

**Universitat Abat Oliba CEU
CEINDO – CEU Escuela Internacional de
Doctorado**

**PROGRAMA en HUMANIDADES PARA EL MUNDO
CONTEMPORÁNEO**



**The Heart of Matter:
The epistemological and ontological
status
of our intentional knowledge
regarding material bodies.
A comparison between
Immanuel Kant's transcendental philosophy
and
Cornelio Fabro's principle of emergence
in perception and induction**

TESIS DOCTORAL
Presentada por:

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BARCELONA
2020

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2020

*To the community at the Anahuac University in Mexico City:
May this thesis further the University's search for truth
Towards building up a society solidly grounded on Christian values*

"You will know the truth, and the truth will set you free"

Abstract

Contemporary theories of knowledge and philosophy of science assume Immanuel Kant's transcendental philosophy as a proper, critical basis for certain knowledge. However, his theory implies presupposing things like the ether that require explicit justification and philosophical argumentation. Such justification eluded Kant until the end of his career, as the *Opus postumum* makes evident. Important contradictions remain in Kant's transcendental philosophy; some are based on presuppositions adopted from Locke, Leibniz and Hume. The same contradictions arise in contemporary philosophy, as demonstrated in Popper's falsifiability. By starting purely within the subject in knowing, Kant is ultimately unable to gain objectivity, unless reality itself is posited by the *I think*.

Given the contradictions inherent to Kant's approach to cognition, Cornelio Fabro's presentation of Thomas Aquinas's and Aristotle's epistemologies allows for a fruitful confrontation with Kantian philosophy. Experimentation from within the Gestalt school and from Jean Piaget allows Fabro to provide empirical observation that overrides Kant's theory. By considering the development of sensed perception and intellectual induction more closely, Fabro's reading of Thomistic thought allows for a more solid basis for arriving at universal, scientific laws.

Kant's problem of the bridge involves spanning the gap in knowing between the object and the subject. Such a gap arises because of Kant's inadequate separation between the senses and the understanding, on the side of the subject, and between qualities-quantity in appearances and things themselves, on the side of the object. Fabro presents the participation of the senses in the intellect as allowing for a real communication between the two; he also argues for the qualified-quantified appearance of things as based on how things really are in themselves. The bridge between object and subject is obtained in the senses, which Kant dedicated scant attention to. Subjective elements such as perceptual schemas are certainly involved in sensation and perception, but the passive reception in the senses is the starting point and reference point for all of our knowing. Thanks to the intentional species, received in sensation by the soul, we come to know the essence of material things outside of ourselves, on a universal level. Contrary to Hume's arbitrary imagination and gently-forced beliefs, it is our perceptual experience with things outside of ourselves that leads us to universal thought.

Resumen

Las teorías contemporáneas del conocimiento y la filosofía de la ciencia asumen la filosofía trascendental de Immanuel Kant como una base apropiada y crítica para obtener un conocimiento cierto. Sin embargo, tal teoría implica presuponer cosas como el éter que requieren una justificación explícita y una argumentación filosófica. Tal justificación eludió a Kant hasta el final de su carrera, como el Opus postumum lo evidencia. Quedan importantes contradicciones en la filosofía trascendental de Kant; algunas se basan en suposiciones adoptadas de Locke, Leibniz y Hume. Las mismas contradicciones surgen en la filosofía contemporánea, como se demuestra en la falsificabilidad de Popper. Al comenzar completamente dentro del sujeto en el conocimiento, Kant es incapaz de obtener objetividad al final, a no ser que sea el Yo Pienso que pone la realidad misma.

Dadas las contradicciones inherentes al enfoque de Kant sobre la cognición, la presentación de Cornelio Fabro de las gnoseologías de Tomás de Aquino y Aristóteles permite una fructífera confrontación con el criticismo trascendental. La experimentación desde la escuela Gestalt y de Jean Piaget permite a Fabro proporcionar una observación empírica que pone en duda la teoría de Kant. Al considerar más de cerca el desarrollo de la percepción sensorial y la inducción intelectual, la lectura de Fabro del pensamiento tomista permite una base más sólida para llegar a las leyes universales y científicas.

El problema del puente de Kant consiste en cubrir la brecha entre el objeto y el sujeto, en el conocimiento. Tal brecha surge debido a la inadecuada separación de Kant entre los sentidos y el entendimiento, del lado del sujeto, y entre las cualidades-cantidad y las cosas mismas, del lado del objeto. Fabro presenta la participación de los sentidos en el intelecto como la clave que permite una comunicación real entre ambos; también argumenta la apariencia cualificada y cuantificada de las cosas como basada en cómo son realmente las cosas en sí mismas. El puente entre el objeto y el sujeto se obtiene en los sentidos, a los que Kant dedicó escasa atención. Los elementos subjetivos como los esquemas perceptivos están ciertamente involucrados en la sensación y la percepción, pero la recepción pasiva en los sentidos es el punto de partida y de referencia de todo nuestro conocimiento. Gracias a la especie intencional, recibida en sensación por el alma, llegamos a conocer la esencia de las cosas materiales fuera de nosotros mismos, en un nivel universal. Contrariamente a la imaginación arbitraria de Hume, basada en creencias, es nuestra experiencia perceptiva con las cosas fuera de nosotros lo que nos lleva al pensamiento universal.

Keywords / Palabras claves

Immanuel Kant – Cornelio Fabro – Thomas Aquinas – Sensation – Gestalt – Perception
– Perceptual schemas – Universal thought – Participation – Emerging

Immanuel Kant – Cornelio Fabro – Tomás de Aquino – Sensación – Gestalt – Percepción
– Esquemas perceptivos – Pensamiento universal – Participación – Emergente

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INTRODUCTION

“Theories are nets cast to catch what we call ‘the world’: to rationalize, to explain, and to master it”¹. For someone not familiar with modern day scientific theory, the above statement can be bewildering. For the general public, the findings of the scientific community are perceived as asserted with full authority and certainty. Sir Karl Popper’s quote turns apparent scientific certainty into a probing search for structure in the world; such probing that can only ever hope to get closer to that truth, without obtaining it. Such is the current status of the truth-value of scientific theory and knowledge, and this skeptical humility regarding our knowledge of the real world permeates both scientific theory as well as our everyday, non-scientific knowledge.

How did we come to see our minds as groping rather than knowing? An important element in understanding current theories of knowledge is Immanuel Kant’s transcendental idealism. Given the vast amount of literature on the topic, I do not propose to provide an exhaustive presentation of his theory of knowledge. My aim is to bring out basic aspects of Kant’s theory that cannot explain satisfactorily how we know. Fundamentally it is a problem of *affection*, as regards the relationship between our mind’s representations and things outside us; this problem is based on the underlying metaphysical structure of things and ourselves. The first part – regarding our representations or images and things – we may call our *epistemological problem*; the second part regards the *metaphysical problem* of the relationship between our minds and our senses, as well as the relationship between observed properties of things, and their unobserved, essential traits. I hold these two problems as mutually influencing each other in Kant’s philosophy: Our senses contribute little information according to Kant, since appearances have no relationship with things. If our knowledge is to achieve certain and universal knowledge of the world – as Newton’s laws of physics and scientific laws in general show we do in fact have –, then Kant thinks that knowledge can only come from within our minds. We are not provided with any sort of information from the outside world that would justify such knowledge. This leads us to see scientific theories as nets thrown out at reality to catch as much of it as possible, without ever being able to know it fully.

Much of modern philosophy and epistemology, including Kant’s transcendental philosophy, is a reaction against modern Scholastic philosophy. Scholasticism derives from medieval philosophy, including Aquinas, Dun Scotus and the nominalists, but their

¹ POPPER, K. R., *The Logic of Scientific Discovery*, Taylor & Francis e-Library (Routledge), 2005, 37-38.

Scholastic followers do not always distinguish the different positions properly. After presenting the serious problems inherent to Kant's theory, I believe that an in-depth study of Thomas Aquinas's philosophy will allow us to grasp our intentional knowledge better. Since our knowledge of the senses and perception has developed greatly since Aquinas's 13th-century understanding, Cornelio Fabro's work is an important contribution towards adapting properly Thomas's theory to 20th-century experimentation. Fabro draws especially on the psychological experimentation of the Gestalt school on the one hand, and Jean Piaget and Revoult d'Allones on the other as supporting evidence for Aquinas's theory of knowledge. Aristotelian and Thomistic philosophy provides more objective grounding for human knowing than does transcendental philosophy.

The method of this thesis consists in two main parts. The first part aims to present the main points of Kant's cognitive theory. Given the continual publication of profound studies and heated debates regarding Kant's philosophy, I give preference to his original works, above all during his critical period ranging from the 1781 publication of *Kritik der reinen Vernunft* to his *Opus postumum*. Since many of the problems present in his system were inherited from previous philosophers, I present beforehand the theories of knowing from John Locke, Gottfried W. Leibniz and David Hume. This will allow us to clarify the problems that arise within Kant's transcendental philosophy. It is important to note that the *Kritik der reinen Vernunft* received such heavy criticism from its first publication that Kant was forced for the rest of his career to defend and adapt his position. Despite Kant's own wavering with regards to transcendental philosophy, it has become part of the mental-epistemological humus of science and general culture today. To which point, I present Popper's theory of falsifiability for scientific theory, as an ultimately Kantian-based theory of knowledge.

In the second part of the thesis, we follow Fabro's presentation of the Aristotelian and Thomistic theory regarding sensed perception. By confronting experimentation done within the Gestalt school in opposition to the theory of associationism, Fabro concludes that the structure in sensed objects is given, not made by us. Perception on the level of the cogitative faculty explains how we build up knowledge through experience of outer reality. Kantian apriorism falls under its own weight, since the understanding alone is supposed to create order in things, to the point that we require a supra-human, creating intelligence. In comparing Kant's system with Fabro's and Aquinas's, the method I propose to follow is to use scientific observation and personal experience. I argue that Aristotle, Aquinas and Fabro describe and explain human knowing to a degree that is sufficiently confirmed both in experimentation, and above all in our own experience.

The first part presents the philosophers mentioned in chronological order, with the largest space granted to Kant's philosophy. Chapter 4 gathers together the problems remaining inherent to Kant's system. The second part of the thesis is ordered according to the three main faculties in knowing: the external senses and common sense (chapter 5); the inner senses, above all the faculty of the cogitative (chapter 6); and the intellect (chapter 7). These three faculties work in harmony with each other, according to Aquinas's view of *participation* explaining reality's structure and dynamic. Such unity among the faculties is clear from the development in perceptual knowledge that Fabro calls "emerging": the gradual enhancement of our knowledge. Chapter 8 presents this unity in the development of our cognition. Chapter 9 is the climax of the thesis; it argues for the objective reliability of the intentional species, as faithfully representative of things outside of ourselves.

I wish to address some words of gratitude to those who have been important guides along the journey. First and foremost, I thank Prof. Alain Contact for his encouragement: from first suggesting studying a doctorate, through the process of choosing the topic, all the way through to submitting it. His deep insights and his dedication in revising this work have been an incredible support for me; I am humbled by the personal interest from such a brilliant professor.

I wish to thank my religious superiors of the Legionaries of Christ Congregation for allowing me to study this doctorate full-time. I thank the Universitat Abat Oliba CEU program for its gracious acceptance of my doctoral thesis, especially Dr. Enrique Martinez. Dr. Martin Echavarria has given important guidelines and insights throughout the process; Maria Elena Villatoro has provided important access to sources, not always easy to obtain. A special word of thanks to the CEINDO program for their generous financial support during my three-month research period in Rome. I thank Prof. Christian Ferraro for his generous time in explaining Fabro's thought to me. Also the Pontifical Athenaeum *Regina Apostolorum* was an important factor in the studies abroad; special thanks to Dean of Philosophy Alex Yeung, Prof. David Koonce, Prof. Ramon Lucas Lucas and librarian Augusto Spanu. Important insights into the first part of this thesis come from Prof. Leopoldo Prieto, to whom I indebted for his time and support.

My family has provided support throughout the process, especially during the final stages of writing in the midst of the COVID-19 pandemic. My father's interest in science and knowing in general is an inspiration to this thesis; I thank him and my mother for their

unconditional support. My brother John offered me important insights into the relationship between philosophy and science. I thank my sister Margaret for her valuable advice throughout the entire process of writing. Kathryn Mullan contributed important revisions; any errors are certainly mine. James Greenaway provided me with though-provoking feedback on several points.

I thank Our Lord for his constant company throughout this adventure, and Our Lady of Montserrat for having watched over this entire process. As a Roman Catholic priest, I hope this thesis may give God glory by defending and promoting what I believe to be the greatest talent bestowed upon us, along with life itself: knowing.

PART I: THE PROBLEM OF HOW WE KNOW THINGS OUTSIDE OF US

If we propose to understand the world around us through our ideas, we must determine what relationship those ideas have with things. Since a theory of knowledge wishes to understand how our mind relates to external things, any theory must be based on a vision of what those things are in themselves. Any theory of knowledge will contain a theory of metaphysics, as an understanding of the structure of things or beings. This implicit dependence between epistemology and metaphysics means a somewhat circular dependence, since our metaphysics of how things exist must necessarily pass through our ideas of those things.

In the history of philosophy of knowing, Immanuel Kant has influenced contemporary philosophy and science like no other philosopher. If we wish to understand Kant's transcendental philosophy, a problem immediately becomes apparent. Aside from the 200 years of accumulated literature on Kant, his own published works alone are widespread enough for extensive commentary. As is clear from the literature, Kant's own position on several key elements of his philosophy changes over time. For the purposes of this thesis, I will focus on his *Critique of Pure Reason* and parts of his *Opus postumum* that relate to our knowledge of the world. Following the lead of Burkhard Tuschling, Jeffrey Edwards and Leopoldo Prieto López, I hold that Kant's main teaching as presented in the *Critique* shows enough incongruencies that he was forced to revisit it in the final years of his thought. Some philosophers such as Kuno Fischer during the 19th century hold Kant's *Opus postumum* as senile and ill-argued². However, his deduction of material ether in the *Opus* is sufficiently coherent with his *Critique*, however far-fetched those consequences may seem to today's Kantians. My objective in this first part of the thesis is to show the incongruencies of the *Critique* as they are drawn out in the *Opus Postumum*. By not achieving knowledge of things outside ourselves, Kant's transcendental idealism is a dubious epistemic foundation for modern scientific theory.

In the first chapter of this part I present the essential teachings of philosophers who influenced Kant's understanding of knowledge, as the intellectual background for his philosophy. The second chapter is the presentation of the problem of affection and how

² Cf. FÖRSTER, E., «Introduction», in KANT, I., *Opus Postumum*, Cambridge University Press, Cambridge 1993, xvi-xx.

we come to scientific knowledge, specifically as presented in Kant's *Critique of Pure Reason* and his *Opus postumum*. In order to underscore how prevalent Kant's theory of knowledge is today, in the third chapter I present Karl Popper's theory falsifiability. While I must argue against Kant's theory in the second part of this thesis, in this first part I wish to acknowledge the depth and earnest that appear in his works. His is an admirable attempt to explain how we know things.

CHAPTER 1. LOCKE'S AND LEIBNIZ'S THEORIES OF KNOWLEDGE, WITH HUME'S SKEPTICAL CRITIQUE

In order to understand Kant's theory of knowledge properly, I first present the theories of knowledge of three philosophers who were influential on Kant's position. John Locke and David Hume are prominent members of the empiricist current in philosophy, and Gottfried Wilhelm Leibniz is an excellent example of the rationalist current. Locke is arguably the founder of modern empiricism, the current of philosophy that bases knowing on empirical, sensed elements rather than mental ones. Hume's skepticism takes empiricism to its extreme limit of denying causality and universals. Leibniz's interest in mathematics reveals a more rationalist bent, as attributing much more influence to the mind in knowing rather than to the senses. Kant was a rare example of trying to hold both the empiricist and rationalist currents together. As I will argue, ultimately his is a clearly rationalist, idealist bent. This combination of philosophical currents present in Kant's theories contributes to the unending dispute in current commentators on Kant. Members of the empiricist school can find sufficient elements in Kant's system to show that he was one of their own (for example, Peter F. Strawson), while rationalist philosophers have their own store of Kantian teachings that clearly prove that Kant was much more the idealist than empiricist. As will become clear in the *Opus postumum*, the subjective, idealistic element appears to have dominated in the end. By presenting three philosophers influential on Kant, we may appreciate the context for his theory.

Locke raised issues that would become problematic also for Kant, especially the problem of affection, that is, how we form a representation (or Locke's "Idea") of things. We will refer to this problem of knowing and how we know things outside of us as our *epistemological* problem. This problem is coupled with the ontological or *metaphysical* problem, as regards the structure of things as they are. Leibniz's metaphysics of monads will provide a constant world-view framework for Kant's transcendental idealism. And Kant will come back to Leibniz's monadology time and again throughout his career. It is important to have a basic understanding of Leibniz's monads, in order to understand Kant's natural philosophy. A proper understanding of Locke's epistemology and Leibniz's monadology allows us to understand Kant's own epistemology and metaphysics. Hume's skepticism against universal causality is an affront to modern scientific method and its aims; in response to Hume, Kant's *Critique of Pure Reason* is a defense of the possibility of scientific laws, as formulated in synthetic a priori judgments. I present these three authors in order of the year they died.

1. John Locke's *An Essay concerning Human Understanding*

John Locke (1632-1704) states his objective from the very start of *An Essay concerning Human Understanding*:

This, therefore, being my *Purpose* to enquire into the Original, Certainty, and Extent of humane Knowledge; together, with the Grounds and Degrees of Belief, Opinion, and Assent; I shall not at present meddle with the Physical Consideration of the Mind; [...] These are Speculations, which, however curious and entertaining, I shall decline, as lying out of my Way, in the Design I am now upon³.

As a professed layman, in contrast to philosophers or “Schoolmen”, Locke wishes to understand how we come to have knowledge of things, through what he calls “Ideas” (Locke always capitalizes and almost always italicizes the term). Locke’s style is straightforward in comparison to other abstruse philosophers. Just as Locke is clear in his objective of inquiry, he is clear in dismissing from the start as “meddling” any inquisition regarding the neurological aspects of our thoughts. This sets up an odd contrast: While wanting to know how we come to know things, Locke refuses to consider “whether those Ideas ... in their Formation, any, or all of them, depend on Matter, or no”⁴. In coming to understand how we form ideas of things, we would expect Locke to consider how our representations, or Ideas, relate to matter. As we will see, Locke does indeed deal with representation-matter relationship, but only briefly. And it becomes apparent throughout his work that Locke denies the possibility of knowing things beyond certain limits. This assertion of our limits in knowing things will play a key role in the edifice in the Kantian theory of knowledge⁵.

1.1. *Ideas and their sources*

In opposition to Rene Descartes’s position on ideas being innate, Locke begins his *Essay* by showing that all ideas found in our minds must come from our senses: “Since there appear not to be any *Ideas* in the Mind, before the Senses have conveyed any in, I conceive that *Ideas* in the Understanding, are coeval with *Sensation*”⁶. Locke believes

³ LOCKE, J., *An Essay concerning Human Understanding*. Nidditch, P.H. (ed.), Oxford at the Clarendon Press, Oxford 1975, Bk. 1, Ch. 1, §2. Future reference to this work as EHU.

⁴ Ibid.

⁵ See the title of Rae Langton’s book, *Kantian Humility: Our ignorance of things in themselves*, Clarendon Press, Oxford 1998.

⁶ LOCKE, EHU, Bk. 2, Ch. 1, §23.

the mind to be completely passive in perceiving Ideas: “For in bare naked *Perception*, the Mind is, for the most part, only passive; and what it perceives, it cannot avoid perceiving”⁷. Locke emphasizes the receptive capacity of the senses, as they take in ideas from without. “Because Locke consistently refers to the causal role of external objects in the passages concerning sensitive knowledge, this dependence seems not only causal, but also epistemic: unless the object is really present to one’s senses, affecting them in such a way as to produce ideas of itself in one’s mind, one cannot have sensitive knowledge of that object”⁸. Passive receptivity is the starting point for knowledge according to Locke.

Locke calls “simple” those ideas that are directly related to sensed perception, and stored through reflection and memory. The mind’s own activity then pieces those simple ideas together into *complex* ideas:

When the Understanding is once stored with these simple *Ideas*, it has the Power to repeat, compare and unite them even to an almost infinite Variety, and so can make at Pleasure new complex *Ideas*. But it has not in the Power of the most exalted Wit, or enlarged Understanding, by any quickness or variety of Thought, to *invent or frame one new simple* Idea in the mind, not taken in by the ways before mentioned⁹.

The mind comes to know the outside world only through the senses, in simple ideas. The mind can then form complex ideas almost infinitely, by combining those simple ideas any which way. However, such mental combinations will always imply certain subjective arbitrariness. Basic empirical, sensed knowledge is the standard for Locke’s theory of knowledge. It is significant that Locke assumes sensed perception as coming from or deriving directly from things, which he calls “Body”. Locke’s understanding of sense perception is based on his corpuscular view of material bodies. The senses simply receive impulses from bodies, which are then conveyed to the mind and are properly stored there as Ideas. Yolton comments on Locke’s basic view of sense perception:

[Locke] speaks of the senses conveying “into the mind” several “distinct perceptions of things.” He explains that “convey” means that the senses carry into the mind “what produces there those perceptions.” Presumably what he means is that the stimulus gets to the mind via the sensory equipment of the organism. He ends [Bk. 2, Ch. 1, §25] by speaking of the sensory impressions having ideas annexed to them, but he remarks that it is the ideas which are *perceived*, although the mind is said to *receive* the impressions¹⁰.

⁷ Ibid., Bk. 2, Ch. 9, §1.

⁸ WILSON, A.B., «Locke's Externalism about 'Sensitive Knowledge'», in *British Journal for the History of Philosophy*, 22 (2014) 3, 440.

⁹ LOCKE, EHU, Bk. 2, Ch. 2, §2.

¹⁰ YOLTON, J.W., «The Concept of Experience in Locke and Hume», in *Journal of the History of Philosophy*, 1 (1960) 1, 54.

The senses relate directly to body, while reflection is posterior mental factor in our knowing. Based on these two sources of sensation and reflection, Locke can now classify our basic ideas depending on their source:

Thus I have, in a short draught, given a view of our *original Ideas*, from whence all the rest are derived, and of which they are made up [...] I believe they all might be reduced to these very few primary, and original ones, *viz. Extension, Solidity, Mobility*, or the Power of being moved; which by our Senses we receive from *Body: Perceptivity*, or the Power of perception, or thinking; *Motivity*, or the Power of moving; which by reflection we receive from our Minds. [...] To which if we add *Existence, Duration, Number*; which belong both to the one [Body], and the other [Mind], we have, perhaps, all the *Original Ideas* on which the rest depend¹¹.

