of lived experience that have shaped philosophy and given it new life. It is Aristotle the inventor who inspired Bergsonian dynamics. The revolution of 1889 marks a *rebirth* of the dynamic sense of being. It consisted in raising the musical-organic-intuitive-intelligence of concrete integration (energy), manifest in the intimate continuity of mind and body (grace), as an ultimate data of consciousness (effort). By 1896 the dynamic sense of being had been made to tarry with the science of psychology, and this propelled intuition into a method for philosophy (sec. 1.1.4). 1907 marked its development into an evolutionary creative energy (*élan vital*). By 1932, having passed through these irreversible stages of developing variation, it grew into an open, dynamic religion and morality which was no longer compatible with its Aristotelian roots! When we follow the links we see continuity; when we compare the start and finish they appear antithetical, like different ideas altogether.¹⁹⁰

Such is the story of Bergson’s own growth—from *politeness*¹⁹¹ to *charity*—and it is a pivotal moment in the evolution of philosophical history. Above all, in Bergson we find the

¹⁹⁰ This evolution is the epitome of qualitative multiplicity. I think that the problematic sense of philosophical temporality in Aristotle is consistent with this idea of the evolution of philosophy itself.

¹⁹¹ *La Politesse* (1885) found in *Écrits philosophiques* 47-58. Bergson describes this quasi-virtue in terms similar to grace, as a supple intelligence which masters an art of *suggestion* in order to ease the tensions of social life. The polite person is able to integrate the diversity of characters, tendencies, acquired habits of different people; 50. This ability is born from the “delicate sympathy” which has its origin in the heart; 55. Here, Bergson’s acceptance and praise of (aristocratic) closed society are clearly articulated; which he claims is drawn from an ancient Greek

careful attention of an original spiritual energy whose creative efforts propelled philosophy, sciences, art, and society forward.¹⁹² The recent re-blossoming of Bergsonism, and at the same time, a more subtle and dynamic interpretation of Aristotle, have both been highly influential in the reorientation of Anglophone scholarship to more carefully, and, I think more interesting and valuable reading of the history of philosophy.

Despite Bergson's tremendously positive contributions, he still remained within his own biases and preference from French culture. The legacy of Bergson is complex and we must be attentive to his shortcomings.¹⁹³ I think that even this would be entirely within the intensions of Bergsonism. "We Bergsonians" will find that philosophy requires a creative effort which becomes imbued with the energy of ancient thought but seeks to progress our concrete intuitive capacities into unforeseeable novelty to the benefit of our shared terrestrial life.

I think that the Bergsonian virtue of charity involves a better way of understanding philosophical and moral *integrity*. I fear that science, economics, and analysis will continue to fail to teach us *open* integrity. Bergsonism is concerned with preserving the integrity of the diversity of life and of propagating inspirations for philosophical efforts. The virtue of philosophical pedagogy is an ability to effectively instill wonder—leading students to take up and problematize for themselves. One of the truest measures of philosophical instruction is whether students are brought to aspire to question, investigate, and advance beyond the limits of their instruction. A purely dialectical philosophy, only concerned with proving others wrong or analyzing in order to decompose, will never fully succeed in engaging in philosophy properly so

inspiration; 56. Here, Bergson even used the barbaric phrase "lower races"; 49. Between politeness and charity is an irreversible act of becoming which required the creative energy of spiritual effort aspiring to open the heart.

¹⁹² For Bergson's impact on science see; Prigogine 1984; Kreps 2015.

¹⁹³ See the magnificent collection of essays in *Beyond Bergson: Examining Race and Colonialism through the writing of Henri Bergson*.

called—as a love of wisdom. As Aristotle said, philosophy must involve a *deliberate choice* with respect to life (*Meta.* 1004b25). This means taking responsibility to raise, develop, and preserve the integrity of *philosophical effort* in a community, by protecting the rights of *freedom* of all to philosophize. This is not mere freedom of speech but requires a more profound freedom with respect to *problematizing*.¹⁹⁴ There is a philosophy of emancipation implied in the work of philosophical education, which Deleuze called *apprenticeship*. To philosophize one must take up the problems themselves, carry them forward, and pass them on to those still yet to come by inspiring future *efforts*. The move from philosophy to mysticism is small but not inconsequential. This evolution of spiritual energy passes from academic and intellectual efforts to social, moral, and political action. It both opens the heart and propagates inspirations for others to do the same. Bergson summarized the significance of this additional effort in the final lines of his last work:

Humanity lies groaning, half crushed beneath the weight of its own progress. They do not sufficiently realize that their future is *in their own hands*. It is *up to them* to determine first of all whether they want to go on living or not. It is *up to them*, then, to ask themselves if they want merely to live, or in addition to provide the necessary *effort* to achieve, even on their refractory planet, the essential function of the universe, which is a machine for the making of gods. *The Two Sources of Morality and Religion* 317. *my translation and emphasis*.

As careful as a mother, as observant as an artist, and with the opening heart of a mystic, the a Bergsonian philosopher should strive to propagate the aspiration for others to take up this additional effort, to rise up in creative energy in order to participate in the improvement of our shared embodiment on this planet whose enduring web of life supports and sustains the very possibility of living well. To be a Bergsonian one must enter into the dynamic sense of being *sub*

¹⁹⁴ Deleuze described this elegantly “We are led to believe that problems are given ready-made, and that they disappear in the responses or the solution...According to this infantile prejudice, the master sets a problem, our task is to solve it, and the result is accredited true or false by a powerful authority. It is also a social prejudice with the visible interest of maintaining us in an infantile state, which calls upon us to solve problems that come from elsewhere ...Be yourselves—it being understood that this self must be that of others. As if we would not remain slaves so long as we do not control the problems themselves, so long as we do not possess a right to the problems, to a participation in and management of the problems.” *Difference and Repetition* 158.

specie durationis, which is impossible unless this involves an evolution beyond Bergson's limitations and our own, by an additional effort of creative energy.

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