With this basic distinction into the two main sources of our knowing, and the main groupings of ideas based on their origin, Locke has presented a basic portrait of the ideas in our minds. Allen comments on Locke's inherent trust in the senses, compared to the reigning rationalism of his time:

Given the circumspect attitude toward the senses expressed by Locke's more rationalistic contemporaries, we might wonder whether this confidence in the authority of the senses is warranted. Locke's response is that we *cannot but* trust basic cognitive faculties like sensation and reflection: "This is certain, the confidence that our Faculties do not herein deceive us, is the greatest assurance we are capable of, concerning the Existence of material Beings. For we cannot act any thing, but by our Faculties; nor talk of Knowledge it self, but by the help of those Faculties, which are fitted to apprehend even what Knowledge is". (Locke, EHU, 4.11.3)¹²

After presenting the sources of our Ideas, Locke turns to what those ideas portray of the world around us, or in contemporary cognitive terms, how far those ideas obtain objective, extra-mental knowledge.

1.2. Primary and secondary qualities

Locke's theory of knowledge must now address the truth-value or objectivity of our sensed ideas. He does this by means of distinguishing primary from secondary qualities, as well as drawing a distinction between qualities and the ideas of substance and essence. This section deals with Locke's metaphysics, in the sense of his understanding of things, their inner constitution and their relationship with surrounding things and ourselves as knowing subjects.

Qualities thus considered in Bodies are, First such as are utterly inseparable from the Body, in what estate soever it be; such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps; [...] For division [...] can never take away either Solidity, Extension, Figure, or Mobility from any Body [...] These I call *original* or *primary Qualities* of

¹¹ LOCKE, EHU, Bk. 2, Ch. 21, §73.

¹² ALLEN, K., «Locke and Sensitive Knowledge», in *Journal of the History of Philosophy*, 51 (2013) 2, 260.

Body, which I think we may observe to produce simple *Ideas* in us, viz. Solidity, Extension, Figure, Motion, or Rest, and Number¹³.

The primary qualities play an essential part in Locke's metaphysics and theory of knowledge. The qualities listed are solidity, extension, mobility or motion/rest, figure, and number; in other parts of the *Essay* other primary qualities are listed, such as bulk. What gives these qualities in bodies pride of place is their ubiquitous nature: "The mind finds [them] inseparable from every particle of matter". Locke takes this inseparable character as sufficient proof for the objective value of our ideas of primary qualities, in that these qualities produce *without fail* their corresponding ideas in us of solidity, extension, etc. Locke uses the term "produce" to express how those qualities in things bring about their corresponding ideas in our minds. This would seem to give metaphysics precedence over epistemology: Things are what produce or bring about in us that particular type of change that is called knowledge.

This view of bodies affecting us primarily through their extension forms an essential part of the corpuscular theory of matter. Anderson explains this view in continuation with ancient Greek philosophy:

Fundamentally, Locke's theory of matter appears to be that of Democritus and Epicurus. Like the Greek atomists, he conceives of matter as consisting of particles or corpuscles infinite in number. At least some of these are so minute as to be individually insensible, and probably he intends that *all* are, although, to my knowledge, he never states that this is so. In the aggregate, in any case, particles do constitute perceptible bodies. As for the Greeks, so also for Locke, the particles are all extended, having size and shape. They are said also to possess motion or rest, although he takes care to say that matter cannot produce motion in itself. Locke frequently mentions other properties as being "primary" or "really in" material things. Some of these are solidity, texture, cohesion of parts, situation, and number. Apparently some of these may be ranked under others since, as he remarks, figure presupposes extension, and receiving or communicating motion through impact presupposes solidity¹⁴.

With such a view of material reality, secondary qualities are at a clear disadvantage compared to primary ones:

2dly, such *Qualities*, which in truth are nothing in the Objects themselves, but Powers to produce various Sensations in us by their *primary Qualities*, i.e. by the Bulk, Figure, Texture, and Motion of their insensible parts, as Colours, Sounds, Tastes, etc. These I call *secondary Qualities*¹⁵.

In contrast to primary qualities inherent to bodies themselves, secondary qualities are sensations produced in us. Among the secondary qualities Locke lists colors, sounds, tastes, etc. They are put in relationship with primary qualities, in that primary qualities

¹³ LOCKE, EHU, Bk. 2, Ch. 8, §9.

¹⁴ ANDERSON, R.F., «Locke on the Knowledge of Material Things», in *Journal of the History of Philosophy*, 3 (1965) 2, 205-206.

¹⁵ LOCKE, EHU, Bk. 2, Ch. 8, §10.

produce secondary ones. This production only actually happens in us, however, and so secondary qualities cannot be said to be in bodies¹⁶. The subjective, arbitrary and so possibly false aspect of secondary qualities are based on their being farther removed from bodies themselves.

In the quote above, the final phrase “its insensible parts” appears a number of times in Locke’s work, and indicates the boundary limiting how far we can know. If our senses are the only true source of knowing, anything insensible is beyond our knowing. Locke sees bodies as built of so many small parts, too small and fine for us to perceive; and those small, “insensible parts” are both the building blocks of reality, as well as the enigmatic, mysterious element that we can never properly know. We see here Locke’s corpuscular theory, as corpuscles forming the unobservable building blocks that constitute bodies. Locke does not explicitly defend this position; he assumes “insensible parts” as the unknown yet real, basic structure of material beings.

Now that we have a basic structure in things, distinguished between their primary and secondary qualities, Locke returns to our ideas that correspond to those two sets of qualities, to see how much truth-value or reality they each hold.

The Ideas of primary Qualities of Bodies, are Resemblances of them, and their Patterns do really exist in the Bodies themselves; but the Ideas, produced in us by these Secondary Qualities, have no resemblance of them at all. There is nothing like our Ideas, existing in the Bodies themselves. They are in the Bodies, we denominate from them, only a Power to produce those Sensations in us: And what is Sweet, Blue, or Warm in Idea, is but the certain Bulk, Figure, and Motion of the insensible parts in the Bodies themselves, which we call so¹⁷.

A clear distinction has been set between what we certainly know regarding bodies (their primary qualities); and what ideas we form of those bodies that are only ever in us (secondary qualities). In order to justify how these less-objective, secondary qualities arise in our minds, Locke has recourse to God, as the link between the power in things and the idea of their secondary qualities that we form in our minds:

Those Ideas of Whiteness, and Coldness, Pain, etc. being in us the Effects of Power in Things without us, ordained by our Maker, to produce in us such Sensations; they are real Ideas in us, whereby we distinguish the Qualities, that are really in things themselves. [...] But whether they answer to those Constitutions, as to Causes, or Patterns, it matters not; it suffices, that they are constantly produced by them. And thus our simple Ideas are all real and true, because they answer and agree to those Powers of Things, which produce them in our Minds, that being all that is requisite to make them real, and not fictions at Pleasure¹⁸.

¹⁶ Cf. *Ibid.*, Bk. 2, Ch. 8, §10; 14-15.

¹⁷ *Ibid.*, Bk. 2, Ch. 8, §14-15.

¹⁸ *Ibid.*, Bk. 2, Ch. 30, §2.

Whereas the ideas of primary qualities are true resemblances of bodies, the ideas of secondary qualities do not have a definite corresponding aspect in bodies. This becomes a crucial barrier for our knowledge of things, because secondary qualities make up to a large degree our idea of things and substances. "The ideas that our complex ones of substances are made up of, and about which our knowledge concerning substances is most employed, are those of their secondary qualities"¹⁹. If those secondary qualities lay more in us than in bodies, our knowledge of bodies becomes very limited. In order to ground the secondary qualities we may attempt to relate them to primary qualities. Anderson comments on Locke's precluding any such grounding of the secondary in the primary qualities, at least as far as we can know:

This possibility has already been ruled out in Locke's description of matter, however, since he holds that these secondary qualities of substances depend all "...upon the primary qualities of their minute and insensible parts; or, if not upon them, upon something yet more remote from our comprehension..." (Bk. 4, 3, 11) We do not know "... the root they spring from ... what size, figure, and texture of parts they are, on which depend, and from which result those qualities which make our complex idea..." (Bk. 4, 3, 11)²⁰.

The subjective aspect of secondary qualities, compared to the more objective primary ones, remains an important limit of what we can know about bodies. The only guarantee of secondary qualities' reality in bodies is that God has set up such a reaction in us, corresponding to some sort of power in bodies, such that the idea of that secondary quality is constantly produced in us. Locke is very clear in distinguishing the ideas of primary and secondary qualities, as inherent in bodies or simply as a power in bodies designed to arouse in us a corresponding idea. Locke's invoking God for our process of knowing is ambivalent, and David Hume will have no trouble finding the flaws in this system. Locke's religious faith comes out clearly, and he is willing to recognize where his theory reaches its limit. He must simply assert *that* things are this way, without knowing *how* they work. Similar to Descartes and Leibniz, Locke's religious faith contributes to his philosophy.

With his position regarding ideas of primary qualities as real resemblances of bodies, Locke reaches as far into the metaphysical structure of bodies as he can reasonably go.

I shall not, contrary to the Design of this Essay, set my self to enquire philosophically into the peculiar Constitution of Bodies, and the Configuration of Parts, whereby they have the power to produce in us the Ideas of their sensible Qualities [...] when we go beyond the bare Ideas of our Minds, and would enquire into their Causes, we cannot conceive any thing else, to be in

¹⁹ Ibid., Bk. 4, Ch. 3, §11.

²⁰ ANDERSON, R.F., «Locke on the Knowledge of Material Things», 208.

any sensible Object, whereby it produces different Ideas in us, but the different Bulk, Figure, Number, Texture, and Motion of its insensible Parts²¹.

Similar to his opening comment about refusing to consider mental processes in how we know, here Locke is drawing the limit in his metaphysical considerations. He refuses to go any deeper into bodies than their primary qualities. “We cannot conceive any thing else [...] but the different bulk, figure, number, texture and motion of its insensible parts”. Once again, our senses and what they perceive form the limit of what we can know: Those “insensible parts” – which are only supposed and *not* observed – are taken to be the causal structure supporting bodies. And since we cannot perceive those parts, Locke has reached his limit in how far we can know bodies. This is important to consider vis-à-vis his understanding of the idea of substance, which we turn to as the next part of Locke’s metaphysics.

1.3. *The idea of substances*

All our *Ideas* of the several sorts of Substances, are nothing but Collections of simple *Ideas*, with a Supposition of nothing but Collections of simple *Ideas*, with a Supposition of something, to which they belong, and in which they subsist; though of this supposed something, we have no clear distinct *Idea* at all²².

If all our simple ideas come from sensed perception, it is our mind’s activity that then combines them into complex ideas, as collections of simpler ones. The mind supposes that there is some supporting basis that “stands beneath” the qualities we perceive directly. The phrase “stands beneath” is how Locke renders the Latin-derived term *substance*. In several parts of his *Essay*, Locke repeats his position that the idea of substance has no clear, distinct corresponding basis in bodies. He attributes the idea of substance to the mind as a complex idea, and so Locke is unprepared to accept the idea of substances as a fully valid idea of things.

Most of the simple *Ideas*, that make up our complex *Ideas* of Substances, when truly considered, are only Powers, however we are apt to take them for positive Qualities; v.g. the greatest part of the *Ideas*, that make our complex *Idea* of *Gold*, are Yellowness, great Weight, Ductility, Fusibility, and Solubility, in *Aqua Regia*, etc. all united together in an unknown *Substratum*; all which *Ideas*, are nothing else, but so many relations to other Substances; and are not really in the *Gold*, considered barely in it self, though they depend on those real, and primary Qualities of its internal constitution²³.

²¹ LOCKE, EHU, Bk. 2, Ch. 21, §73.

²² Ibid., Bk. 2, Ch. 23, §37.

²³ Ibid., Bk. 2, Ch. 23, §37.

What makes up the idea of a substance, such as our idea of gold? The vast majority of the qualities or properties we attribute to substances are only really powers, that is, second-rate ideas that have a certain dependence on real, primary qualities, and whose effects are only actually in us. The *substratum* or substance that lies beneath such qualities as holding them together is declared unknown, and so a mere supposition. If the idea of substances serves the mind as a collection of several simple, how does the mind choose which qualities or simple ideas go into the collected idea of substance?

Those Qualities, and Powers of Substances, whereof we make their complex *Ideas*, are so many and various, that no Man's complex *Idea* contains them all. That our abstract *Ideas* of Substances, do not contain in them all the simple *Ideas*, that are united in the Things themselves, is evident, in that Men do rarely put into their complex *Idea* of any Substance, all the simple *Ideas* they do know to exist in it. Because endeavouring to make the signification of their specifick Names as clear, and as little cumbersome as they can, they make their specifick *Ideas* which are to be found in them: But these having no original procedency, or right to be put in, and make the specifick *Idea*, more than others that are left out, 'tis plain, that both these ways, *our Ideas of Substances* are deficient, and *inadequate*²⁴.

Here Locke sees a great deal of arbitrariness in how we form ideas of substances, since we have no knowledge of what in fact substances are. No simple idea has a “right to be put in” to the overall idea of substance. We must limit ourselves to certain simple ideas as sufficient for understanding what is meant or referred to by the name or idea of a certain substance; such simple ideas cannot be shown to pertain and stand upon that substance. Hence the idea of substance is clearly inadequate. Beyond the clear, distinct idea of primary qualities, we are simply unable to know bodies any further. In his typically frank style, Locke has reached the limit of how far we are able to know things:

There is no more difficulty, to conceive how a Substance we know not, should *by thought* set Body into motion, than how a Substance we know not, should *by impulse* set Body into motion. So that we are no more able to discover, wherein the *Ideas* belonging to Body consist, than those belonging to Spirit. From whence it seems probable to me, that the simple *Ideas* we receive from Sensation and Reflection, are the Boundaries of our Thoughts; beyond which, the Mind, whatever efforts it would make, is not able to advance one jot; nor can it make any discoveries, when it would prye into the Nature and hidden Causes of those *Ideas*²⁵.

As proof for the impossibility of knowing bodies any further than their primary qualities, Locke sees just as much possibility that inanimate bodies might have a spirit inside them, than that they are moved by an external impulse. “Beyond these ideas [...] our faculties will not reach. [...] The simple ideas we receive from sensation and reflection are the boundaries of our thoughts”²⁶. Any metaphysical inquiry into substances is viewed by Locke as improper to human knowledge, and so useless to consider. Thus we come

²⁴ Ibid., Bk. 2, Ch. 31, §8.

²⁵ Ibid., Bk. 2, Ch. 23, §29. Italics are my own, besides “Ideas”, which Locke almost always italicizes.

²⁶ Ibid.

to see things on two different levels that hardly communicate with each other. Substances, known through secondary qualities, are unable to be known; real essences, as Mensch terms them for Locke, consist of the primary qualities and guarantee knowledge. The two levels are incommunicable, and so our knowledge is left as unattaining knowledge of bodies.

It is still difficult to understand the connection between the observable properties of a thing and the real essence standing as their causal basis; indeed it is the impossibility of understanding this relationship that partly grounds Locke's pessimism concerning scientific knowledge. For Locke there is an insuperable divide between the so-called secondary qualities of a thing and its primary or real configuration because sensible ideas cannot be said to resemble the material things they represent²⁷.

If our secondary qualities do not attain knowledge of bodies, Locke must still justify our frequent use of terms that refer to things themselves, and not just their qualities. Locke now considers how our language referring to things is permissible within a theory that denies our capability of knowing substances.

1.4. Nominal essences and bundles of qualities

For the natural tendency of the Mind being towards Knowledge; and finding that, if it should proceed by, and dwell upon only particular things, its Progress would be very slow, and its Work endless: Therefore to shorten its way to Knowledge, and make each Perception the more comprehensive; the first Thing it does [...] is to bind them into Bundles, and rank them so into sorts, that what Knowledge it gets of any of them, it may thereby with assurance extend to all of that sort; and so advance by larger steps in that, which is its great Business, Knowledge²⁸.

The mind can hardly make progress considering particular things, since they are all unique and different in characteristics. To facilitate its process of knowing so many particulars, the mind binds percepts into bundles and sorts them into categories, so that any new knowledge gained regarding one member of a category can be taken to extend to the other members of the same category. These categories receive names such as genera and species, or essences.

The great Business of *Genera* and *Species*, and their *Essences*, amounts to no more but this, That Men making abstract *Ideas*, and settling them in their Minds, with names annexed to them, do thereby enable themselves to consider Things, and discourse of them, as it were in bundles, for the easier and readier improvement, and communication of their Knowledge, which would advance but slowly, were their Words and Thoughts confined only to Particulars²⁹.

²⁷ MENSCH, J., «Material unity and natural organism in Locke», in *Idealistic Studies*, 40 (2010) 1, 150.

²⁸ LOCKE, EHU, Bk. 2, Ch. 32, §6.

²⁹ *Ibid.*, Bk. 3, Ch. 3, §20.

Besides the purpose of facilitating our own thought processes, the mind's bundling process allows for a key aspect of Locke's theory of knowledge: communication with others. Language and thought both serve the purpose of communicating with others. This social standard for our knowledge is what lets Locke avoid having to inquire into the depths of things; he need only reach a level of clarity that allows us to refer to things among ourselves. Once those distinctive traits are sufficiently clear for social interaction and communication of ideas, Locke has fulfilled his objective. "Real essence is, in the end, unknowable but names function well in their capacity to usefully identify and sort substances in a manner that allows them to be both predictable and stable"³⁰. He does not go further into the matter of things and being.

This social aspect of our ideas makes for possible bedlam, however, since we may bundle different simple ideas under the same name:

Because these simple *Ideas* that co-exist, and are united in the same Subject, being very numerous, and having all an equal right to go into the complex specifick *Idea*, which the specifick Name is to stand for, Men, though they propose to themselves the very same Subject to consider, yet frame very different *Ideas* about it; and so the Name they use for it, unavoidably comes to have, in several Men, very different significations. [...] For the Union in Nature of these Qualities, being the true Ground of their Union in one complex *Idea*, Who can say, one of them has more reason to be put in, or left out, than another? From whence it will always unavoidably follow, that the complex *Ideas* of Substances, in Men using the same Name for them, will be very various; and so the significations of those names, very uncertain³¹.

The practically infinite simple qualities in bodies make it difficult to define standards of knowledge and communication between people. Which ones are to be included and which are to left out becomes arbitrary, and so terms change from mind to mind.

Previous to Locke, Schoolmen philosophers had sustained the *essence* as the source from which the primary and secondary qualities of bodies flow, and the basis for our terms. Locke's limits of our sensed knowledge do not allow such a metaphysical notion as *essence*:

This *Essence*, from which all these Properties flow, when I enquire into it, and search after it, I plainly perceive I cannot discover: the farthest I can go, is only to presume, that it being nothing but Body, its real *Essence*, or internal Constitution, on which these Qualities depend, can be nothing but the Figure, Size and Connexion of its solid parts [...] The like ignorance as I have of the real *Essence* of this particular Substance, I have also of the real *Essence* of all other natural ones: Of which *Essences*, I confess, I have no distinct *Ideas* at all³².

³⁰ MENSCH, J., «Material unity and natural organism in Locke», 152.

³¹ LOCKE, EHU, Bk. 3, Ch. 9, §13.

³² Ibid., Bk. 2, Ch. 31, §6.

When such a term as gold is supposed to be an essence that gathers in itself certain qualities as flowing from that essence or substantial form, Locke does not see any clear idea as allowing for such an essence to exist. Since Locke admits no sensed knowledge of substance beyond the primary qualities, he views the supposed essence as a mere construct of our mind, without any real foundation in bodies. And if we speak of essences, general terms and names for groups of things, this is to be taken only nominally, without any basis in things outside of us.

The measure and boundary of each Sort, or *Species*, whereby it is constituted that particular Sort, and distinguished from others, is that we call its *Essence*, which is nothing but that *abstract Idea to which the Name is annexed*: So that every thing contained in that *Idea*, is essential to that Sort. This, though it be all the *Essence* of natural Substances, that we know, or by which we distinguish them into Sorts; yet I call it by a peculiar name, the *nominal Essence*, to distinguish it from that real Constitution of Substances, upon which depends this *nominal Essence*, and all the Properties of that Sort; which therefore, as has been said, may be called the *real Essence*³³.

Names are taken to be essences only nominally, as groupings of similar particulars into a common set. However, to suppose that we have insight into the essence of things and from them create their names would be to attribute an angelic or divine power to human knowing. This is obviously not Locke's opinion of the power of human knowledge, as he denies any knowledge of essences. Our names and categories are simply groupings according to similarity, for the sake of facilitating our knowledge and communication. While this nominalism appears to cut through any need to attain knowledge of real essences, the consequences are great. Anderson comments on Locke's nominalism:

Locke indeed appears to be intent upon his nominalism, and to be denying again the existence of real species. His attack, moreover, seems to extend to the essences of individual things. Can any particular thing, quite apart from species, be said to be *what it is*? That is, does any individual thing have an essence or nature? With regard to material things, at least, Locke's answer is negative: "there is no individual parcel of matter to which any of these qualities are so annexed as to be essential to it or inseparable from it . . . but take away the consideration of its being ranked under the name of some abstract idea, and then there is nothing necessary to it, nothing inseparable from it". ([EHU] Bk. 3, 6, 6) This, it seems to me, truly succeeds in denying real essence to individual material things. For how can there be any essence to which there is nothing necessary – nothing essential?

If essences are only nominal, as serving the purpose of sorting and pointing out to others, then Locke has set the limitations to our knowledge as very minimal indeed. Things do not contain anything beyond what our nominal essences or names grant them; we seem to have come a long way from the basic correspondence between bodies and Ideas through the senses, as presented in Book 1 of the *Essay*.

³³ Ibid., Bk. 3, Ch. 6, §3.

1.5. Representation of bodies and the possibility of universal knowledge

After considering the more general parts of Locke's theory of knowledge and his corresponding metaphysics, we now consider the problem that more specifically interests us, as a preparation for Kant's problem of affection. Similar to his approach to other philosophical problems, Locke takes a commonsense view of how we come to have ideas in our minds of things outside of ourselves.

The next thing to be consider'd, is how *Bodies* produce *Ideas* in us, and that is manifestly by *impulse*, the only way which we can conceive *Bodies* operating in. If then external Objects be not united to our Minds, when they produce *Ideas* in it; and yet we perceive *these original Qualities* in such of them as singly fall under our Senses, 'tis evident, that some motion must be thence continued by our Nerves, or animal Spirits, by some parts of our Bodies, to the Brains or the seat of Sensation, there to *produce in our Minds the particular Ideas we have of them*³⁴.

In a mechanistic view of the world, Locke envisions an impulse as coming from bodies and continuing through the nerves to the mind, thus producing the corresponding idea in us. This is the full length of consideration that Locke dedicates to the mechanism of sensed perception and the relation of representation to things; this appears to Locke a straightforward explanation of how the mind comes to form its representations of things.

How can we be sure that our ideas correspond to things outside us? As Locke himself puts the dilemma, "How shall the Mind, when it perceives nothing but its own *Ideas*, know that they agree with Things themselves?"³⁵ Regarding our simple ideas, their certain, definite correspondence with things leaves no room for doubt for Locke:

Simple *Ideas*, which since the Mind, as has been shewed, can by no means make to it self, must necessarily be the product of Things operating on the Mind in a natural way, and producing therein those Perceptions which by the Wisdom and Will of our Maker they are ordained and adapted to. From whence it follows, that *simple Ideas are not fictions* of our Fancies, but the natural and regular productions of Things without us, really operating upon us; and so carry with them all the conformity which is intended; or which our state requires³⁶.

Locke cannot allow that God would let our minds receive perceptions that did not correspond properly to qualities in things, and so he accepts without further questioning the simple ideas of qualities and powers. We know that things exist outside of ourselves, thanks to our senses passively receiving particles and impacts from bodies. Locke's externalism entails this view of a real reception of the senses from bodies. "It is the

³⁴ Ibid., Bk. 2, Ch. 8, §11-12.

³⁵ Ibid., Bk. 4, Ch. 4, §3.

³⁶ Ibid., Bk. 4, Ch. 4, §4.

receiving of ideas into our minds – and crucially our awareness of receiving ideas into our minds – that generates sensitive knowledge³⁷. Our sensation and its receptivity guarantees knowledge *that* bodies exist outside of ourselves; *how* or *what* such bodies are, what their essence may be, remains beyond our knowledge.

While simple ideas do obtain true knowledge, Locke is not so optimistic about the correspondence of ideas to things when it comes to substances: “Herein therefore is founded the *reality* of our Knowledge concerning *Substances*, that all our complex *Ideas* of them must be such, and such only, as are made up of such simple ones, as have been discovered to co-exist in Nature³⁸. While we cannot know things as they are in their substance, at least we have experience to tell us whether or not the qualities we attribute to a given substance do in fact correspond to that thing. Our ideas of substances can thus be called real, but in a more tentative way than in the case of qualities and powers. And here the importance of our experience comes to the fore, beyond our mind’s power to reason:

What then are we to do for the improvement of our *Knowledge in substantial Beings*? Here we are to take a quite contrary Course, the want of *Ideas* of their real *Essences* sends us from our own thoughts, to the Things themselves, as they exist. *Experience here must teach me*, what Reason cannot: and 'tis by trying alone, that I can certainly know, what other Qualities co-exist with those of my complex *Idea*³⁹.

Since our knowledge cannot arrive at the essence of things, Locke allows only for *experience* to tell us what other qualities are to be added to our idea of the particular substance, and gradually to other members of the same category.

Our Reasonings from these *Ideas* will carry us but a little way in the certain discovery of the other Properties in those Masses of Matter, wherein all these are to be found. Because the other Properties of such Bodies, depending not on these, but on that unknown real Essence, on which these also depend, we cannot by them discover the rest; we can go no farther than the simple *Ideas* of our nominal Essence will carry us, which is very little beyond themselves; and so afford us but very sparingly any certain, universal, and useful Truths⁴⁰.

Here we discover the limits of empiricism as a basis for scientific knowledge. Given the fact that we can only experience and observe particulars, we have no way of inferring attributes or qualities from one particular to all members of its sort. The empiricist and the nominalist can allow only for case-by-case knowledge of particulars alone. If we presume to achieve scientific knowledge as universal and applying to all cases, our mind

³⁷ ALLEN, «Locke and Sensitive Knowledge», 256.

³⁸ LOCKE, EHU, Bk. 4, Ch. 4, §12.

³⁹ Ibid., Bk. 4, Ch. 12, §9.

⁴⁰ Ibid.

is left with a possibly infinite number of particular objects to know and experience first, before being able to declare universal knowledge. Locke's theory of knowledge is stretched to its limits in allowing for scientific laws, as universally applicable. The problem of reaching scientific knowledge is related to our problem of representation or affection, because science purports to make universal statements about the physical world. But if our senses are our only source of certain knowledge, then we can only know particular individuals, and never universals. We will revisit this problem of universals in Popper.

1.6. Conclusion: our vast ignorance of things in themselves

Locke concludes his work satisfied with having placed proper limits to our mind's pretensions in knowing things as they are. Using the example of sea inlets jutting into solid land, Locke sets the possibilities of our knowing as very limited:

All the simple *Ideas* we have are confined (as I have shewn) to those we receive from corporeal Objects by *Sensation*, and from the Operations of our own Minds as the Objects of *Reflection*. But how much these few and narrow Inlets are disproportionate to the vast Extent of all Beings, will not be hard to persuade those, who are not so foolish, as to think their span the measure of all Things. [...] We may be convinced that the *Ideas*, we can attain to by our Faculties, are very disproportionate to Things themselves, when a positive clear distinct one of Substance it self, which is the Foundation of all the rest, is concealed from us⁴¹.

While recognizing the scanty breadth of our knowing, Locke is satisfied at having placed a limit on those dogmatic rationalists or Schoolmen, who purport to know things according to their essences as they truly are. It is significant that Locke should use the instance of substance to show just how little we know. The idea of substance, as things are in themselves, is simply "concealed from us". Kant will take a similar view of things in themselves, as unknowable and completely sealed off from our probing knowledge.

On an epistemological level, Locke holds the mind as passively receiving impulses from bodies. The mind's principal role is to bundle particular traits into common names, so as to facilitate communication. Those bundles are only ever nominal essences, because knowing real essences is impossible for us. We can only know things as far as their primary qualities. On a metaphysical level, only primary qualities have truth-value, as based in things outside of us. There is no clear connection between these qualities and the secondary qualities, which result only within us. The connection between primary and secondary qualities is left to God's good intentions towards us, as relating our Ideas to those Powers or qualities.

⁴¹ Ibid., Bk. 4, Ch. 3, §23.

In conclusion on Locke's *Essay*, Yolton points out the ambiguity of his meaning of "experience". Locke has clearly indicated sensation and reflection as the two sources of our knowledge, but he has not clarified their interplay and proper functions. How do we come to form such abstract ideas as substance, existence and unity? Such concepts would seem to be from reflection, and so reflection appears to be involved in our knowledge from the moment of sensation. Do such reflexive aspects in our experience determine our experience, or are they derived from our experience?

"Derived from" and "constructed for the sake of" refer to different processes. The one gives us an account of the origin of awareness and of certain mental contents; the other presents us with an account of those explanatory concepts employed in understanding the experiential contents. In the absence of any experiential contents there can be no explanatory ones. Both types of mental contents make up "experience," in the sense of the world organized and structured by the conscious organism⁴².

We will find the same ambiguity between sensorial and mental aspects of experience in Kant. For all his straightforwardness regarding bodies' affecting us through the senses, Locke's isolation of secondary qualities from bodies leaves us with very little knowledge of things. This is in part because he assumes experience to be mainly sensitive, but then includes non-sensitive reflection, without analyzing their proper functions.

2. Gottfried Wilhelm Leibniz

Gottfried Wilhelm Leibniz (1646-1716) was influential in modern philosophy thanks to a vast collection of writings. His interests cover many areas, including mathematics and calculus. His metaphysics forms an important paradigm for Kant's transcendental philosophy. Whereas Locke provides basic elements that allow us to understand Kant's epistemology, Leibniz provides Kant with a fundamental world-view or metaphysics, with important Kantian adaptations. As a summary of Leibniz's metaphysics, I present citations from several important works such as *The Monadology*, *Discourse on Metaphysics* and other philosophical essays. Regarding our topic of knowledge, one of Leibniz's important works is *Nouveaux Essais sur l'entendement humain*, a direct response to Locke's *An Essay concerning Human Understanding*. *New Essays* remained unpublished until after Leibniz's death, due to Locke's passing away before Leibniz could

⁴² YOLTON, J.W., «The Concept of Experience in Locke and Hume», 60.

publish it. *New Essays* allows us to appreciate better the contrast between the empiricist and rationalist schools of thought.

2.1. *The monad: the basic metaphysical unit*

“The *MONAD*, which we shall discuss here, is nothing but a simple substance that enters into composites – simple, that is, without parts”⁴³. Leibniz dedicates an entire work to explaining the monads: simple substances with basic characteristics of action and perception. His monads are not to be understood in the corpuscular-atomic model prevalent in Locke; rather than atoms’ hardness and inert motion, Leibniz sees monads as above all dynamic⁴⁴. Leibniz argues against reducing bodies to mere extension and solidity, because such concepts fail to explain why substances continually act. A fundamental characteristic of monads or substances is the notion of force:

[I wish to present] the notion of force or virtue (which the German call *Krafft*, and the French, *la force*), whose detailed explanation I developed in the science of dynamics. This notion sheds much light on the true understanding of the notion of substance. [...] The active force contains a certain act or ἐντελέχειαν, which lays between the faculty of acting and action itself – for it is the means to action, and forms its support⁴⁵.

Leibniz adopts the Aristotelian notion of form or ἐντελέχεια, and gives it an entirely active, dynamic sense. All of substances’ activity and actions are based on this inner force; it acts as a continual source of action. “I assert that this virtue of acting lies in all substance, and that constantly some action is born from it. Further, it cannot be that this same bodily substance (no more than the spiritual substance) could ever cease from

⁴³ LEIBNIZ, G.W., *Philosophical Essays*, Hackett Publishing Company, Indianapolis 1989, 213 (The *Monadology*, n.1). Future reference to this work as PE. Since this volume is an English translation of several of Leibniz’s published works and essays, after the page reference I give in parentheses the title of the actual essay or work, and where applicable, Leibniz’s own paragraph number. “*La Monade, dont nous parlerons icy, n’est autre chose, qu’une substance simple, qui entre dans les composés; simple, c’est à dire, sans parties*”. G. W. LEIBNIZ, *Die Philosophischen Schriften*, Georg Olms, Hildesheim, 1960, VI. 607. Future reference to this work will be presented thus: GP, volume, page.

⁴⁴ Cf. LEIBNIZ, G.W., *New Essays on Human Understanding*, Cambridge University Press, New York 1996, Bk. 2, Ch. 13, p. 151. Future reference to this work as NEHU. I give the book and chapter numbers, since Leibniz intentionally followed the same order of topics as Locke’s *An Essay concerning Human Understanding*. The French original: *Nouveaux essais sur l’entendement humain*, in *Sämtliche Schriften und Briefe*, Akademie Verlag, Berlin 1990, Series VI, Volume 6, 151. Since the Cambridge University Press follows the exact page numbering of the original Akademie edition in French, I do not give specific references for this work.

⁴⁵Ibid., GP, IV, 469. “*Notionem virium seu virtutis (quam Germani vocant Krafft, Galli la force) cui ego explicandae peculiarem Dynamices scientiam destinavi, plurimum lucis afferre ad veram notionem substantiae intelligendam. [...] vis activa actum quendam sive ἐντελέχειαν continet, atque inter facultatem agendi actionem- que ipsam media est, et conatum involvit*”. Author’s translation.

acting⁴⁶. Force or dynamism is an essential characteristic of monads, as the determining element of all their actions.

In his metaphysics of monads, Leibniz does not allow for any interaction between monads. Since each monad already contains within itself the force that determines all its action, there can be no influence or interaction between substances:

But in simple substances the influence of one monad over another can only be ideal, and can only produce its effect through God's intervention, when in the ideas of God a monad rightly demands that God take it into account in regulating the others from the beginning of things. For, since a created monad cannot have an internal physical influence upon another, this is the only way in which one can depend on another⁴⁷.

In direct contrast to the mechanistic view of physical interaction, Leibniz cannot see how a body could possibly move unless it already contained that motion inside of it: "Bodies would not receive motion with the stroke, in conformity with the laws they are observed to obey, unless they already contained motion within themselves"⁴⁸. Given each monad's inner source of action or force, each one is completely isolated from the rest, without any conceivable way of interacting with other monads. In this isolation of monads, each one already includes and contains within itself everything that it will do and undergo, as well as everything that it will perceive.

Besides motion, a second constitutive element of monads is their perception of the universe. The isolation of every monad regards not only their motion and interaction, but also their interaction through representation or perception. "The monads have no windows through which something can enter or leave. Accidents cannot be detached, nor can they go about outside of substances"⁴⁹. Each monad is a mirror that reflects in itself the universe outside of it: "Moreover, every substance is like a complete world and like a mirror of God or of the whole universe, which each one expresses in its own way"⁵⁰. It is

⁴⁶Ibid., 470. "*Hanc agendi virtutem omni substantiae inesse ajo, semperque aliquam ex ea actionem nasci; adeoque nee ipsam substantiam corpoream (non magis quam spiritualem) ab agendo cessare unquam*". Author's translation.

⁴⁷ Ibid., PE, 219 (*The Monadology*, n.51). "*Mais dans les substances simples ce n'est qu'une influence ideale d'une Monade sur l'autre, qui ne peut avoir son effet que par l'intervention de Dieu, en tant que dans les Idées de Dieu une Monade demande avec raison, que Dieu en réglant les autres dès le commencement des choses, ait regard à elle. Car puisqu'une Monade créée ne sauroit avoir une influence physique sur l'interieur de l'autre, ce n'est que par ce moyen, que l'une peut avoir de la dependence de l'autre*". GP, VI, 615.

⁴⁸ Ibid., NEHU, Bk. 2, Ch. 21, 171. "*Il y a quelque chose à dire là dessus, car les corps ne recevraient point le mouvement dans le choc, suivant les loix qu'on y remarque, s'ils n'avoient déjà du mouvement en eux*".

⁴⁹ Ibid., PE, 214 (*The Monadology*, n.7). "*Les Monades n'ont point de fenêtrés, par lesquelles quelque chose y puisse entrer ou sortir. Les accidens ne sauroient se detacher, ny se promener hors des substances*". GP, VI, 608.

⁵⁰ Ibid., PE, 42 (*Discourse on Metaphysics*, section 9). "*De plus toute substance est comme un monde entier et comme un miroir de Dieu ou bien de tout l'univers, qu'elle exprime chacune à sa façon*". In

not perception limited to a given location and time; rather, each monad contains in itself the image of everything that happens outside, in the entire universe and every moment in history. “For it expresses, however confusedly, everything that happens in the universe, whether past, present or future – this has some resemblance to an infinite perception or knowledge”⁵¹. This inner, mirror-like reflection of the universe constitutes perception, and is perfectly ordered and determined to coincide with the universe. As we will see in his principle of pre-established harmony, Leibniz holds inner perception and external reality as coinciding perfectly⁵². In our problem of affection, regarding how we form representations within us of external things, Leibniz sees all representation or perception as already contained inside every monad, and not just in human souls.

Throughout his career, Leibniz continually argues against the atomic-mechanistic view of physics, as well as the Scholastic philosophy of forms and powers. Matter is nothing but an aggregate, whose unity must derive from simple substances; such simple substances or monads consist above all in perception⁵³. Once we are aware of substances’ fundamental power of perception, we are “transported into another world, so to speak: from having existed entirely amongst the phenomena of the senses, one comes to occupy the intelligible world of substances”⁵⁴. It is the inner reality of monads that allows us to understand things properly; our senses are vague and unclear. Much like Locke’s distinction of secondary and primary ones, so too Leibniz conceives only the primary ones as truly intelligible. It is because the secondary qualities are based on and related to the primary ones that they too offer a sort of knowledge. Following on Descartes’ distinction of extension and thought, with its mechanistic view of extended matter, Leibniz sets surface extension as the intelligible basis for our knowledge of bodies. Leduc comments on the combination of sensation and intelligence in coming to know bodies according to Leibniz’s theory.

Sensation cannot be the origin of distinct empirical notions. However, when sensible notions are related to intelligible ones, they become, in several cases, important theoretical sources for explaining phenomena. In fact, sensible notions must be resolved through the help of mechanical or primary notions. It is because mechanical notions are represented in our understanding as distinct marks that they are given definitions and conceptual analysis⁵⁵.

Sämtliche Schriften und Briefe, Akademie-Verlag, Berlin 1999, series VI, volume 4-B, 1542. Future references to this volume will be thus: AA, page number.

⁵¹ Ibid. “*Car elle exprime quoyque confusement tout ce qui arrive dans l’univers, passé, present ou avenir, ce qui a quelque ressemblance à une perception ou connoissance infinie*”. Ibid.

⁵² Cf. Ibid., PE, 221 (*The Monadology*, n.63); GP, VI, 617-618.

⁵³ Cf. Ibid., NEHU, Bk. 4, Ch. 3, 378.

⁵⁴ Ibid., 379. “*On est transferé pour ainsi dire dans un autre monde, c’est à dire dans le Monde intelligible des substances, au lieu qu’auparavant on n’a été que parmi les phenomenes des sens*”.

⁵⁵ LEDUC, C., «Leibniz and Sensible Qualities», in *British Journal of the History of Philosophy*, 18 (2010) 5, 804.

We will return to the epistemological aspects of this theory of perception; here we see the distinction that Leibniz places on the importance of the intelligible character of the primary, mechanic notions such as extension and motion. Mechanical processes can never explain how monads come to perceive; only a rational understanding allows for the phenomenon of perception⁵⁶. Perception within monads cannot possibly come from the outside; Leibniz belittles the Scholastics' teaching of forms and powers, as "entertaining a picture of little subsistent beings which can fly in and out like pigeons with a dovecote. It is unwittingly to turn [powers] into substances"⁵⁷. Substances have primary powers of perception and force; other powers stemming from them can only remain in the monad itself, without being received from the outside. We represent things outside of ourselves from within our minds.

With this understanding of monads and perception, and with a more acute intelligence, we could know exactly what was to happen to us:

Nothing can happen to us except thoughts and perceptions, and all our future thoughts and perceptions are merely consequences, though contingent, of our preceding thoughts and perceptions, in such a way that, if I were capable of considering distinctly everything that happens or appears to me at this time, I could see in it everything that will ever happen or appear to me⁵⁸.

Thus Leibniz sees monads or substances as intrinsically dynamic and perceptive of the universe, but completely isolated from each other, with no possible influence between them. Each monad already contains in itself all its future actions, as natural consequences of the past. The guarantee of inner perceptions and the outer world lays in God, as we will see in his principle of pre-established harmony⁵⁹.

Whereas each simple monad is infinitely small, living beings are collections of monads around one central monad, as a mass of body belonging to the central monad. These composite monads then allow for the central one to represent things outside itself,

⁵⁶ Cf. LEIBNIZ, NEHU, Bk. 4, Ch. 3, 379.

⁵⁷ Ibid. "Se figurer des petits Etres subsistans, qui peuvent entrer et sortir comme les pigeons d'un colombier. C'est en faire des substances sans y penser".

⁵⁸ Ibid., PE, 47 (*Discourse on Metaphysics*, section 14). "On pourroit donc dire en quelque façon, et dans un bon sens, quoyque éloigné de l'usage, qu'une substance particuliere n'agit jamais sur une autre substance particuliere, et n'en patit non plus si on considere, que ce qui arrive à chacune n'est qu'une suite de son idée toute seule, puisque cette idée enferme déjà tous les predicats ou evenemens, et exprime tout l'univers. En effect rien ne nous peut arriver que des pensées et [des] perceptions, et toutes nos pensées et perceptions futures ne sont que des suites quoyque contingentes de nos pensées et perceptions precedentes, tellement que si j'estois capable de considerer distinctement tout ce qui m'arrive ou paroist à cette heure, j'y pourrois voir tout ce qui m'arrivera, ou qui me paroistra à tout jamais". AA, 1551.

⁵⁹ Cf. Ibid., 219 (*The Monadology*, n.51). GP, VI, 615.

as a nerve center receiving information from the surrounding monads-parts⁶⁰. In the case of human beings, our rational soul or mind has superiority over other non-rational monads, in that it not only reflects and perceives God's works, but can freely produce works, similar to God's⁶¹.

Leibniz holds God's existence as certain and necessary, as shown by the fact that things do indeed exist without causing themselves. Given the harmony between each monad and the universe it mirrors within itself, only the Necessary Being could have ordered things thus⁶². Since monads are completely isolated from each other and have no interaction, Leibniz only allows God to act upon us:

In rigorous metaphysical truth, there is no external cause acting on us except God alone, and he alone communicates himself to us immediately in virtue of our continual dependence. From this it follows that there is no other external object that touches our soul and immediately excites our perception. Thus we have ideas of everything in our soul only by virtue of God's continual action on us⁶³.

Leibniz's theory of monads can be summarized as follows. Monads have inner perception of all external reality, as "mirrors of the universe". However, these mirrors have no windows that allow for influence or information from the outside. All perception is already present within the monad, and it is from its own depths that it draws its perceptions. Along with perception, monads are dynamic, in constant action and motion. And just as there are no windows for perceiving, there is no possible physical interaction between monads. All monads are pre-determined to act and react in a certain way; interaction is only apparent. By his rationalist, conceptual understanding of monads, Leibniz had overcome the problems of representation and interaction: They have already been determined or "programmed" by God.

2.2. Leibniz's theory of knowledge as mind over senses

In contrast to Locke's priority of senses over the mind, Leibniz holds the senses' ideas as confused, compared to the intellect's ideas as distinct and clear⁶⁴. Leibniz repeatedly argues against perception as things somehow entering our mind from the

⁶⁰ Cf. Ibid., 207 (*Principles of Nature and Grace, based on Reason*, n.3). GP, VI, 598-599.

⁶¹ Cf. Ibid., 211 (*Principles of Nature...*, n.14). GP, VI, 604.

⁶² Cf. Ibid., 210 (*Principles of Nature...*, n.8). GP, VI, 602.

⁶³ Ibid., 59 (*Discourse on Metaphysics*, section 28). "*Dans la rigueur de la vérité Metaphysique, il n'y a point de cause externe qui agisse sur nous, excepté Dieu seul, et luy seul communique avec nous immédiatement en vertu de nostre dependence continue. D'où il s'ensuit qu'il n'y a point d'autre objet externe, qui touche nostre ame, et qui excite immédiatement nostre perception. Aussi n'avons nous dans nostre ame les idées de toutes choses, qu'en vertu de l'action continue de Dieu sur nous*". AA, 1573.

⁶⁴ Cf. Ibid., NEHU, Bk 1, Ch 1, 81.

outside; “nothing ever enters into our mind naturally from the outside”⁶⁵. It is from its own inner depths that monads perceive.

God originally created the soul (and any other real unity) in such a way that everything must arise for it from its own depths [*fonds*], through a perfect *spontaneity* relative to itself, and yet with a perfect *conformity* relative to external things. And thus, since our internal sensations (meaning those in the soul itself, and not those in the brain or in other subtle parts of the body) are merely phenomena which follow upon external beings, or better, they are true appearances and like well-ordered dreams, these internal perceptions in the soul itself must arise because of its own original constitution, that is, they must arise through the representative nature (capable of expressing external things as they relate to its organs) given to the soul from its creation⁶⁶.

Knowledge comes from within the soul; our inner ideas’ conformity with things shows the perfect harmony that God has placed within each monad, such that they coincide perfectly. The mind can only know things that it draws from itself; our ideas coincide perfectly with reality and so truth is guaranteed. In direct contrast with the Scholastic notion of species or forms, Leibniz cannot conceive of how things could “send” images of themselves, such that the soul should receive them through “windows”. That would be too physical or corporeal a concept of the soul, since it implies physical interaction⁶⁷. Leibniz improves upon the Aristotelian-Scholastic axiom, “there is nothing in the soul which does not come from the senses”. In a profoundly rationalist manner, Leibniz adds: “An exception must be made of the soul itself and its states. *Nihil est in intellectu quod no fuerit in sensu, excipe: nisi ipse intellectus*. Now the soul includes being, substance, one, same, cause, perception, reasoning, and many other notions which the senses cannot provide”⁶⁸. If the mind has such rational ideas, they have nothing to do with the senses; the mind must perceive those ideas in and from itself. All intellectual ideas such as being and cause are drawn from our mind⁶⁹.

To further illustrate his point that perception is only internal, Leibniz asks that the mechanistic-physical view show how it can explain our process of perceiving. Comparing

⁶⁵ Ibid., PE, 58 (*Discourse on Metaphysics*, section 26). “*Naturellement rien ne nous entre dans l’esprit par dehors*”. AA, 1570.

⁶⁶ Ibid., 143-144 (*A New System of Nature*) “*Dieu a créé d’abord l’ame, ou toute autre unité réelle de telle sorte, que tout luy doit naître de son propre fonds, par une parfaite spontanéité à l’égard d’elle-même, et pourtant avec une parfaite conformité aux choses de dehors. Et qu’ainsi nos sentimens intérieurs (c’est à dire, qui sont dans l’ame même, et non par dans le cerceau, ny dans les parties du corps) n’estant que des phenomenes suivis sur les estres externes, ou bien des apparences véritables, et comme des songes bien réglés, il faut que ces perceptions internes dans l’ame même luy arrivent par sa propre constitution originale, c’est à dire par la nature representative (capable d’exprimer les estres hors d’elle par rapport à ses organes) qui luy a esté donnée des sa création*”. GP, IV, 484.

⁶⁷ Cf. Ibid., NEHU, Bk 2, Ch 1, 110.

⁶⁸ Ibid., 111. “*Mais il faut excepter l’ame même et ses affections. Nihil est in intellectu quod non fuerit in sensu, excipe: nisi ipse intellectus. Or l’ame renferme l’estre, la substance, l’un, le même, la cause, la perception, le raisonnement, et quantité d’autres notions que les sens ne sauroient donner*”.

⁶⁹ Cf. Ibid., Bk. 1, Ch. 1, 85.

the soul to the inner workings of a mill, the mechanist would only be able to show parts pushing one another; such physical interaction cannot explain perception. This limitation of the mechanistic stance leads Leibniz to go beyond the merely corporeal to the inner reality of monads. “And so, we should seek perception in the simple substance and not in the composite or in the machine. Furthermore, this is all one can find in the simple substance – that is, perceptions and their changes. It is also in this alone that all the *internal actions* of simple substances can consist”⁷⁰. Knowledge and perception can only happen internally to monads and the soul; the senses have no significant role in how we form ideas.

During the 16th and 17th century an important debate occurred regarding whether space is absolute and completely in the mind, or whether it is relative, as regarding bodies and empty space between them. Leibniz’s rationalist view sees space as completely in the mind, as previous and independent of bodies outside itself. “We can distinguish in things both receptacles and what the receptacles receive. The receptacles are time and place or space. What is received are the bodies which exist in them [time and space]”⁷¹. Space is an abstract, mental kind of ordering, which then allows for bodies to move from place to place in a conceivable way. This a posteriori motion of bodies can happen only thanks to the primary ordering of space in the mind⁷². The rationalist priority of the mind over objects and the senses is in the debate regarding space.

Rational knowledge such as geometry and mechanics gives us certain knowledge, whereas sensed knowledge leaves us with confused, unclear knowledge. Ideas of sensed qualities do give us truth-value regarding external things, but only because they are based on intellectual, internal truths⁷³. Leibniz declares himself closer to Plato, while Locke is closer to Aristotle when it came to explaining how we know⁷⁴; Leibniz shows the truth-value of our knowledge in a distinctly Platonic fashion: “Our certainty regarding universal and eternal truths is grounded in the ideas themselves, independently of the senses, just as pure ideas, ideas of the intellect – e.g. those of *being*,

⁷⁰ Ibid., PE, 215 (*The Monadology*, n.17). “Ainsi c’est dans la substance simple et non dans le composé, ou dans la machine, qu’il la faut chercher. Aussi n’y a-t-il que cela qu’on puisse trouver dans la substance simple, c’est à dire les perceptions et leur changemens. C’est en cela seul aussi que peuvent consister toutes les Actions internes des substances simples”. GP, VI, 609.

⁷¹ Ibid., AA, 1509. “Possunt in rebus distingui receptacula a receptis. Receptacula sunt Tempus et Locus seu spatium. Recepta sunt corpora quae in his existunt”. Author’s translation.

⁷² Cf. Ibid., NEHU, Bk. 2, Ch. 4, 127.

⁷³ Cf., Ibid., Bk. 4, Ch. 4, 392.

⁷⁴ Cf., Ibid., Preface 47.

one, same etc. – are also independent of the senses”⁷⁵. The senses can only gain value as truth thanks to their internal relation with the intellect, whose truths are necessary.

Leduc sees Leibniz as thus forging a middle path between Descartes’s rationalism and Locke’s empiricism. The senses do indeed give us information about bodies, but such information must be paired with intelligible, rational concepts in order to attain certain knowledge. Leduc comments on Leibniz’s frequent example of gold and its qualities, such as malleability and fusibility. Gold’s qualities involve both sensed qualities like heat, as well as primary, intelligible qualities like shape.

Without the notion of heat, it would be impossible to express the essence of gold by way of the property of fusibility. In nominal definitions, rational notions allow sensible qualities to be formulated in a predicative form so that they become distinct marks. In other words, mechanical and geometrical notions quantify sensitive qualities in order to explain phenomena distinctly⁷⁶.

It is the conceptual, rational and intelligible aspects of knowing that contribute the necessary distinctness, which the senses cannot possibly explain or contribute. It is only thanks to the rational character of the primary qualities that sensed perception receives proper grounding according to Leibniz.

Leibniz deals with the modes of possibility, reality and existence as regards our knowing. Since the mind draws its ideas from itself, any idea that it conceives as possible is real. Existence is not limited only to experience. Leibniz allows for all possible beings to exist at some point the past or in the future; in other words, we are not to be limited only to our experience⁷⁷. “An idea is real, also, if it is possible, even when nothing actual corresponds to it. Otherwise the idea of a species would become 'chimerical' if all the members of the species went out of existence”⁷⁸. Reality is based on possibility, in that the mind must be capable first of conceiving the idea, before it could actually exist. This essential element of Leibniz’s philosophy will re-appear in Kant’s transcendental philosophy: the mind’s ideas as more decisive in knowledge as possible and conceivable, prior to the senses’ experience of bodies existing.

⁷⁵ Ibid., Bk. 4, Ch. 4, 392. “*D’ailleurs le fondement de nôtre certitude à l’égard des vérités universelles et éternelles est dans les idées mêmes indépendamment des sens, comme aussi les idées pures et intelligibles ne dépendent point des sens, par exemple celle de l’Estre, de l’un, du même, etc*”.

⁷⁶ LEDUC, «Leibniz and Sensible Qualities», 808.

⁷⁷ Cf. LEIBNIZ, NEHU, Bk. 2, Ch. 30, 265.

⁷⁸ Ibid., NEHU, Bk. 2, Ch. 30, 263. “*Une idée aussi sera réelle, quand elle est possible quoyqu’aucun existent n’y reponde. Autrement si tous les individus d’une espece se perdoient, l’idée de l’espece deviendrait chimerique*”.

2.3. *Essences and our knowledge of them*

In our knowledge of things, Leibniz gives pride of place to the mind over the senses. True knowledge consists in giving real definitions that distinctly capture fully the object. Leduc provides examples of such rational knowledge: “Geometrical axioms or mechanical laws, such as the law of inertia or of causality, belong to the adequate type of knowledge. Human understanding proceeds a priori to formulate adequate notions, without the contribution of sensible qualities”⁷⁹. Such rational knowledge of material bodies leads Leibniz to oppose Locke on the point of knowing the real essence of things.

In his *New Essays on Human Understanding*, Leibniz argues against Locke’s denial of anything like essences existing in things themselves, or at least, as far as we can know. Leibniz asserts that there is an essential core to each individual, which can be distinguished from its accidental qualities:

I believe there is something essential to individuals, and more than there is thought to be. It is essential to substances to act, to created substances to be acted upon, to minds to think, to bodies to have extension and motion. [...] But I agree that some sorts or species are accidental to the individuals which are of them, and an individual can stop being of such a sort. Thus one can stop being healthy, handsome, wise, and even visible and tangible, but one does not stop having life and organs and perception⁸⁰.

As we saw, Locke emphasizes our inability to grasp or understand anything like essence in things. In contrast, Leibniz requires that Locke show how we can know members of a species, since their individual traits and properties may vary enormously. The obligation lies with Locke to prove that there is nothing like an essence as common to all members of a species. Leibniz cites the example of “monstrous” babies. At birth these babies show external qualities different from normal human babies, but then later they show use of reason and thus are held to be members of the human species⁸¹. Their qualities would indicate a different species, and yet they end up being humans; Leibniz sees this as a proof that qualities may vary enormously, yet a real essence does explain things’ behavior and traits.

⁷⁹ LEDUC, «Leibniz and Sensible Qualities», 805.

⁸⁰ LEIBNIZ, NEHU, Bk. 3, Ch. 6, 305. “*Je crois qu’il y a quelque chose d’essentiel aux individus et plus qu’on ne pense. Il est essentiel aux substances d’agir, aux substances créées de patir, aux esprits de penser, aux corps d’avoir de l’étendue et du mouvement. [...] Mais il y a des sortes ou especes accidentelles (je l’avoue) aux individus qui en sont, et ils peuvent cesser d’estre de cette sorte. Ainsi on peut cesser d’estre sain, beau, savant, et même d’estre visible et palpable, mais on ne cesse pas d’avoir de la vie et des organes, et de la perception*”.

⁸¹ Cf. Ibid., Bk. 3, Ch. 6, 311.

Essences are what allow for common traits among individuals. On the level of individuals themselves, Leibniz's concept of substance as monad means that it includes in itself all its predicates, past and future. "The nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed"⁸². As for our knowledge of substances, their predicates and attributes are essential to substances, as distinguishing marks through which we know substances. Too much of a separation between the subject and its attributes leads to empty subjects; things are always subjects of an array of attributes. While we may abstract from those attributes and consider "the pure subject in general", such abstraction is far removed from reality, and leads to error. Similar to the abstract notions of subject and substance in general, so too Leibniz considers that philosophers abstract *being* so far from its details and characteristics that it is left empty⁸³.

2.4. Leibniz's principles of sufficient reason and pre-established harmony

After having presented both his monadology and his theory of knowledge, we now consider two of Leibniz's fundamental principles for his overall philosophy. Given the mind's priority in knowledge, he lays as his main principle "that *nothing takes place without sufficient reason*, that is, that nothing happens without it being possible for someone who knows enough things to give a reason sufficient to determine why it is so and not otherwise"⁸⁴. There is a basic rationale behind the world, sufficient enough to ground why things exist as they do. Now this currently existing world does in fact exist, because it pleases God that it exist in this way. This principle of sufficient reason holds God to choosing the best possible world, because "what is more perfect freely pleases God. [...]"

⁸² Ibid., PE, 41 (*Discourse on Metaphysics*, section 8). "*La nature d'une substance individuelle, ou d'un Estre complet, est d'avoir une notion si accomplie, qu'elle soit suffisante, à comprendre et à en faire deduire tous les predicats du sujet à qui cette notion est attribuée*". AA 1540.

⁸³ Cf. Ibid., NEHU, Bk. 2, Ch. 23, 218. "If you distinguish two things in a substance—the attributes or predicates, and their common subject—it is no wonder that you cannot conceive anything special in this subject. That is inevitable, because you have already set aside all the attributes through which details could be conceived. Thus, to require of this 'pure subject in general' anything beyond what is needed for the conception of 'the same thing'—e.g. it is the same thing which understands and wills, which imagines and reasons—is to demand the impossible; and it also contravenes the assumption which was made in performing the abstraction and separating the subject from all its qualities or accidents. The same alleged difficulty could be brought against the notion of being, and against all that is plainest and most primary. For we may ask a philosopher what he conceives when he conceives 'pure being in general'; since the question excludes all detail, he will have as little to say as if he had been asked what 'pure substance in general' is".

⁸⁴ Ibid., PE, 209-210 (*Principles of Nature and Grace, based on Reason*, n.7). "*Que rien ne se fait sans raison suffisante, c'est à dire que rien n'arrive, sans qu'il soit possible à celui qui connoitroit assés les choses, de rendre une Raison qui suffise pour determiner, porquoy il en est ainsi, et non pas autrement*". GP, VI, 602.

It is indeed his very nature, the divine perfection”⁸⁵. Rationality and the best possible world are what God freely decides to do, as if rationality were outside God himself and he were obliged (of his own choosing, it is understood) to follow this rationality of sufficient reason and the best possible world. The principle of sufficient reason is the guideline for God and for us.

Leibniz allows for no interaction between monads, either on the perceptual, imagery level, or on the physical level of influence. In order for inner perception and force of each monad to coincide with others, Leibniz proposes his principle of pre-established harmony:

These beings have received their nature which is active as well as passive (i.e. have received both their immaterial and their material features) from a universal and supreme cause; [...] But this argument, which appears to have only moral certainty, is brought to a state of absolute metaphysical necessity by the new kind of harmony which I have introduced, namely the pre-established harmony. Here is how: each of these souls expresses in its own manner what occurs outside itself, and it cannot do so through any influence of other particular beings (or, to put it a better way, it has to draw up this expression from the depths of its own nature); and so necessarily each soul must have received this nature – this inner source of the expressions of that lies without – from a universal cause, upon which all of these beings depend and which brings it about that each of them perfectly agrees with and corresponds to the others⁸⁶.

The last line from this quote received much criticism from Leibniz’s opponents: God, the universal cause, has given each individual a nature that so perfectly agrees with and corresponds with outer things and phenomena that causality and interaction appear real. This interaction however is fictitious according to Leibniz, and he holds monads as completely isolated among each other, perfectly determined by God regarding their perception and action. Not only are the inner perceptions determined to coincide perfectly with the universe, but monads’ actions are also pre-established⁸⁷.

God plays the key role of joining the inner world of rational understanding and the outer world of phenomena and dynamism. Just as we can know and rationally contemplate a thing’s essence, God first contemplates all possible worlds and things, and then chooses the best possible world. Concepts precede existence for both us and for

⁸⁵ Ibid., AA, 1449. “*Deo autem libere placet quod perfectius est. [...] Est utique ipsa natura seu perfectio divina*”. Author’s translation.

⁸⁶ Ibid., NEHU, Bk. 4, Ch. 10, 440. “*Or ces Etres ont reçu leur nature tant active que passive (c’est à dire, ce qu’ils ont d’immatériel et de matériel) d’une cause générale et suprême, [...] Mais cet argument qui ne paroît être que d’une certitude morale, est poussé à une nécessité tout à fait métaphysique, par la nouvelle espèce d’harmonie, que j’ai introduite, qui est l’harmonie préétablie. Car chacune de ces Ames exprimant à sa manière ce qui se passe au dehors et ne pouvant l’avoir par aucune influence des autres Etres particuliers, ou plutôt, devant tirer cette expression du propre fonds de sa nature; il faut nécessairement que chacune ait reçu cette nature (ou cette raison interne des expressions de ce qui est au dehors) d’une cause universelle, dont ces Etres dependent tous, et qui fasse que l’un soit parfaitement d’accord et correspondant avec l’autre*”.

⁸⁷ Cf. Ibid., Bk. 2, Ch. 23, 220.

God. Admittedly, Leibniz's belief in creation adds an important difference between our knowledge and God's. However, before we know a thing's existence, we first conceive its possibility, its concept; otherwise, we could never conceive it.

Leibniz's demand that the notion of God be shown to be consistent as a precondition for establishing God's existence can be seen as part of his more general approach regarding the relation between possibility and existence. For Leibniz, existence claims presuppose possibility or consistency claims. According to Leibniz, that something can exist is logically prior to whether it in fact exists. To show that something is possible requires showing that its concept is consistent. This is the point of giving a real definition – a definition establishing the consistency of a given concept⁸⁸.

This conceptual consistency must necessarily precede any existence; God must first consider all the series of possible worlds and things, as regards each one's inherent consistency. The "best" is what is most coherent, and which God then decrees to exist. Such conceptualism is an important aspect of rationalism, and one which we will discover present in Kant's thought.

2.5. Conclusion: concepts determine material beings

In conclusion on Leibniz's philosophy, we can see that his epistemology is based fundamentally upon his metaphysics of monads. Monads have two distinctive powers, perception and dynamic motion. Both aspects can only come from within the monad, leaving any type of interaction between monads as merely apparent and not metaphysically real. God is the ultimate guarantee of our perceptions coinciding with the world, through pre-established harmony. The problem of affection is solved, because every monad already contains in itself images of the entire universe, past and future. Knowledge is guaranteed within each monad, based on the rationalist necessity that the best possible world exist.

Not only is his epistemology based on his monadology, but his monadology is a way of explaining how we know. In order to explain the rational order that we find in phenomena, Leibniz sees all our knowledge as purely internal, with no real interaction with the outside world. Such isolation of monads justifies a pre-conceived rationalist understanding of things, without having to explain any real phenomena. Things behave as pre-established by God; we perceive and know them rationally, as thoroughly and completely knowable. Compared to Locke's nominalist skepticism that results from his

⁸⁸ NACHTOMY, O., «Leibniz and Kant on Possibility and Existence», in *British Journal of the History of Philosophy*, 20 (2012) 5, 958.

empiricism, Leibniz offers a much fuller understanding of things. However, his rationalism leads to a lesser understanding of material bodies. “By no argument can it be demonstrated absolutely that bodies exist”⁸⁹. Leibniz’s conceptual rationalism leaves with the problem of the existence of things outside of us; certainty in knowledge forces him to neglect the world of bodies.

3. David Hume

David Hume (1711-1776) has had a significant influence in the history of philosophy, and his writings were well known in Germany by the 1750s, as Kant started his career⁹⁰. Kant’s frequent references to the Scottish philosopher shows just how thought-provoking Hume’s skepticism is.

The subtitle to Hume’s initial and groundbreaking work is telling: *A Treatise of Human Nature: being an attempt to introduce the experimental method of reaf[s]oning into Moral Subjects*. I present here his teachings from book one of *A Treatise of Human Nature*, as pertinent to our subject, but it should be understood in view of the other two books, on the passions and on morals. A similar project appears in Kant’s transcendental philosophy, in that his *Critique of Pure Reason* must be taken into consideration alongside his *Critique of Practical Reason*, wherein the moral subject and his reason are presented. Hume considers his theory of knowledge as a condition to explain his moral philosophy.

While Hume professes to base his work on observation, as opposed to metaphysical speculation, Yolton makes evident Hume’s little use of observation and his tendency to reflect on a type of “metaphysics of experience”.

[Hume] preached experiment and observation but there is very little observational data cited in his writings. The “experience” he thought he was using as his guide was that complex level of awareness and thinking of adult life, that level which arises after the early levels of awareness have emerged. His “science of human nature” was an attempt at a kind of introspective enterprise, but it is really a metaphysic of experience, asserting conclusions which could not be—and which are not—established through observation and experiment⁹¹.

Here we find a difficulty in philosophy of knowledge: How much is based on “observation and experiment”, and how much is based on pre-conceived ideas? Westphal

⁸⁹ LEIBNIZ, G.W., *De modo distinguendi phaenomena realia ab imaginariis*, AA, VI, 4, 1502. As cited by LEDUC, 814. “*Nullo argumento absolute demonstrari potest, dari corpora*”.

⁹⁰ Cf. KUEHN, M., «Kant’s Conception of ‘Hume’s Problem’», in *Journal of the History of Philosophy*, 21 (1983) 2, 175-193.

⁹¹ YOLTON, «The Concept of Experience in Locke and Hume», 69.

argues that Hume does recognize the insufficiencies of his initial, purely empirical approach; perhaps closer observation and study of human sensing and perception would have granted him a less skeptical conclusion⁹².

3.1. *Basic notions and principles of Hume's epistemology*

Regarding our knowledge in general, Hume follows Locke in holding sensation as a much more certain criterion for truth than our minds. Impressions are formed from sensations, whose source or cause we cannot know⁹³. The memory and the imagination then copy the impressions as ideas, and so they can be brought up on later occasions and considered by reflection. These ideas still produce impressions in us on those later occasions, but much less vividly than when they are produced directly in sensation⁹⁴. Sensed impressions are Hume's one certain source of knowledge: "For since all actions and sensations of the mind are known to us by consciousness, they must necessarily appear in every particular what they are, and be what they appear"⁹⁵. This exact copy of sensation and reality has come to be known as Hume's Copy Theory, and forms an essential part of his empirical theory of knowledge⁹⁶.

The mind's way of recalling ideas is either through memory – which keeps the vivid nature of the idea-impression – or through imagination – which "paints its objects in more distinct colours"⁹⁷. Throughout his philosophy of the human mind, Hume distinguishes the two main players of the senses and imagination, along with reason. Senses provide us with sure knowledge of things, whereas the imagination can arbitrarily mix and match ideas at will. Reason's role is critical, in that it must see how far the imagination's ideas have truth-value, and how far they are merely subjective⁹⁸. We shall

⁹² Cf. WESTPHAL, K.R., «Hume, Empiricism and the Generality of Thought», in *Dialogue*, 52 (2013) 2, 259-261.

⁹³ Cf. HUME, D., *A Treatise of Human Nature*, 1.1.2.1. Further references to this work will be as THN. In citing *A Treatise*, I follow the numbering system of Book.Part.Section.Paragraph. The paragraph numbering is from the Oxford University Press 2007 edition, edited by David Fate Norton and Mary J. Norton.

⁹⁴ Cf. *Ibid.*

⁹⁵ *Ibid.*, THN, 1.4.2.7.

⁹⁶ Cf. YOLTON, J.W., «The Concept of Experience in Locke and Hume», 63; 66-67.

⁹⁷ Cf. HUME, THN, 1.1.3.1.

⁹⁸ As we will see, Hume's attack on induction in cause-effect is an example of the reason realizing that it is the imagination that leads us to believe that the future will be like the past. Cf. HUME, THN, 1.3.6.3. "From the mere repetition of any past impression, even to infinity, there never will arise any new original idea, such as that of a necessary connexion; and the number of impressions has in this case no more effect than if we confin'd ourselves to one only. But tho' this reasoning seems just and obvious; yet as it wou'd be folly to despair too soon, we shall continue the thread of our discourse; and having found, that after the discovery of the constant conjunction of any objects, we always draw an inference from one object to another, we shall now examine the nature of that inference, and of the transition from the

discover, thanks to Hume's critique through reason, that the imagination leads us to hold truths that cannot reasonably hold. However, there is some ambiguity as to the imagination's role, compared to the reason; Westphal sees the imagination playing basically the same role as reason consistently throughout Hume's work⁹⁹. It is ambiguous whether Hume holds the imagination as granting us reliable or fictitious knowledge of things, as we will see.

While the mind's imagination is completely free to combine simple ideas into whatever combination of complex ideas it may choose, Hume finds that the mind has a certain habit or custom of frequently joining the same simple ideas into the same complex ideas. This principle of "gentle force" in associating ideas is a basic tenet in Hume's epistemology, and merits to be quoted at length:

As all simple ideas may be separated by the imagination, and may be united again in what form it pleases, nothing wou'd be more unaccountable than the operations of that faculty, were it not guided by some universal principles, which render it, in some measure, uniform with itself in all times and places. Were ideas entirely loose and unconnected, chance alone wou'd join them; and 'tis impossible the same simple ideas shou'd fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality, by which one idea naturally introduces another. This uniting principle among ideas is not to be consider'd as an inseparable connexion; for that has been already excluded from the imagination: Nor yet are we to conclude, that without it the mind cannot join two ideas; for nothing is more free than that faculty: But we are only to regard it as a gentle force, which commonly prevails, and is the cause why [...] nature in a manner pointing out to every one those simple ideas, which are most proper to be united into a complex one¹⁰⁰.

Hume discovers recurring principles of how our imagination combines simple ideas consistently into certain complex ones. However, whereas some may hold this constant combination as based on things themselves, Hume is clear in asserting that "this uniting principle among ideas is not to be considered as an inseparable connection". In his epistemology, Hume does not allow for knowledge of substances and essences; the only explanation possible for this phenomenon is a "gentle force", an association of ideas that the mind is in the habit of following. When the imagination associates ideas together based on an immediately present sensed impression, Hume calls this "belief". Belief is an intense, "lively idea, related to a present impression"¹⁰¹. For Hume, ideas have more or less intensity based on their closeness or distance from sensed perception; the intensity itself comes from the imagination's habit of joining them together. Where this habit has been repeated enough to arouse a vivid idea along with a sensation, we have what Hume

impression to the idea. Perhaps 'twill appear in the end, that the necessary connexion depends on the inference, instead of the inference's depending on the necessary connexion".

⁹⁹ Cf. WESTPHAL, K.R., «Hume, Empiricism and the Generality of Thought», in *Dialogue*, 52 (2013), 250-252.

¹⁰⁰ HUME, THN, 1.1.4.1.

¹⁰¹ *Ibid.*, 1.3.8.1

considers a belief. Clearly for Hume this belief is of the mind's doing, and should not be attributed to objects outside the mind.

What are the most common cases of "gentle forces" that moves to mind towards constant combination? "The qualities, from which this association arises, and by which the mind is after this manner convey'd from one idea to another, are three, viz. RESEMBLANCE, CONTIGUITY in time or place, and CAUSE and EFFECT"¹⁰². Two years after publishing *A Treatise*, Hume anonymously published a more succinct summary of his chief arguments, which he called *An Abstract of a book lately published; entitled, A Treatise of Human Nature, &c.: wherein the chief argument of the book is further illustrated and explained*. There, he gives his classic example of two billiard balls, one striking the other and "causing" it to move. He uses this example to draw upon resemblance, contiguity and a third principle called constant conjunction, to arrive at the idea of cause and effect. He begins with contiguity: "'Tis evident, that the two balls touched one another before the motion was communicated, and that there was no interval betwixt the shock and the motion. Contiguity in time and place is therefore a requisite circumstance to the operation of all causes"¹⁰³. When we sense two objects close to each other in time and place – as contiguous –, we believe them to stand in relation of cause and effect. Also a succession in time, called priority, leads us to see what is prior to be the cause of what is subsequent. But the mind also detects a certain resemblance between individual cases or occurrences:

Let us try any other balls of the same kind in a like situation, and we shall always find, that the impulse of the one produces motion in the other. Here therefore is a third circumstance, viz. that of a constant conjunction betwixt the cause and effect. Every object like the cause, produces always some object like the effect. Beyond these three circumstances of contiguity, priority, and constant conjunction, I can discover nothing in this cause¹⁰⁴.

Cause and effect, or causation, is the most extensive of the mind's relations between simple ideas. This principle is not limited only to physical interaction, as in a billiard ball striking another and "causing" its motion; Hume also considers causes as affecting, or effecting, the existence of other things. However real this connection between objects may seem, Hume attributes it wholly to the imagination¹⁰⁵.

¹⁰² Ibid., 1.1.4.1.

¹⁰³ HUME, D., *An Abstract of a book lately published; entitled, A Treatise of Human Nature, &c.: wherein the chief argument of the book is further illustrated and explained*, Norton, D.F. – Norton, M.J. (eds.), Oxford University Press, Oxford 2007, 9. Future reference to this work will be to *An Abstract*, and the numbering of paragraphs follows the Oxford University Press numbering.

¹⁰⁴ Ibid.

¹⁰⁵ Cf. THN, 1.1.4.4.

The only sure source of knowledge is our current sensed perceptions or impressions. When the mind observes individual cases as repeating and occurring similarly to previous cases, the imagination believes or “feels” a new idea of connection, that leads us to infer future occurrences. “We then *feel* a new sentiment or impression, to wit, a customary connexion in the thought or imagination between one object and its usual attendant; and this sentiment is the original of that idea which we seek for”¹⁰⁶. Experience seems to tell us that by repeating an occurrence over and over, at a certain point we will be able to infer the outcome, based on previous results. However, this conclusion is illusory and ill-based according to Hume, in that it is the product of the imagination, without objective grounding. The series of events adds nothing objectively to each independent, particular event: Events occur only as individuals. What experience adds is our own, subjective tendency or feeling to infer an outcome. Such feeling comes from our imagination; it is erroneous to attribute such causal inferences to reality. We will come back to this in a future section; here I simply highlight Hume’s empiricism. Only particular cases hold objective value, over and above the imagination’s supposing causal outcomes in future, unobserved cases. This is the opposite of Leibniz’s rational approach to knowledge, where the mind is the prime source of certainty.

Hume adopts Berkeley’s theory of how abstract, general ideas are formed: “All general ideas are nothing but particular ones, annex’d to a certain term, which gives them a more extensive signification, and makes them recal upon occasion other individuals, which are similar to them”¹⁰⁷. The mind has no power to abstract from particulars to universal ideas: Only particular ideas exist, even if as general ideas they may increase in extension by gathering more and more particulars under them through resemblance. This is in accordance with the general principle of resemblance between impressions and ideas. However, as Hume proceeds in the development of his theory, he discovers the imagination’s increasing role in forming “abstract notions”, well beyond the determinate particulars that are perceived by the senses. Such abstract notions carry out much the same role as Locke’s nominal essences: They allow for greater linguistic reference. Hume’s abstract notions do not run contrary to his Copy Theory; they are the imagination’s inventions or labels. “It appears that Hume doesn’t regard the introduction of general terms as compromising his objectualist account of thought because he regards general terms simply as linguistic tags for groups of associated idea-objects”¹⁰⁸. Westphal sees

¹⁰⁶ HUME, D., *An Enquiry concerning Human Understanding*, Beauchamp, Tom L. (ed), Oxford University Press, Oxford 1999, 7.30. Future references to this work will be *Enquiry*. The numbering system is Section.Paragraph, following the paragraph numbering of the Oxford University Press edition.

¹⁰⁷ *Ibid.*, THN, 1.1.7.1.

¹⁰⁸ WESTPHAL, «Hume, Empiricism and the Generality of Thought», 242.

evidence for elements that go beyond sensed Copies and imaginative associations in Hume's theory.

General terms or abstract notions clearly go beyond the nominalism of sensed particulars. The secondary literature distinguishes between Hume's determinate particulars and determinable terms; determinables gather together many different particulars¹⁰⁹. General, abstract terms clearly go beyond the determinate particulars we sense. "No matter how rich, comprehensive and finely differentiated may be such named complexes of conjoined determinate characteristics, their names can neither specify nor suffice for constituting their corresponding determinable general term, name or classification"¹¹⁰. The imagination has the ability to compare things and associate their resemblances in general thought. This comparison between particulars is the imagination's doing, and is comparable to the reason's proper act. "Hume's definition of the understanding, as 'the general and more establish'd properties of the imagination' (T[HN] 1.4.7.7 [...]), entails that this remarkable, discriminatory, classificatorily specific power of imaginative association via fine-grained and also determinable resemblances ultimately belongs to human understanding"¹¹¹. We will see how this classificatory role of the imagination affects Hume's empiricism to a large degree.

A closing word on Hume's epistemology is in suit, before we address his skepticism on inferring. The association of impressions in ideas is ruled by laws of attraction: "These are therefore the principles of union or cohesion among our simple ideas, and in the imagination supply the place of that inseparable connexion, by which they are united in our memory"¹¹². Similar to the psychological bent found in Locke, Hume simply aims to describe the mind's inner workings and functions, as based on "a kind of ATTRACTION"¹¹³. Anything beyond a description would go further than our capacity of knowing allows: "As to its causes, they are mostly unknown, and must be resolv'd into original qualities of human nature, which I pretend not to explain"¹¹⁴. Hume considers any further investigation into the causes of why our minds should unite ideas in such a way as "obscure and uncertain speculations". In a telling passage, Hume assumes that animals have the same mental capacities as human beings, because he observes the same type

¹⁰⁹ Cf. Westphal's article already cited. Also BUTLER, A., «On Hume's Supposed Rejection of Resemblance between Objects and Impressions», *British Journal for the History of Philosophy* 18 (2010) 2, 257–270.

¹¹⁰ WESTPHAL, «Hume, Empiricism and the Generality of Thought», 246.

¹¹¹ *Ibid.*, 236.

¹¹² HUME, THN, 1.1.4.6.

¹¹³ *Ibid.*, 2.1.5.10.

¹¹⁴ *Ibid.*

of activity in them¹¹⁵. This is all the more revealing, given Hume's interest in humans as moral subjects, which would logically extend to animals as well. With his analysis of customs and habits in thinking, Hume has laid the grounds for in-depth critique of human knowing.

3.2. *No inferences from cause to effect*

Experience holds priority over reasoning a priori for Hume. He often invokes the example of Adam, as someone who had to form ideas through experience, without being able to infer outcomes based on previous experience. Only by experience could Adam have known water's ability to drown a person; he could not infer it a priori¹¹⁶. Experience is what then leads us to the idea of cause and effect; we observe particular things following upon particular causes. Our minds then gradually come to the belief that whenever a particular cause is observed, the effect can be assumed to follow¹¹⁷. However, this type of connection is misleading, and Hume goes to great lengths to show its basis in the imagination, and not in reality. It is only custom based on past experience that, upon perceiving one thing, this "appearance or idea of the one immediately carries us to the idea of the other"¹¹⁸. Our belief in an effect as sure to follow upon a particular object is based on our past experience of similar objects causing or giving rise to certain effects. However, this is the mind's custom, proceeding entirely from past repetition; it is unable to guarantee future outcomes. What guarantee can we have "that instances of which we have no experience, must necessarily resemble those, of which we have[?]" For we here find, that the understanding or imagination can draw inferences from past experience, without reflecting on it"¹¹⁹. This lack of reflection on inferences is proper to the imagination, and Hume proceeds to show the ineffectiveness of all such inferences.

If we consider our inference of effects from causes, we find that the mind "can never show us the connexion of the one object with another, tho' aided by experience, and the observation of their constant conjunction in all past instances"¹²⁰. When the mind infers future, unobserved effects from present, observed events, it simply follows its belief determined "by certain principles, which associate together the ideas of these objects,

¹¹⁵ Cf. *Ibid.*, 1.3.16.2.

¹¹⁶ Cf. *Ibid.*, *Enquiry*, 4.6.

¹¹⁷ Cf. *Ibid.*, THN, 1.3.6.2.

¹¹⁸ *Ibid.*, 1.3.8.10.

¹¹⁹ *Ibid.*, 1.3.8.13.

¹²⁰ *Ibid.*, 1.3.6.12.

and unite them in the imagination”¹²¹. Hence, causation is only the imagination’s mixing impressions with the principle of constant conjunction of past experience; “the inference, therefore, depends solely on the union of ideas”¹²².

When we attribute the notion of gravity as the necessity of bodies always falling towards the earth, such *necessity* has nothing to do with things or objective laws, but rather is a custom of our minds:

After a frequent repetition, I find, that upon the appearance of one of the objects, the mind is determin’d by custom to consider its usual attendant, and to consider it in a stronger light upon account of its relation to the first object. ’Tis this impression, then, or determination, which affords me the idea of necessity¹²³.

When we attribute necessity and determination of events according to scientific laws, all we are actually doing is recognizing a custom of our mind to infer certain events from others, as effects following upon causes. There is nothing in the events and things themselves that form the basis of this necessity. Such necessity lies only in the psychology of the mind, which cannot but think in this way. “This belief is the necessary result of placing the mind in such circumstances [...] All these operations are a species of natural instincts”¹²⁴. The mind naturally thinks and believes that one event follows necessarily upon another, without the slightest possibility “to produce, or to prevent” such beliefs¹²⁵.

After having distinguished single, particular occurrences and the mind’s custom of reading necessity into them, Hume goes back to the series of individual impressions to show that necessity comes only from the mind. “From the mere repetition of any past impression, even to infinity, there will never arise any new original idea, such as that of a necessary connexion”¹²⁶. There is no difference between the first impression of a particular event and the thousandth; they are always singular events. It is the mind that draws an inference from one object to another after a constant conjunction has been observed relating two objects. This inference of the mind is what gives rise to the transition from impression to idea. And Hume holds “that the necessary connexion depends on the inference, instead of the inference depending on the necessary connexion”¹²⁷. Thus it is completely due to the mind’s inference that we come up with the idea of necessary

¹²¹ Ibid.

¹²² Ibid.

¹²³ Ibid., 1.3.14.1.

¹²⁴ Ibid., *Enquiry*, 5.8.

¹²⁵ Ibid.

¹²⁶ Ibid., THN, 1.3.6.3.

¹²⁷ Ibid.

connection between things; there cannot be shown any extra-mental basis for the connection.

Human knowing tends to foresee the outcome of present, observed events, especially through scientific laws. This is based on having observed similar events in the past, which led to certain, constant results. We then extrapolate from those past experiences of cause-effect, and predict future occurrences to turn out the same way. There is a high probability that the future occurrence will produce the same result. However, Hume takes this assumption to task: "Probability is founded on the presumption of a resemblance betwixt those objects, of which we have had experience, and those, of which we have had none"¹²⁸. This presumption of the future necessarily being like the past is unreasonable and unfounded.

There can be no demonstrative arguments to prove, that those instances, of which we have had no experience, resemble those, of which we have had experience. We can at least conceive a change in the course of nature; which sufficiently proves, that such a change is not absolutely impossible¹²⁹.

While the imagination is naturally led to presume the future to be similar to the past, the reason recognizes that the contrary is also possible to occur in the future: "*That the sun will not rise tomorrow* is no less intelligible a proposition, and implies no more contradiction than the affirmation, *that it will rise*"¹³⁰. Reason can always conceive that the opposite might happen, such as the sun *not* rising, contrary to past experience. And for Hume, such conceivability is enough for the mind to doubt the whole affair of inference: "The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality"¹³¹.

For Hume, if we can conceive something occurring, then it is possible. In imagining future events, the amount of conceivable outcomes is almost infinite: "Any object may be imagin'd to become entirely inactive, or to be annihilated in a moment; and 'tis an evident principle, that *whatever we can imagine, is possible*"¹³². From such imagining contrary results, the reason comes to recognize that absolutely no necessity exists in occurrences.

¹²⁸ Ibid., 1.3.6.7.

¹²⁹ Ibid., 1.3.6.5.

¹³⁰ Ibid., *Enquiry*, 4.2.

¹³¹ Ibid.

¹³² Ibid., THN, 1.4.5.35.

Whatever can be conceiv'd by a clear and distinct idea necessarily implies the possibility of existence; and he who pretends to prove the impossibility of its existence by any argument deriv'd from the clear idea, in reality asserts, that we have no clear idea of it, because we have a clear idea. 'Tis in vain to search for a contradiction in any thing that is distinctly conceiv'd by the mind. Did it imply any contradiction, 'tis impossible it cou'd ever be conceiv'd¹³³.

The mind can imagine the contrary of observed events, and so those contraries are possible. The mind cannot think of anything that implies absolute contradiction, because then "tis impossible it could ever be conceived". And it is this possibility of contrary outcomes or results that prohibits the mind from reasonably making inferences on future events. The imagination may lead the mind by custom to see a necessary connection and infer future results; but reason recognizes the imagination's irrational conclusion and limits its assertion to belief, not fact.

In conclusion, there can be no inferring certain effects from certain causes, because no demonstration of cause and effect can be given.

It is not any thing that reason sees in the cause, which makes us infer the effect. Such an inference, were it possible, would amount to a demonstration, as being founded merely on the comparison of ideas. But no inference from cause to effect amounts to a demonstration. Of which there is this evident proof. The mind can always conceive any effect to follow from any cause, and indeed any event to follow upon another: whatever we conceive is possible, at least in a metaphysical sense: but wherever a demonstration takes place, the contrary is impossible, and implies a contradiction. There is no demonstration, therefore, for any conjunction of cause and effect¹³⁴.

Any demonstration of the principle of cause and effect would involve showing that the contrary of any given event is impossible. However, in every case we can conceive of the contrary happening, and so the contrary is possible. The possible contrary outcome precludes the mind from absolute certainty regarding cause and effect; it cannot demonstrate necessity, and so cause and effect has no necessity inherent to it.

3.3. *The impossibility of a priori knowledge*

After having shown that no inference of cause and effect is possible, Hume proceeds to show that only experience can show us what happens, without any possibility of a priori knowledge. Since this is precisely what scientific laws purport to do, Hume's skepticism leaves science with the sole instrument of observation; no laws may be prescribed to future events.

¹³³ Ibid., 1.2.4.11.

¹³⁴ Ibid., *An Abstract*, 11.

All reasonings from experience are founded on the supposition, that the course of nature will continue uniformly the same. We conclude, that like causes, in like circumstances, will always produce like effects. It may now be worth while to consider, what determines us to form a conclusion of such infinite consequence¹³⁵.

It is evident that the imagination assumes the future to be like the past; the reason's role is to critique such a supposition, especially since it has an enormous influence on how we think. "Tis evident, that Adam with all his science, would never have been able to demonstrate, that the course of nature must continue uniformly the same, and that the future must be conformable to the past"¹³⁶. The fact that our experience of the past reveals certain results to follow constantly on others cannot be a sufficient demonstration to guarantee such future occurrences. Conformity between past and future is an assumed premise in any such demonstration, and so fails:

This conformity is a matter of fact, and if it must be proved, will admit of no proof but from experience. But our experience in the past can be a proof of nothing for the future, but upon a supposition, that there is a resemblance betwixt them. This therefore is a point, which can admit of no proof at all, and which we take for granted without any proof¹³⁷.

Hume has thus uncovered the lack of necessity in physical phenomena, as always occurring the same. "All laws of nature, and all the operations of bodies without exception, are known only by experience"¹³⁸: Experience can only deal with past and present observation of empirical phenomenon, without possibly formulating a priori judgments regarding future events. Due to our lack of knowledge of things beyond our impressions, "the mind can never possibly find the effect in the supposed cause, by the most accurate scrutiny and examination. For the effect is totally different from the cause, and consequently can never be discovered in it"¹³⁹. We cannot deduce any effect, without arbitrarily imagining it to follow from a given cause. This arbitrariness in predicting future events merits caution in applying laws of nature: "A stone or piece of metal raised into the air, and left without any support, immediately falls: but to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward, rather than an upward, or any other motion, in the stone or metal?"¹⁴⁰. The conceivable outcome of any future event obliges us to abstain from predicting, and wait for experience and observance to tell us what occurs. No a priori knowledge is possible.

¹³⁵ Ibid., 13.

¹³⁶ Ibid., 14.

¹³⁷ Ibid.

¹³⁸ Ibid., *Enquiry*, 4.9.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

Scientific laws, with their a priori certainty of future events, are clearly the mind's imagination, and do not have any basis in objective, extra-mental reality. The only aspects we can discover in the notion of necessity is "the constant union and the inference of the mind", and so this becomes Hume's "new definition of necessity"¹⁴¹. While considering the three main principles by which we associate ideas – resemblance, contiguity and causation – Hume sees them as "the only links that bind the parts of the universe together, or connect us with any person or object exterior to ourselves"¹⁴². Given Hume's epistemology as the mind's impressions received from the senses and associated by gentle force into ideas, the three principles of associating ideas become the laws of the universe. Hume does not mean laws in the sense of the modern scientific sense of laws, as necessary, universally applicable always and everywhere. "As these [three principles] are the only ties of our thoughts, they are really *to us* the cement of the universe"¹⁴³. The farthest our minds can go in knowing the laws of nature is the laws governing the association of ideas within our mind. To pretend to go beyond our mind to reality itself would be the imagination's triumph over reason. Hume cannot rationally allow such a step.

3.4. Hume's metaphysics

Given Hume's empiricist epistemology, his view of things' structure and our own mind's make-up is limited to impressions. Hume takes to task Locke's distinction between primary and secondary qualities. Locke saw primary qualities such as extension as inherent and real in bodies, compared to secondary qualities such as color, which are only ever in us. Hume sees the two types of qualities as so interrelated that we can have no idea of an extension without it necessarily having some secondary quality such as color.

The idea of extension is entirely acquired from the senses of sight and feeling; and if all the qualities, perceived by the senses, be in the mind, not in the object, the same conclusion must reach the idea of extension which is wholly dependent on the sensible ideas or the ideas of secondary qualities¹⁴⁴.

Hume allows for a mathematical consideration of pure extension or solidity, but only as a distinction of reason, that focuses on only one aspect of bodies, i.e. their extension. This extension however is only ever sensed or perceived through its qualities of color and hardness¹⁴⁵. "[We] must conclude, that after the exclusion of colours, sounds, heat and cold from the rank of external existences, there remains nothing, which can

¹⁴¹ Ibid., *An Abstract*, 32.

¹⁴² Ibid., 35.

¹⁴³ Ibid. Emphasis added.

¹⁴⁴ Ibid., *Enquiry*, 12.15.

¹⁴⁵ Ibid., THN, 1.1.7.18.

afford us a just and consistent idea of body”¹⁴⁶. If Locke considers secondary qualities as only in us, then primary qualities must also be in us, since it only by way of secondary qualities that we have a notion of primary ones. Sensed impressions are based on qualities of bodies, according to Hume’s Copy Theory of sensation.

The modern philosopher enters into difficulties of his own when he tries to make a distinction between perceiver-independent primary qualities and perceiver-dependent secondary qualities. The very arguments that the modern philosopher uses to establish the perceiver-dependence of secondary qualities can be used against the supposedly perceiver-independent primary qualities¹⁴⁷.

Thus Hume cannot both accept Locke’s distinction and keep his empiricist Copy Theory of sense perception; he therefore rejects Locke’s position on secondary qualities.

Regarding substance, Hume follows Locke’s position. He sees that “the idea of substance [...] is nothing but a collection of simple ideas, that are united by the imagination” and then assigned a name to recall that collection¹⁴⁸. Hume goes further than Locke in studying the mind’s custom or belief in substance. When observing an object through successive changes, “the smooth progress of the thought makes us ascribe an identity to the succession”¹⁴⁹. It is the transition of impressions that leads the mind unconsciously to think of identity throughout succession. And when its observation is interrupted and broken off, “the imagination is apt to feign something unknown and invisible, which it supposes to continue the same under all these variations; and this unintelligible something it calls a substance, or original and first matter”¹⁵⁰. Whereas sensed impressions only ever reveal singular phenomena, the imagination creates the notion of substance as what underlies those traits and undergoes change. Hume gives such notion of substance no objective value, but views it as only the mind’s habit or custom.

Similar to Locke’s critique of powers and essences, Hume attacks the position of those philosophers who would attribute observable phenomenon as arising from an unobservable, “occult” quality or faculty. But since we cannot have any understanding of substance nor a perfect idea of accidents, the terms “faculty and occult quality” only provide them with an quick answer to otherwise unsolvable puzzles: “They need only say, that any phænomenon, which puzzles them, arises from a faculty or an occult quality, and

¹⁴⁶ Ibid., 1.4.4.5-6, 10.

¹⁴⁷ BUTLER, A., «On Hume’s Supposed Rejection of Resemblance between Objects and Impressions», in *British Journal for the History of Philosophy*, 18 (2010) 2, 265.

¹⁴⁸ HUME, THN, 1.1.6.1

¹⁴⁹ Ibid.. 1.4.3.4.

¹⁵⁰ Ibid.

there is an end of all dispute and enquiry upon the matter”¹⁵¹. We have no “penetration into [things’] essences as may discover the dependance of the one upon the other”¹⁵². Our knowledge cannot go beyond impressions to supposed essential traits and properties.

As for Hume’s view of the structure of material being, he considers things to be made up of small, indivisible parts (like the corpuscular theory we saw in Locke). He deduces this from the idea of extension as being divisible into smaller parts. “The idea of extension is a compound idea; but as it is not compounded of an infinite number of parts or inferior ideas, it must at last resolve itself into such as are perfectly simple and indivisible”¹⁵³.

Regarding the self and mind, Hume argues against Descartes’s argument for the mind as a united substance, which individual thoughts adhere to.

Des Cartes maintained that thought was the essence of the mind; not this thought or that thought, but thought in general. This seems to be absolutely unintelligible, since every thing, that exists, is particular: And therefore it must be our several particular perceptions, that compose the mind. I say, compose the mind, not belong to it. The mind is not a substance, in which the perceptions inhere¹⁵⁴.

Since the mind only ever has particular impressions, those impressions are the only elements that “compose” the mind. There is no underlying substance to the mind for Hume. The mind is “nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity, and are in a perpetual flux and movement”¹⁵⁵. Similar to his critique of substance as an illogical supposition of the mind to support single impressions, so too Hume shows the absence of any impression of the self that could give authenticity to the idea of self.

It must be some one impression, that gives rise to every real idea. But self or person is not any one impression, but that to which our several impressions and ideas are suppos’d to have a reference. If any impression gives rise to the idea of self, that impression must continue invariably the same, thro’ the whole course of our lives; since self is suppos’d to exist after that manner. But there is no impression constant and invariable. Pain and pleasure, grief and joy, passions and sensations succeed each other, and never all exist at the same time. It cannot, therefore, be from any of these impressions, or from any other, that the idea of self is deriv’d; and consequently there is no such idea¹⁵⁶.

¹⁵¹ Ibid., 1.4.3.8, 10.

¹⁵² Ibid., 1.3.6.1.

¹⁵³ Ibid., 1.4.4.8.

¹⁵⁴ Ibid., *An Abstract*, 28.

¹⁵⁵ Ibid., THN, 1.4.6.4.

¹⁵⁶ Ibid., 1.4.6.2.

Hume's priority of impressions as the source of our knowledge leads him to deny both the perduring existence of things outside the self, along with the identity of the self. All we know are present perceptions and impressions, and nothing more. Hume's apparent skepticism regarding our knowledge beyond actual perception is not as radical as it might seem. Anderson argues that Hume's theory of perception does hold that our impressions are derived from or caused by things outside of us. Thus, argues Anderson, Hume does hold our knowledge of things¹⁵⁷. It is unclear how Hume was able to combine his two positions; Hume originally argues for purely empirical knowledge, but then realizes that other mental elements factor in that do attain knowledge as well¹⁵⁸.

3.5. *The problem of affection*

In the introduction to this part, we mentioned Kant's basic problem of affection; Hume explains our affection by things as empirical impression. Given his epistemology and the priority he gives to sensed impressions, the problem of affection is easily solved by Hume into a non-question. He states the question thus: "whether the perceptions of the senses be produced by external objects, resembling them"¹⁵⁹. But experience cannot help in this matter, given Hume's theory of knowledge: "The mind has never anything present to it but the perceptions, and cannot possibly reach any experience of their connexion with objects. The supposition of such a connexion is, therefore, without any foundation in reasoning"¹⁶⁰. Our knowledge is limited to perceptions, and so any supposed existence of objects beyond perceived impressions is not possible to know: "The farthest we can go towards a conception of external objects, when suppos'd specifically different from our perceptions, is to form a relative idea of them, without pretending to comprehend the related objects"¹⁶¹. There are simply no such objects that "cause" their corresponding image or representation in us. The senses cannot go beyond individual perceptions, and so cannot arrive to anything like objects. This leads Hume to deal with a problem he terms the problem of continued and distinct existence of objects outside of us.

We ought to examine apart those two questions, which are commonly confounded together, viz. why we attribute a CONTINU'D existence to objects, even when they are not present to the senses; and why we suppose them to have an existence DISTINCT from the mind and perception? [...] These two questions concerning the continu'd and distinct existence of body are intimately connected together. For if the objects of our senses continue to exist, even when they are not perceiv'd, their existence is of course independent of and distinct from the

¹⁵⁷ Cf. ANDERSON, R.F., «Hume's Account of Knowledge of External Objects» in *British Journal of the History of Philosophy*, 13 (1975) 4, 471-480.

¹⁵⁸ See WESTPHAL, «Hume, Empiricism and the Generality of Thought», 259-260.

¹⁵⁹ HUME, *Enquiry*, 12.12.

¹⁶⁰ Ibid.

¹⁶¹ Ibid., THN, 1.2.6.9

perception; and vice versa, if their existence be independent of the perception and distinct from it, they must continue to exist, even tho' they be not perceiv'd¹⁶².

Hume's problem of double existence regards how we come to imagine objects as existing outside us. In answering the problem, Hume starts with the senses. The senses "convey to us nothing but a single perception, and never give us the least intimation of any thing beyond. A single perception can never produce the idea of a double existence, but by some inference either of the reason or imagination"¹⁶³. Hence the idea of objects existing outside of us cannot come from the senses. Regarding the related problems of distinct and continually existing objects, our senses only perceive individual, separate impressions. It is the imagination that creates the false idea of a continued existence, beyond the individual perceptions we have:

'Tis a false opinion that any of our objects, or perceptions, are identically the same after an interruption; and consequently the opinion of their identity can never arise from reason, but must arise from the imagination. The imagination is seduc'd into such an opinion only by means of the resemblance of certain perceptions¹⁶⁴.

If anyone assumes that perceptions are of continued existences of objects, independent and distinct of our perception, Hume is quick to take away that certainty:

For philosophy informs us, that every thing, which appears to the mind, is nothing but a perception, and is interrupted, and dependent on the mind; whereas the vulgar [children, peasants and the greater part of mankind] confound perceptions and objects, and attribute a distinct continu'd existence to the very things they feel or see. This sentiment, then, as it is entirely unreasonable, must proceed from some other faculty than the understanding. [...] So that upon the whole our reason neither does, nor is it possible it ever shou'd, upon any supposition, give us an assurance of the continu'd and distinct existence of body. That opinion must be entirely owing to the IMAGINATION¹⁶⁵.

This radically skeptical view of things outside of ourselves requires comparison with other texts. Butler cites the strong debate among Humean scholars as to whether Hume truly denies perceiver-independent objects¹⁶⁶. Anderson argues that Hume did believe in the existence of things beyond ourselves; he bases this on Hume's distinction between numerical and specific difference in our impressions of things. Our impressions are not specifically different from things, according to Hume, in that impressions resemble or copy things exactly. Impressions are however numerically different, in that they are two distinct things: impression and object¹⁶⁷. Thus Hume's accusation against the "vulgar"

¹⁶² Ibid., 1.4.2.3.

¹⁶³ Ibid., 1.4.2.4.

¹⁶⁴ Ibid., 1.4.2.43.

¹⁶⁵ Ibid., 1.4.2.14.

¹⁶⁶ Cf. BUTLER, «On Hume's Supposed Rejection of Resemblance between Objects and Impressions», 265.

¹⁶⁷ Cf. ANDERSON, R.F., «Hume's Account of Knowledge of External Objects», 478-480.

beliefs in the quote above appear to be tempered by his more objectivistic view of perception, even if only by reading between the lines.

3.6 Conclusions: Hume's ambiguity on radical empiricism

Yolton finds a similar ambiguity in Hume as he finds in Locke: Both philosophers consider experience as including sense perception and reflection-imagination, without clarifying each faculty's proper role. Hume initially takes the exactitude of our Copy Ideas-implications from things as a clear starting point for our knowledge. However, he soon discovers that he cannot reconcile his reasoning principles with his principles of impression.

I think he failed to reconcile these two concepts of experience because they cannot be reconciled. If all our statements and conclusions about man and his world are to be based upon and derived from fact and observation, philosophy must give way to science. If we insist upon retaining an empiricist approach in philosophy, we must be prepared to recognize its divorce from science and from experience in Hume's inductive sense¹⁶⁸.

Hume's "metaphysics of experience" goes against his own criterion of knowledge based on impressions only. We find two sources – the senses and the intellect – contributing to our knowledge in meaningful ways. Scientific, empirical observation does not fully explain our knowledge; we seek an *explanation* of physical phenomena, and such explanation takes place on an interior, conceptual level. Hume cannot find a coherent way to relate them, but he was aware of the problem at least.

Westphal finds Hume's original *Treatise* much more coherent than his subsequent *Enquiry*. This is because Hume is able to confront the principles laid down at the beginning of the *Treatise* – such as his Copy Theory and the associations of the imagination – with what appears in our thought on a general level, in concepts like existence and equality.

Hume's official empiricist views, the Copy Theory and Concept Empiricism, are insufficient to account for our general ideas, for our significant use of general terms and for our imagination's—or rather our understanding's—discriminatory capacities to identify determinable classifications. Consequently, Hume's official objectual account of thought is, by his own discerning analysis of the generality of thought, inadequate¹⁶⁹.

For all his radical rhetoric and doubt, Hume admits to elements in our thought that go beyond his purely empiricist system. At least, in the *Treatise* he admitted as much; his

¹⁶⁸ YOLTON, «The Concept of Experience in Locke and Hume», 71.

¹⁶⁹ WESTPHAL, «Hume, Empiricism and the Generality of Thought», 263.

further work and subsequent philosophers would not admit as much. He has certainly sparked enough interest in German philosophers to wake Kant from his dogmatic slumber.

4. The problem of affection in human knowledge per Locke, Leibniz and Hume

The purpose of this present chapter is to prepare the ground for the presentation of Kant's thought. Locke, Leibniz and Hume all address issues that contribute significantly to Kant's *Critique of Pure Reason* and his overall transcendental philosophy. Let us gather together the problems raised by these three philosophers, and highlight the ambiguous areas they left unresolved. We divide them into our two on-going problems: the epistemological question of our affection by material bodies, and the metaphysical question of what in bodies and in ourselves permits such affection.

4.1. The epistemological problem of affection: what is "experience"?

Locke indicates clearly two sources for our knowledge: sensation and reflection. Experience would seem to involve both, with the simple ideas deriving more or less directly from sensation, while the mind's reflection associates them into complex ideas. Hume adopts Locke's dual sources for knowing, together with his preference for sensation in impressions. Yolton argues that both Locke and Hume neglect to specify the roles that sensation and reflection/imagination play in our knowledge. Both start with a straightforward, common-sense approach to sensation, as receiving information from bodies outside of ourselves. But as their theories develop, the mind (Locke's reflection and Hume's imagination) appears as the dominating element. "The ideas and impressions emerge because of the activities of the mind. Although Hume does not devote as much attention to mental operations as did Locke, we find him talking about the mind giving 'a more accurate consideration' and making 'comparisons' (T, 55)"¹⁷⁰. The mind takes on a greater role in our process of knowing.

One important element that neither Locke nor Hume consider is the transition from the physiological level of sensorial stimuli to the level of our awareness in perception and thought. "The transition from nerve impulse to conscious content occurs, but Locke does

¹⁷⁰ YOLTON, «The Concept of Experience in Locke and Hume», 66.

not have much to say about how it is accomplished. One point is clear: the awareness of ideas is accomplished through the cooperative interaction of objects, neuro-physiological processes, and awareness¹⁷¹. The same fault is found in Hume, and we are left to wonder how exactly such a transition can take place.

The typically empiricist feature of [Locke and Hume's] programs of derivation of mental contents has usually been taken to be their attempt to trace all such contents back to sensation. But if sensation be taken in the neurophysiological sense, no one would wish to dispute the claim that every mental content has some neurophysiological antecedent or correlate. If sensation be taken in the psychological sense, as awareness, then the claim that awareness has two major parts, a sensory and a reflective, is much more disputable, especially when it is claimed that the reflective is derived from the sensory¹⁷².

Sensation is clearly a fundamental part of knowledge for Locke and Hume, and yet they do not address how sensed stimuli become simple Ideas or impressions.

Kant will take his two sources of sensation and the mind from Locke, and propose that sensation provides the matter for our thought, while the mind provides the form. Yolton sees this distinction already present in Locke, as the distinction between the *act* of awareness, and the *content* of that act of awareness. Ideas are certainly acts of the mind, but Locke sees their content as separate and distinct between different ideas¹⁷³. What content is provided by the senses, and how does it come to be presented? This question is left unanswered by Locke and Hume. The interplay between sensation and the mind will be the main issue in Kant's transcendental philosophy. Just as Hume attributes our common associations to customary habits of the imagination, so too will Kant extend such a priori habits, as the categories of the understanding, to *all* aspects of our knowledge. Kant will not leave such important notions as causality to vague habits, but rather, in line with Leibniz's rationalism, Kant will seek to base all the order we perceive as firmly rooted in the understanding.

Besides the problem of experience and sensation/reflection, a second problem derives from this one: how do we go from particulars to universals in thought? For Leibniz, such a transition is rather trivial, and he would approach it in the opposite direction. First there exists conceptual possibility, as universals, and then there exist particulars. This is thanks to the creator God, who first must conceive of things and then make them exist. As per our minds, Leibniz attributes certainty only to universal, rational concepts, independent of sensation. The mind's percepts and thought necessarily go beyond mere

¹⁷¹ Ibid., 55.

¹⁷² Ibid., 70-71.

¹⁷³ Cf. Ibid., 55.

sensation, and so must be innate to the mind itself. Kant will adopt this same approach, by attributing any necessity in thought to the a priori categories in the understanding, and never drawn from things themselves. How can such an approach be reconciled with empirical, sensed perception?

The problem of going from particulars to universals is much more difficult for the empiricists Locke and Hume. Locke sees our nominal essences as labels for collecting sorts or classes of particulars. Without ever being able to know things as they are, we simply gather enough distinguishing marks, in order to classify a given particular under a certain classification. Hume considers the problem of induction more closely, and realizes the problems inherent to any transition from particulars to universals, from past experience to necessary future occurrences. He leaves such a transition to belief. However, Hume's exploration of the imagination implies serious modifications to his initial, purely empiricist approach¹⁷⁴. The problem of necessity "observed" in physical phenomena is a problem that will lead Kant directly to formulate his transcendental philosophy. The problem has been clearly set by Hume.

4.2. The metaphysical problem: the ground in things for intentional knowledge in us

The problems of our experience and induction to universals are certainly difficult quandaries in and of themselves. Beyond those problems lays their explanation, consisting in how we human knowers are structured, and how material bodies exist. Both problems – the epistemological and the metaphysical – go together and influence each other.

For instance, what are secondary qualities such as color? Both Locke and Leibniz agree that such qualities are our subjective states, with no clear basis in things or bodies. However, Hume realizes that attributing objectivity only to primary and not to secondary qualities is a false solution, and so he proposes his Copy Theory of sensed impressions: Things are exactly as they appear to be. If secondary qualities are not in bodies, then how do we come to perceive the primary ones? Once we separate color from surface extension, it is hard to see how our knowledge can possibly attain things. Just as Yolton underlines the lack of distinction and proper interplay between sensation and reflection in Locke and Hume, so too we can see a lack of connectedness between secondary qualities, primary ones and things themselves. Secondary qualities appear to be things'

¹⁷⁴ Cf. WESTPHAL, «Hume, Empiricism and the Generality of Thought», 259-261.

initial presentation to us in sense perception and knowledge; before we discard them as subjective, we should justify such a move. Kant's a priori forms of intuition as space and time will leave just as little room for secondary qualities as his predecessors. We turn to consider Kant's approach to both of our problems, more aware of the difficulties involved.

CHAPTER 2. KANT'S TRANSCENDENTAL IDEALISM

1. Immanuel Kant's overall project in speculative philosophy

Immanuel Kant (1724-1804) has left a considerable amount of writings on a wide variety of subjects. This presentation of his philosophy will focus on his theory of knowledge, in light of its impact on modern and contemporary thought. We will focus on his metaphysics and transcendental philosophy, without considering his ethics. In his paper *Apperception and ether: On the idea of a transcendental deduction of matter in Kant's Opus postumum*, Burkard Tuschling presents a thorough summary of Kant's interests in philosophy over the several decades of his intellectual endeavors. 26 years before publishing the first edition of *the Critique of Pure Reason* (CPR), Kant had two main problems that he sought to solve in his philosophy: "First, how can things (bodies, substances) form one world, not solely in the representations of thinking monads, but really and materially, that is, as a world constituted by universal physical interaction? Second, on what principles does our knowledge of such a world rest?"¹⁷⁵ We may consider these two questions as Kant's formulation of our two problems presented previously: our metaphysical-cosmological problem regarding things outside of ourselves, and our critical-epistemological problem regarding how we come to know things.

Kant's metaphysical-cosmological question implies what Jacobi and Adickes call Kant's unmoving faith in things as really existing: Bodies transcend the subject and his activity¹⁷⁶. Already during Kant's lifetime, Jacobi refers to Kant's position as *faith*, inasmuch as it is a position that he holds without explicitly justifying it; this faith leads him to positions that contradict themselves. Other contemporaries of Kant, Salomon Maimon and Friedrich W. J. Schelling, accuse Kant of a similar assumption regarding our knowing. They see Kant as assuming that the senses receive information regarding the world around us; Kant fails to justify such an assumption regarding our senses¹⁷⁷. Such critiques of Kant's assumptions regarding things and knowledge were already made in Kant's lifetime; those assumptions then lead to ambiguities and contradictions within critical philosophy.

¹⁷⁵ TUSCHLING, B., «Apperception and Ether: on the idea of a transcendental deduction of matter in Kant's Opus postumum», in Forster, E. (ed.), *Kant's Transcendental Deductions: The three critiques and the Opus postumum*, Stanford University Press, Stanford 1989, 209. Future reference to this work will be abbreviated as AE.

¹⁷⁶ Cf. PRIETO LÓPEZ, L., «La Nueva Estética Transcendental del Opus Postumum de Kant», in *Pensamiento*, 65 (2009) 243, 108.

¹⁷⁷ Cf. FINCHAM, R.M., «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal of the History of Philosophy*, 23 (2015) 6, 1033-1055.

While adopting several aspects of Leibniz's metaphysics, Kant rejects the preestablished harmony of monads, and substitutes it with his "*influxus physicus*, the causal interaction of individual substances, which is considered 'physical'"¹⁷⁸. Kant's interest in physical influence and forces between bodies is a constant factor in his consideration of the physical world.

A second problem that Kant faces throughout his career is our problem of affection. In the decade leading up to the publishing of CPR, Kant focuses his attention on this problem. In his letter to Markus Herz, dated February 21, 1772, Kant admits that there can only be a causal relation between the object outside of us and our representation of it within our mind. However, this causal relationship of affection remains enigmatic for Kant and drives him to seek "what is the ground of the relation of that in us which we call 'representation' to the object?"¹⁷⁹. While the metaphysical-cosmological problem is a common one running throughout the history of philosophy, this problem of affection can be properly called Kantian: his most important contribution to the history of philosophy is his attempt to solve this critical-epistemological problem. That attempt is necessarily influenced by his metaphysical view of reality, as we will see. This question, as formulated in his letter from 1772, will be the guiding question throughout our consideration of Kant's critical philosophy.

The turn from metaphysics to epistemology in Kant is due to Hume's skeptical attack on real influence and causality between things. Kant's answer to Hume's problem consists in shifting the problem from the level of reality to the level of logic. Tuschling gives the following summary of Kant's answer to Hume's skeptical problem. Kant recognizes the importance of Hume's critique, and sets out to formulate a response.

Because Kant was not prepared to accept Hume's conclusions (cf. Prol[egomena] 4:260), the basic contents of Kant's substance metaphysics and cosmology remained untouched by Hume's challenge. Rather, the question became "How am I to understand that, because something is, something else exists?" (NM 2:202; cf. 203; DSS 2:370). Kant is asking how the relation "reason-result" or "antecedent-consequent" can be understood as a causal rather than a logical relation. [...] This question takes on its full significance only when understood in its "greatest possible extent" (Prol 4:261), that is, cosmologically.¹⁸⁰

¹⁷⁸ TUSCHLING, AE, 193.

¹⁷⁹ KANT, I., Letter to M. Herz, February 21, 1772, C 10:130, as translated by TUSCHLING, AE, 201. "*Auf welchem Grunde beruhet die Beziehung desienigen, was man in uns Vorstellung nennt, auf den Gegenstand?*" All original texts of Kant are from *Kant im Kontext II: Komplettausgabe 2003 Werke, Briefwechsel und Nachlass auf CD-ROM*, Karsten Worm, InfoSoftWare – Akademie Ausgabe 2007.

¹⁸⁰ TUSCHLING, AE, 195–196.

Tuschling emphasizes how initially Kant takes Hume's problem on a physical, cosmological level. This is because Kant continued to hold a substance-based metaphysics, as things really existing and influencing each other. Hume argues directly against that position, and in his search for a convincing response, Kant is forced to analyze "our ability to gain nonempirical knowledge through certain concepts"¹⁸¹. That search becomes a transition from the cosmological to the logical level. The CPR places the problem of causality completely in the domain of logic and the mind, with no basis in reality. Thus his cosmological problem finds a logical, epistemological solution: Causation is a category or function of the mind. This ambiguous shift between the logical and the physical spheres will be a constant factor in Kant, and will be a constant source of difficulties for Kant and his interpreters. In defending human knowing against Hume's skepticism, Kant transforms metaphysics into epistemology. In his *Prolegomena*, a work written two years after the first edition of his CPR to explain the work more clearly, Kant states how he aims to aid metaphysics:

In order that metaphysics might, as science, be able to lay claim, not merely to deceitful persuasion, but to insight and conviction, a critique of reason itself must set forth the entire stock of *a priori* concepts, their division according to the different sources (sensibility, understanding, and reason), further, a complete table of those concepts, and the analysis of all of them along with everything that can be derived from that analysis; and then, especially, such a critique must set forth the possibility of synthetic cognition *a priori* through a deduction of these concepts, it must set forth the principles of their use, and finally also the boundaries of that use; and all of this in a complete system¹⁸².

The *a priori* concepts – their truth-value, deduction and proper use – become the main object of study for the CPR; we will present them in detail in the next section. After publishing CPR Kant continues investigating the metaphysical problem of interaction, from the perspective of the *a priori* concepts. The following quote from the CPR is telling of how far Kant will be able to go beyond the *a priori* concepts, to reach metaphysics of the world:

Everything intuited in space or time, and hence all objects of an experience possible for us, are nothing but appearances. I.e., they are mere presentations that—in the way in which they are

¹⁸¹ Ibid.

¹⁸² KANT, I., *Prolegomena to any Future Metaphysics that will be able to come forward as Science*, Cambridge University Press, New York 2004, 116; [4:365]. Future reference to this work as *Prolegomena*. Besides the page number from the Cambridge Press book, in brackets I provide the original page numbering from the Akademie Ausgabe volume 4. "*Damit sie nun als Wissenschaft nicht bloß auf trügliche Überredung, sondern auf Einsicht und Überzeugung Anspruch machen könne, so muß eine Kritik der Vernunft selbst den ganzen Vorrath der Begriffe a priori, die Eintheilung derselben nach den verschiedenen Quellen, der Sinnlichkeit, dem Verstande und der Vernunft, ferner eine vollständige Tafel derselben und die Zergliederung aller dieser Begriffe mit allem, was daraus gefolgert werden kann, darauf aber vornehmlich die Möglichkeit des synthetischen Erkenntnisses a priori vermittelt der Deduction dieser Begriffe, die Grundsätze ihres Gebrauchs, endlich auch die Grenzen desselben, alles aber in einem vollständigen System darlegen*".

presented, viz., as extended beings, or as series of changes—have no existence with an intrinsic basis, i.e., outside our thoughts. This doctrinal system I call *transcendental idealism*¹⁸³.

If our representations have no basis outside of our thoughts, then our metaphysical problem has been absorbed into our epistemological one. The solution can hardly be satisfactory, and in the twenty years between the first edition of the CPR and the ether proofs of his *Opus postumum* (OP), Kant enters into debate with other idealistic philosophers such as Fichte and Schelling. The CPR leaves a number of problems unsolved; as we will see, in his OP Kant seems to abandon his initial faith in the existence of external, transcending objects, in favor of an entirely idealistic solution of the problem of the unity of world and ourselves. The problem of affection or representation supersedes the metaphysical problem to such a degree in the OP that we find there his teaching of self-affection and self-positing (*Selbstaffektion* and *Selbstsetzung*). After receiving criticism against the CPR for a number years, Kant changes directions drastically in favor of idealism in his OP.

Given the limitations of this thesis and the vast amount of Kant's published work and secondary literature on Kant, I focus here on his *Critique of Pure Reason*, in both editions, together with his *Opus postumum*, as his final attempt at resolving the problems of CPR. I will also draw on important works between the CPR and the OP, such as the *Metaphysical Foundations of the Natural Sciences*. Regarding the secondary literature on Kant, the magnitude is overwhelming. I draw mainly on Tuschling's paper quoted above, and a book from one of his students, Jeffrey Edwards' *Substance, Force, and the Possibility of Knowledge: On Kant's philosophy of material nature* (2000). Importance is given especially to Kant's ongoing dialogue with Leibniz's monadology.

Besides the volume of the secondary literature, there is also the problem of conflicting interpretations of Kant's meaning in the CPR and his overall transcendental philosophy. As previously stated, my understanding of this phenomenon is that among the two main philosophical schools of empiricism and rationalism, Kant attempted to reconcile the two by drawing from both (for example, John Locke and G.W. Leibniz). As we will notice especially in the OP, Kant concludes decidedly in favor of the idealistic and

¹⁸³ Ibid., *Critique of Pure Reason. Unified Edition*, Pluhar, W. (translation), Hackett Publishing Company, Indianapolis 1996, A490-491/B518-519. Future reference to this work will be as CPR, and I follow the standard citation method of citing the 1781 edition as A, and the 1787 edition as B, and providing both edition pages numbers where applicable. "Alles, was im Raume oder der Zeit angeschauet wird, mithin alle Gegenstände einer uns möglichen Erfahrung nichts als Erscheinungen, d.i. bloße Vorstellungen, sind, die so, wie sie vorgestellt werden, als ausgedehnte Wesen oder Reihen von Veränderungen, außer unseren Gedanken keine an sich gegründete Existenz haben. Diesen Lehrbegriff nenne ich den transscendentalen Idealism".

rationalist stance. However, there are enough elements in the CPR to make Kant out to be an empiricist. The fact that there is still deep disagreement regarding Kant's meaning and philosophy 200 years later reveals how little Kant achieved in uniting empiricist and rationalist philosophy, by solving the problem of affection.

Despite my disagreement with his Copernican revolution in how we know things, Kant's CPR is truly a monument to his capacity of creating a system of philosophy. His is a teaching that has marked contemporary thought perhaps like no other philosopher. In sections 2 and 4, I will attempt to present his CPR and OP in a summary and succinct manner; section 3 draws out the anomalies and incongruencies present in the CPR, while section 5 addresses the anomalies and the unsolved problems found in both the CPR and the OP.

2. The *Critique of Pure Reason* and the problem of affection

2.1. *The Transcendental Aesthetic and Kant's terms*

In the first part of the CPR, Kant explains the meaning of his terms. While his definitions are quite clear, Kant is not overly rigorous in his use of terms, and often leads to confusion. He starts by distinguishing two main sources of knowing in us: intuitions in the sensibility, and the understanding.

Intuition is that by which a cognition refers to objects directly, and at which all thought aims as a means. Intuition, however, takes place only insofar as the object is given to us; but that, in turn, is possible only—for us human beings, at any rate—by the mind's being affected in a certain manner. The capacity (a receptivity) to acquire presentations as a result of the way in which we are affected by objects is called **sensibility**. Hence by means of sensibility objects are *given* to us, and it alone supplies us with *intuitions*¹⁸⁴.

The main role of sensibility is its receptivity, since the object is given to us through sensibility. "Through understanding, on the other hand, objects are *thought*, and from it arise *concepts*. But all thought must, by means of certain characteristics, refer ultimately to intuitions"¹⁸⁵. Thus we discover a mutual dependence between sensibility and

¹⁸⁴ Ibid., A19/B33. "Auf welche Art und durch welche Mittel sich auch immer eine Erkenntniß auf Gegenstände beziehen mag, so ist doch diejenige, wodurch sie sich auf dieselbe unmittelbar bezieht, und worauf alles Denken als Mittel abzweckt, die Anschauung. Diese findet aber nur statt, sofern uns der Gegenstand gegeben wird; dieses aber ist wiederum uns Menschen° wenigstens nur dadurch möglich, daß er das Gemüth auf gewisse Weise afficire. Die Fähigkeit (Receptivität), Vorstellungen durch die Art, wie wir von Gegenständen afficirt werden, zu bekommen, heißt Sinnlichkeit".

¹⁸⁵ Ibid. "Durch den Verstand aber werden sie gedacht, und von ihm entspringen Begriffe. Alles Denken aber muß sich, es sei geradezu (directe), oder im Umschweife (indirecte), vermittelst gewisser

understanding, in that the concepts of the understanding are only ever applicable to sensed intuitions. Kant calls *appearance* the sensed intuition without any admixture with concepts, as if it were the sensed perception before the concepts of the understanding are applied to it.

Kant begins his CPR giving equal importance to both sensibility and understanding:

Our *intuition*, by our very nature, can never be other than *sensible* intuition; i.e., it contains only the way in which we are affected by objects. *Understanding*, on the other hand, is our ability to *think* the object of sensible intuition. Neither of these properties is to be preferred to the other. Without sensibility no object would be given to us; and without understanding no object would be thought. Thoughts without content are empty; intuitions without concepts are blind¹⁸⁶.

It is sensibility and the understanding's mutual complementarity that allows human knowledge to reach objectivity and universal necessity. However, Kant is careful to keep the two very distinct, since they have separate rules and laws governing their proper use; when the two are confused, human knowledge loses its proper use. "Hence we distinguish the science of the rules of sensibility as such, i.e., aesthetic, from the science of the rules of the understanding as such, i.e., logic"¹⁸⁷. This distinction leads to the division of the CPR into the Transcendental Aesthetic on the sensibility, and the Transcendental Logic on the understanding. The meaning of the term *Critique* in the title of his work is the intention to establish clearly the boundaries and proper use of each source of our knowledge.

A subsequent distinction shows where Kant places more importance between the two. Both intuitions and concepts can be either pure or empirical. Empirical concepts include sensation, while pure concepts or intuitions have no sensation "mixed in with the presentation"¹⁸⁸. "Pure" means that no experience is involved; an example of a pure intuition would be geometry, which regards formal space only, with no empirical experience needed. Only pure concepts and intuitions can be known a priori to experience. In contrast to pure ones, empirical concepts and intuitions necessarily follow

Merkmale° zuletzt auf Anschauungen, mithin bei uns auf Sinnlichkeit beziehen, weil uns auf andere Weise kein Gegenstand gegeben werden kann".

¹⁸⁶ Ibid., A51/B75. "Unsre Natur bringt es so mit sich, daß die Anschauung niemals anders als sinnlich sein kann, d.i. nur die Art enthält, wie wir von Gegenständen afficirt werden. Dagegen ist das Vermögen, den Gegenstand sinnlicher Anschauung zu denken, der Verstand. Keine dieser Eigenschaften ist der andern vorzuziehen. Ohne Sinnlichkeit würde uns kein Gegenstand gegeben und ohne Verstand keiner gedacht werden. Gedanken ohne Inhalt sind leer, Anschauungen ohne Begriffe sind blind".

¹⁸⁷ Ibid., A51-52/B75-76. "Daher unterscheiden wir die Wissenschaft der Regeln der Sinnlichkeit überhaupt, d.i. Ästhetik, von der Wissenschaft der Verstandesregeln überhaupt, d.i. der Logik".

¹⁸⁸ Ibid., A50/B74. "Der Vorstellung keine Empfindung beigemischt ist".

upon experience, as a posteriori¹⁸⁹. “Pure” and “a priori” can be synonyms for Kant, when he states his interest in a priori cognitions as “not those that occur independently of this or that experience, but those that occur *absolutely* independently of all experience. They contrast with empirical cognitions, which are those that are possible only a posteriori, i.e., through experience”¹⁹⁰. However, there are a priori cognitions that are not pure for Kant: “the proposition, Every change has its cause, is an a priori proposition; yet it is not pure, because change is a concept that can be obtained only from experience”¹⁹¹.

Using the Aristotelian-Scholastic terms of matter and form, Kant applies them to the two distinct elements of our knowledge. “Whatever in an appearance corresponds to sensation I call its *matter*; but whatever in an appearance brings about the fact that the manifold of the appearance can be ordered in certain relations I call the *form* of appearance”¹⁹². Any structuring of the manifold in sensation must be separate and distinct from that sensation; the “form of all appearance must altogether lie ready for the sensation a priori in the mind”¹⁹³. Thus, the a priori forms may be considered completely separate from a posteriori sensed experience.

By studying our sensibility in the Transcendental Aesthetic, Kant discovers the forms of space and time, as provided a priori to any experience. He begins his analysis of sensed perception by first “isolating” it from any possible presence of the understanding’s concepts, so that nothing but the empirical remains. He then separates anything belonging to sensation itself; information received through the senses is of little importance¹⁹⁴. Kant focuses on finding the pure, a priori aspect in intuition. After having thus isolated and segregated the different aspects in intuition, he discovers that “there are two pure forms of sensible intuition, which are principles for a priori cognition: viz., space and time”¹⁹⁵.

How are we to consider sensed intuition without any type of empirical elements, in its “pure” state?

¹⁸⁹ Cf. Ibid., A51/B75.

¹⁹⁰ Ibid., B2-3. “Wir werden also im Verfolg unter Erkenntnissen a priori nicht solche verstehen, die von dieser oder jener, sondern die schlechterdings von aller Erfahrung unabhängig stattfinden. Ihnen sind empirische Erkenntnisse oder solche, die nur a posteriori, d.i. durch Erfahrung, möglich sind, entgegengesetzt”.

¹⁹¹ Ibid., B3. “So ist z.B. der Satz: eine jede Veränderung hat ihre Ursache, ein Satz a priori, allein nicht rein, weil Veränderung ein Begriff ist, der nur aus der Erfahrung gezogen werden kann”.

¹⁹² Ibid., A20/B34. “In der Erscheinung nenne ich das, was der Empfindung correspondirt, die Materie derselben, dasjenige aber, welches macht, daß das Mannigfaltige der Erscheinung in gewissen Verhältnissen geordnet werden kann, °° nenne ich die Form der Erscheinung”.

¹⁹³ Ibid. “Die Form derselben aber muß zu ihnen insgesamt im Gemüthe a priori bereit liegen”.

¹⁹⁴ Cf. Ibid., A20/B35.

¹⁹⁵ Ibid., A22/B36. “Daß es zwei reine Formen sinnlicher Anschauung als Principien der Erkenntniß a priori gebe, nämlich Raum und Zeit”.

If from the presentation of a body I separate what the understanding thinks in it, such as substance, force, divisibility, etc., and if I similarly separate from it what belongs to sensation in it, such as impenetrability, hardness, color, etc., I am still left with something from this empirical intuition, namely, extension and shape. These belong to pure intuition, which, even if there is no actual object of the senses or of sensation, has its place in the mind a priori, as a mere form of sensibility¹⁹⁶. There yet remains the *space* that was occupied by the body (which has now entirely vanished), and this space you cannot omit [from the concept]¹⁹⁷.

By eliminating all elements of intuition that include sensation, such as hardness and color, we are left with the form of sensation: space. Since this space is involved in our concept of *all* empirical intuition, Kant sees it as an a priori concept or form present in our minds, prior to all experience. “By the very fact that they are pure intuitions a priori, they prove that they are mere forms of our sensibility that must precede all empirical intuition (i.e., the perception of actual objects), and in accordance with which objects can be cognized a priori, though of course only as they appear to us”¹⁹⁸. Any empirical, sensed intuition that we receive is necessarily molded according to the a priori forms of intuition, space and time. It is only thanks to the a priori form of space that “objects of space can be given to us”¹⁹⁹. Outer appearances depend on this form of space, and so cannot contain anything other than what this form prescribes.

Since space and time are present a priori in the mind, their objectivity or external validity is nullified. “This space itself, together with this time, and along with both of them all appearances are yet in themselves no *things*; rather, they are nothing but presentations, and cannot exist at all outside our mind”²⁰⁰. While Kant has discovered the pure forms of intuitions, he does not see them as existing outside of ourselves. Space is an internal form, without a basis in things themselves. Kant’s distinction of matter and form in empirical intuition is “here asserted more than argued for[:] that whereas the matter of all appearances can only be given to us a posteriori, ‘its form must lie ready for the

¹⁹⁶ Ibid., A20-21/B34-35 “Wenn ich von der Vorstellung eines Körpers das, was der Verstand davon denkt, als Substanz, Kraft, Theilbarkeit etc., imgleichen was davon zur Empfindung gehört, als Undurchdringlichkeit, Härte, Farbe etc., absondere, so bleibt mir aus dieser empirischen Anschauung noch etwas übrig, nämlich Ausdehnung und Gestalt. Diese gehören zur reinen Anschauung, die a priori, auch ohne einen wirklichen Gegenstand der Sinne oder Empfindung, als eine bloße Form der Sinnlichkeit im Gemüthe stattfindet”.

¹⁹⁷ Ibid., B5. “So bleibt doch der Raum übrig, den er (welcher nun ganz verschwunden ist) einnahm, und den könnt ihr nicht weglassen”.

¹⁹⁸ Ibid., Prolegomena, 35 [4:283]. “Aber eben dadurch, daß sie reine Anschauungen a priori sind, beweisen, daß sie bloße Formen unserer Sinnlichkeit sind, die vor aller empirischen Anschauung, d.i. der Wahrnehmung wirklicher Gegenstände, vorhergehen müssen, und denen gemäß Gegenstände a priori erkannt werden können, aber freilich nur, wie sie uns erscheinen”.

¹⁹⁹ Ibid., 38 [4:287]. “Weil die Sinnlichkeit durch ihre Form äußerer Anschauung (den Raum), womit sich der Geometer beschäftigt, jene Gegenstände als bloße Erscheinungen selbst allererst möglich macht”.

²⁰⁰ Ibid., CPR, A492/B520 “Jener Raum selber aber sammt dieser Zeit und zugleich mit beiden alle Erscheinungen sind doch an sich selbst keine Dinge, sondern nichts als Vorstellungen und können gar nicht außer unserem Gemüth existiren”.

sensations a priori in the mind, and so must allow of being considered apart from all sensations (A20/B35)”²⁰¹. Kant’s analysis of sensation leads him to posit space and time as ubiquitous forms, without further explanation.

Another important term to define is “transcendental”. Kant refers to his philosophy as a “transcendental idealism”, and the adjective “transcendental” appears often in the CPR. He draws the following distinction between transcendental and empirical:

We must not call just any a priori cognition transcendental, but must call transcendental (i.e., concerning the a priori possibility or the a priori use of cognition) only that a priori cognition whereby we cognize that—and how—certain presentations (intuitions or concepts) are applied, or are possible, simply a priori. Hence neither space nor any a priori geometric determination of it is a transcendental presentation. Rather, we may call transcendental only the cognition that these presentations are not at all of empirical origin, and the possibility whereby they can nonetheless refer a priori to objects of experience. [...] The distinction between the transcendental and the empirical belongs, therefore, only to the critique of cognitions, and does not concern the reference of these cognitions to their object²⁰².

Transcendental thus refers, not to objects outside of us, but rather to the proper application of concepts and forms in knowing. Transcendental indicates the study and critique of the mind’s proper use of thought and sensation. Whereas metaphysics may be concerned with reference to objects outside of us, transcendental philosophy is concerned only with the mind’s proper use of its categories.

What gives unity to the two different sources of knowing, the understanding and empirical intuition? We cannot unite the matter of sensibility with the forms of space and time, nor with the concepts of the understanding, “without that unity of consciousness which precedes all data of intuitions, and by reference to which all presentation of objects is alone possible. Now this pure, original, and immutable consciousness I shall call *transcendental apperception*”²⁰³. The transcendental apperception can be viewed as a name for the self, or the *Ich denke* (“I think” in German, which has its own particular role

²⁰¹ ALLISON, H.E., «Things in Themselves, Noumena, and the Transcendental Object», in *Dialectica*, 32 (1978) 1, 63.

²⁰² KANT, CPR, A56-57/B80-81. “*Daß nicht eine jede Erkenntniß a priori, sondern nur die, dadurch wir erkennen, daß und wie gewisse Vorstellungen (Anschauungen oder Begriffe) lediglich a priori angewandt werden oder möglich sind, transscendental (d.i. die Möglichkeit der Erkenntniß oder der Gebrauch derselben a priori) heißen müsse. Daher ist weder der Raum, noch irgend eine geometrische Bestimmung desselben a priori eine transscendentale Vorstellung, sondern nur die Erkenntniß, daß diese Vorstellungen gar nicht empirischen Ursprungs sind, und die Möglichkeit, wie sie sich gleichwohl a priori auf Gegenstände der Erfahrung beziehen können, kann transscendental heißen [...] Der Unterschied des Transscendentalen und Empirischen gehört also nur zur Kritik der Erkenntnisse und betrifft nicht die Beziehung derselben auf ihren Gegenstand*”.

²⁰³ Ibid., A107. “*Nun können keine Erkenntnisse in uns statt finden, keine Verknüpfung und Einheit derselben unter einander ohne diejenige Einheit des Bewußtseins, welche vor allen Datis der Anschauungen vorhergeht, und worauf in Beziehung alle Vorstellung von Gegenständen allein möglich ist. Dieses reine, ursprüngliche, unwandelbare Bewußtsein will ich nun die transscendentale Apperception nennen*”.

in Kant's philosophy), as underlying and uniting all cognition. Kant's philosophy is interested in comprehending the a priori structures and conditions of possibility present in the transcendental apperception, as the conditions that allow for our knowing.

2.2. The Transcendental Logic: the synthesis of empirical intuition and the understanding's concepts

Within his overall consideration of human cognition, Kant focuses mainly on the problem of how synthetic judgments are possible a priori²⁰⁴. Synthetic refers to judgments that do not merely clarify aspects that already contained in the original concept, as do analytic judgments; rather, synthetic judgments involve elements that expand and amplify a concept's range. They can do so only by involving empirical intuition. How can synthetic judgments that involve sensed intuition be at the same time a priori to sensed experience?

Kant uses the proposition "everything that happens has its cause" to illustrate how difficult it is to justify synthetic judgments like causality²⁰⁵. We can analytically deduce certain aspects from the concept of a thing; however we cannot deduce any necessary connection with another existent, as the concept of cause-effect would have it. Kant puts the question thus: "What is here the unknown = X on which the understanding relies when it believes that it discovers, outside the concept A, a predicate B that is foreign to concept A but that the understanding considers nonetheless to be connected with that concept?"²⁰⁶ Sensed experience cannot provide the universality that we assert when we attribute causality as applicable to all phenomena (for instance in the rule, "Everything that happens has its cause"). Here Kant agrees completely with Hume's skeptical attack on causality: From experience we cannot deduce anything universal. "Hume's 'reminder' made clear to Kant that progress in metaphysics, even scientific metaphysics itself, was no longer possible without examining our ability to gain nonempirical knowledge through certain concepts"²⁰⁷. Kant seeks to justify universal judgments as formulated in science, but Hume shows that all experience falls short of universality. Kant claims that universality in judgments is the product or result of the concepts of the understanding. For Kant, it is clear that we do in fact formulate universal, necessary synthetic judgments; it is only thanks to the categories of the understanding that we may do so. In this section we will

²⁰⁴ Cf. Ibid., B20.

²⁰⁵ Cf. Ibid., A9/B13.

²⁰⁶ Ibid. "Was ist hier das Unbekannte =x, worauf sich der Verstand stützt, wenn er außer dem Begriff von A ein demselben fremdes Prädicat B aufzufinden glaubt, welches er gleichwohl damit verknüpft zu sein erachtet?"

²⁰⁷ TUSCHLING, AE, 195–196.

study Kant's position on how the two elements of empirical intuition and the categories or concepts of the understanding come together to provide synthetic knowledge.

If we deny any synthesis of appearances through concepts, Kant cannot see how we can possibly have cognition; we would have a "rhapsody" of appearances, similar to a flow of conscience in perception, without any deeper unity.

Without such synthesis, experience would not even be cognition, but would be a rhapsody of perceptions. Such a rhapsody of perceptions would not fit together in any context conforming to rules of a thoroughly connected (possible) consciousness, and hence would also not fit together to agree with the transcendental and necessary unity of apperception. Hence at the basis of experience there lie, a priori, principles of its form²⁰⁸.

Our way of knowing shows *that* we make synthetic judgments a priori; *how* this is possible becomes the matter of investigation for Kant. In his *Prolegomena*, Kant summarizes the process of empirical intuition as being subsumed by the categories or concepts of the understanding: "The given intuition must be subsumed under a concept that determines the form of judging in general with respect to the intuition, connects the empirical consciousness of the latter in a consciousness in general, and thereby furnishes empirical judgments with universal validity"²⁰⁹. It is the understanding's concepts that determine intuition and so allow for universality. Returning to the example of causality, it is clear that causality is only a concept of understanding that, when applied to sensed intuition, allows for judgments of a universal nature.

The concept of cause is therefore a pure concept of the understanding, which is completely distinct from all possible perception, and serves only, with respect to judging in general, to determine that representation which is contained under it and so to make possible a universally valid judgment²¹⁰.

Regarding the interplay between sensed intuition and the understanding's concepts, each has its fundamental function: "Experience, as empirical synthesis, is in [regard to] its possibility the only kind of cognition that provides reality to all other

²⁰⁸ KANT, CPR, A156/B195-196. "Ohne welche [Synthesis] sie nicht einmal Erkenntniß, sondern eine Rhapsodie von Wahrnehmungen sein würde, die sich in keinen Context nach Regeln eines durchgängig verknüpften (möglichen) Bewußtseins, mithin auch nicht zur transscendentalen und nothwendigen Einheit der Apperception zusammen schicken würden. Die Erfahrung hat also Principien ihrer Form a priori zum Grunde liegen".

²⁰⁹ Ibid., *Prolegomena*, 52 [4:300]. "Die gegebene Anschauung muß unter einem Begriff subsumirt werden, der die Form des Urtheilens überhaupt in Ansehung der Anschauung bestimmt, das empirische Bewußtsein der letzteren in einem Bewußtsein überhaupt verknüpft und dadurch den empirischen Urtheilen Allgemeingültigkeit verschafft".

²¹⁰ Ibid. "Der Begriff der Ursache ist also ein reiner Verstandesbegriff, der von aller möglichen Wahrnehmung gänzlich unterschieden ist und nur dazu dient, diejenige Vorstellung, die unter ihm enthalten ist, in Ansehung des Urtheilens überhaupt zu bestimmen, mithin ein allgemeingültiges Urtheil möglich zu machen".

synthesis"²¹¹. Kant allows for our knowing of the external world or reality, thanks to the empirical intuition's receptive role in experience. Sensitivity's role in knowing is to grant objectivity, by the reality of the sensation received; it is thanks to the categories and concepts of the understanding that we may reach universal, necessary judgments.

In his analysis of human knowing, it is clear that Kant places the essential role in the understanding's concepts, while paying scant attention to empirical, sensed perception. Compared to how much attention he dedicates to the categories, their deduction and their application to sensed intuition, Kant hardly considers the role of sensibility. Kant does not allow sensed perception as giving us cognition of things as they are, "since [a thing's] properties cannot migrate over into my power of representation"²¹². Things cannot send their properties to our senses, and so there is little to be learned by studying our process of sensation. This explains Kant's minimal consideration for sensibility in cognition.

"Experience consists in the synthetic connection of appearances (perceptions) in a consciousness, insofar as this connection is necessary"²¹³. For human knowing, a synthesis must take place between perceptions and the categories of the apperception or consciousness. Those categories are the "pure concepts of the understanding", which then give perception the universal nature we find in our judgments. "Therefore pure concepts of the understanding are those under which all perceptions must first be subsumed before they can serve in judgments of experience, in which the synthetic unity of perceptions is represented as necessary and universally valid"²¹⁴. The term "subsumed" here is telling, in that the content and validity of experience is attributed wholly to the understanding's concepts. Kant has not explained *what* is subsumed: the matter or the appearance, with its information purportedly received from objects. Kant considers the categories of the mind and the a priori forms of space and time in intuition as playing the defining role in knowing.

Kant disagrees with the argument that our sensation is a confused presentation of things in themselves, that the understanding then clarifies. Such a position may be

²¹¹ Ibid., A157/B196. "Da also Erfahrung als empirische Synthesis in ihrer Möglichkeit die einzige Erkenntnißart ist, welche aller andern Synthesis Realität giebt".

²¹² Ibid., Prolegomena, 34 [4:282]. "Da ihre Eigenschaften nicht in meine Vorstellungskraft hinüber wandern können".

²¹³ Ibid., Prolegomena, 56 [4:305]. "Erfahrung besteht in der synthetischen Verknüpfung der Erscheinungen (Wahrnehmungen) in einem Bewußtsein, so fern dieselbe nothwendig ist".

²¹⁴ Ibid., 56-57 [4:305] "Daher sind reine Verstandesbegriffe diejenige, unter denen alle Wahrnehmungen zuvor müssen subsumirt werden, ehe sie zu Erfahrungsurtheilen dienen können, in welchen die synthetische Einheit der Wahrnehmungen als nothwendig und allgemeingültig vorgestellt wird".

considered a type of associationism, as sensed perception pertaining to properties of things in themselves “only by way of an accumulation of characteristics and partial presentations”²¹⁵. Kant attributes this view to Leibniz, as what led him to fail to recognize the unique role of the understanding’s categories²¹⁶. Kant does not allow for any knowing of things in themselves. To identify our sensibility with this “accumulation of characteristics” would falsify “the concept of sensibility and of appearance, rendering the entire doctrine of sensibility useless and empty”²¹⁷. He does not argue his point here; it is enough that the opposite position would falsify his all-important distinction between our appearances and things in themselves. The characteristic of distinct/indistinct presentation “is merely logical, and does not concern the content”²¹⁸. Sensed intuition does not supply content, on a more or less distinct level; distinct/indistinct applies merely to logical, mental categories and presentation. Kant does not see the need to investigate further into sensible intuition.

The mind certainly needs sensed intuition in order to apply its categories to something, as synthetic, expansive knowledge of something outside of itself. There is an initial synthesis involving the manifold (Kant’s term for the conglomerate of sensed qualities) in sensation, within the conscious subject. “Although this cognition may still be crude and confused at first and hence may require analysis, yet synthesis is what in fact gathers the elements for cognition and unites them to [form] a certain content”²¹⁹. Thus there is an initial synthesis present in the manifold of sensed intuition, that is united into an initial type of content. This initial synthesis Kant attributes to *the imagination*, “a blind but indispensable function of the soul without which we would have no cognition whatsoever, but of which we are conscious only rarely”²²⁰. Thus between empirical intuition and the understanding, the imagination acts as a type of midway point, that brings together in an elementary synthesis the content of intuition. It is the understanding that brings this synthesis of the imagination to concepts; “it is through this function that the

²¹⁵ Ibid., CPR, A43/B60. “Nur unter einer Zusammenhäufung von Merkmalen und Theilvorstellungen”.

²¹⁶ Cf. Ibid., A264/B320.

²¹⁷ Ibid. “Ist eine Verfälschung des Begriffs von Sinnlichkeit und von Erscheinung, welche die ganze Lehre derselben unnütz und leer macht”.

²¹⁸ Ibid., A43/B61. “Der Unterschied einer undeutlichen von der deutlichen Vorstellung ist bloß logisch und betrifft nicht den Inhalt”.

²¹⁹ Ibid., A77/B103. “Die Synthesis eines Mannigfaltigen aber (es sei empirisch oder a priori gegeben) bringt zuerst eine Erkenntniß hervor, die zwar anfänglich noch roh und verworren sein kann und also der Analysis bedarf; allein die Synthesis ist doch dasjenige, was eigentlich die Elemente zu Erkenntnissen sammlet und zu einem gewissen Inhalte vereinigt”.

²²⁰ Ibid., A78/B103. “Einer blinden, obgleich unentbehrlichen Function der Seele, ohne die wir überall gar keine Erkenntniß haben würden, der wir uns aber selten nur einmal bewußt sind”.

understanding first provides us with cognition in the proper meaning of the term”²²¹. It is only thanks to the imagination’s synthesis that our knowledge can come about.

There is a noticeable difference between the 1781 and the 1787 editions of the CPR when it comes to the explanation of the imagination. In the A edition we read:

The synthesis of imagination, although performed a priori, is yet always in itself sensible, because it combines the manifold—e.g., the shape of a triangle—only as it *appears* in intuition. But through the manifold’s relation to the unity of apperception, concepts—which belong to the understanding—will be able to come about, but only by means of imagination as referred to sensible intuition²²².

Here Kant sees the imagination as a mediation between sensibility and understanding, in that the imagination is a priori, but only ever “as referred to sensible intuition”. Thus the imagination’s connection with the manifold in empirical intuition is left clear in the 1781 edition. In 1787 Kant sees the imagination as much more dependent on the understanding, insofar as the imagination plays a role of *determining*:

The synthesis of imagination is an exercise of spontaneity, which is determinative, rather than merely determinable, as is sense; hence this synthesis can a priori determine sense in terms of its form in accordance with the unity of apperception. To this extent, therefore, the imagination is a power of determining sensibility a priori; and its synthesis of intuitions *in accordance with the categories* must be the transcendental synthesis of *imagination*. This synthesis is an action of the understanding upon sensibility, and is the understanding’s first application (and at the same time the basis of all its other applications) to objects of the intuition that is possible for us²²³.

We can observe between the two editions a marked shift in the role of the imagination determining sensibility from the understanding’s power (the 1787 edition), rather than a gathering of content from sensibility, towards the understanding’s application of concepts (as in the 1781 edition). Whereas the imagination plays a clear role of transition in the 1781 edition, it loses most of its importance in the second edition; the understanding’s determining spontaneity gains superiority over the imagination and empirical receptivity. The understanding’s priority becomes clearer.

²²¹ Ibid. “Allein diese Synthesis auf Begriffe zu bringen, das ist eine Function, die dem Verstande zukommt, und wodurch er uns allererst die Erkenntniß in eigentlicher Bedeutung verschafft”.

²²² Ibid., A124. “Denn an sich selbst ist die Synthesis der Einbildungskraft, obgleich a priori ausgeübt, dennoch jederzeit sinnlich, weil sie das Mannigfaltige nur so verbindet, wie es in der Anschauung erscheint, z.B. die Gestalt eines Triangels. Durch das Verhältniß des Mannigfaltigen aber zur Einheit der Apperception werden Begriffe, welche dem Verstande angehören, aber nur mittelst der Einbildungskraft in Beziehung auf die sinnliche Anschauung, zu Stande kommen können”.

²²³ Ibid., B151-152. “So fern aber doch ihre Synthesis eine Ausübung der Spontaneität ist, welche bestimmend und nicht wie der Sinn bloß bestimmbar ist, mithin a priori den Sinn seiner Form nach der Einheit der Apperception gemäß bestimmen kann, so ist die Einbildungskraft so fern ein Vermögen, die Sinnlichkeit a priori zu bestimmen, und ihre Synthesis der Anschauungen, den Kategorien gemäß, muß die transscendentale Synthesis der Einbildungskraft sein, welches eine Wirkung des Verstandes auf die Sinnlichkeit und die erste Anwendung desselben (zugleich der Grund aller übrigen) auf Gegenstände der uns möglichen Anschauung ist”.

With the imagination's mediation between sensed intuition and understanding, we may finally reach cognition. "The third [thing we need] in order to cognize an object that we encounter is the concepts which give *unity* to this pure synthesis and which consist solely in the presentation of this necessary synthetic unity. And these concepts rest on the understanding"²²⁴. It is thanks to the concepts of the understanding that we arrive finally to cognition of objects, and it is the understanding that "brings into its presentations a transcendental content"²²⁵. Through the understanding's activity of synthesis through concepts, we come to cognition of objects a priori. Kant bases the classification or deduction of the concepts on his table of judgments, divided into four classes, with three members of each class. This table of twelve functions of the understanding is "completely exhaustive and survey [the understanding's] power entirely. Following Aristotle, we shall call these functions *categories*"²²⁶. The concepts of the understanding are called categories, because they are the only possible ways we can know things. The shift in meaning between Aristotle's categories and Kant's is significant: The categories for Aristotle regard ways of being outside of us, while Kant's categories regard the mind's powers.

The understanding's concepts allow the understanding to gather the manifold of experience into general categories. By their nature, the concepts of the understanding must include several objects, and even types of objects. They do not relate directly with objects themselves – which is the function of empirical intuition – but rather, the concepts are the understanding's a priori determining principles. "Instead of cognizing the object by means of a direct presentation, we do so by means of a higher presentation comprising both this direct presentation and several other presentations; and we thereby draw many possible cognitions into one"²²⁷. We reach higher presentation thanks to the concepts, but we also lose direct contact with objects. The categories are what allow us to determine objects; the concepts of the understanding "refer to some presentation of an as yet

²²⁴ Ibid., A79/B104. "Die Begriffe, welche dieser reinen Synthesis Einheit geben und lediglich in der Vorstellung dieser nothwendigen synthetischen Einheit bestehen, thun das dritte zum Erkenntnisse eines vorkommenden Gegenstandes und beruhen auf dem Verstande".

²²⁵ Ibid., A79/B105. "Derselbe Verstand [...] bringt auch vermitteltst der synthetischen Einheit des Mannigfaltigen in der Anschauung überhaupt in seine Vorstellungen einen transscendentalen Inhalt".

²²⁶ Ibid. "Denn der Verstand ist durch gedachte Functionen völlig erschöpft und sein Vermögen dadurch gänzlich ausgemessen. Wir wollen diese Begriffe nach dem Aristoteles Kategorien nennen".

²²⁷ Ibid., A69/B94. "Alle Urtheile sind demnach Functionen der Einheit unter unsern Vorstellungen, da nämlich statt einer unmittelbaren Vorstellung eine höhere, die diese und mehrere unter sich begreift, zur Erkenntniß des Gegenstandes gebraucht, und viel mögliche Erkenntnisse dadurch in einer zusammengezogen werden".

undetermined object”²²⁸. The determinations in knowledge are not from empirical sensibility, but rather from the concepts’ nature of determining the indeterminate manifold of intuition. Objects take on determination in our thought, thanks to the concepts of the understanding.

From the above, one may believe that our knowledge has to do mainly with the understanding and its concepts, and so may disregard any empirical intuition. And Kant himself dedicates more interest to the concepts or categories than to the functions of empirical intuition. However, he is clear in warning against a purely transcendental consideration of the categories: They are only ever meant to subsume empirical intuition into knowledge. Outside of their application to sensibility, the concepts are without use or application²²⁹. As we will see in the distinction between reason and the understanding, applying the categories to non-sensed intuition is dangerous and necessarily leads to false conclusions.

Towards the end of his Transcendental Logic in the CPR, Kant presents another element that, similar to the imagination, allows for the joining of the two heterogeneous sources of knowing, sensibility and understanding. This is the *transcendental schema*, and it is presented in a teaching called “transcendental schematism”. Once again, Kant is faced with the opposing, heterogeneous natures of sensed intuitions and the understanding’s categories. So there must be something homogeneous with both of them, which “makes possible the application of the category to the appearance”. Rather than arguing and showing its existence, Kant simply asserts that this third something “must be both *intellectual*, on the one hand, and *sensible*, on the other. Such a presentation is the *transcendental schema*”²³⁰. This schema is a product of the imagination²³¹, and creates schemata as internal images. These schemata provide the condition of possibility for intuitions to be subsumed into the categories, and for categories to be applied to intuitions. The schemata are completely interior to the mind, and allow the objects that we sensibly intuit to come to their proper concept of the understanding. They are mental images so to speak, which all appearances necessarily accord to. Kant considers that the link between sensibility and understanding has been sufficiently presented and justified through transcendental schematism.

²²⁸ Ibid. “*Begriffe aber beziehen sich als Prädicate möglicher Urtheile auf irgend eine Vorstellung von einem noch unbestimmten Gegenstande*”.

²²⁹ Cf. Ibid., A248/B305.

²³⁰ Ibid., A138/B177. “*Diese vermittelnde Vorstellung muß rein (ohne alles Empirische) und doch einerseits intellektuell, andererseits sinnlich sein. Eine solche ist das transscendentale Schema*”.

²³¹ Cf. Ibid., A140/B179.

One final element is required in order to connect and bind together the entire system. What guarantees the connection between appearances on the one hand, and our apperception-consciousness-*I think* and its categories on the other hand? Similar to the schema, something must be found that is homogeneous with both category and appearance. Kant finds the link between the subjective *I think* of apperception, and the objective world in appearance, through the determination of time. For time determination is *universal* and so must be a priori, in accordance with the category. Appearance too is subject to time and invariably involves the factor of time. "Hence it will be possible for the category to be applied to appearances by means of the transcendental time determination, which, as the schema of the concepts of the understanding, mediates the subsumption of appearances under the category"²³². In the Transcendental Aesthetic Kant presents time along with space as the a priori forms of intuition; every appearance must involve the element of time. The concepts of the mind also involve the aspect of time. And so time allows for the connection between the understanding's concepts and the objects of possible experience.

In summary of the Transcendental Logic, we see that Kant starts with sensibility in the intuition, according to the a priori forms of space and time. The understanding's concepts are pure and unmixed with any sensed intuition; they require the imagination to mediate between pure concepts and sensed intuition. The imagination does so through the schemata, which are the intuitions subsumed by the understanding's concepts, as those intuitions become determined by the categories.

2.3. Appearances and things in themselves

After having distinguished the two main sources of knowledge and their proper functions in how we know, Kant makes an important distinction regarding *what* we know: "The subjective laws under which alone a cognition of things through experience is possible also hold good for those things as objects of a possible experience (but obviously not for them as things in themselves, which, however, are not at all being considered here)"²³³. It is one thing to study the condition for things to be objects of a possible

²³² Ibid., A139/B178. "Daher wird eine Anwendung der Kategorie auf Erscheinungen möglich sein vermittelt der transscendentalen Zeitbestimmung, welche als das Schema der Verstandesbegriffe die Subsumtion der letzteren unter die erste vermittelt".

²³³ Ibid., *Prolegomena*, 49 [4:296.] "Denn die subjectiven Gesetze, unter denen allein eine Erfahrungserkenntniß von Dingen möglich ist, gelten auch von diesen Dingen als Gegenständen einer

experience; it is quite a different matter to consider things in themselves. What do we know, when sensed perception is subsumed by the concepts of the understanding? The distinction between our appearances and representations on the one hand, and things in themselves on the other, plays an all-important role in Kant's transcendental philosophy.

In the 1781 edition of the deduction of the concepts of pure understanding, Kant makes a number of important distinctions regarding the validity and truth-value of our knowing. Presentations or appearances in themselves should not be considered as objects; "what, then, do we mean when we talk about an object corresponding to, and hence also distinct from, cognition?"²³⁴ Here Kant sees two poles regarding knowledge: One pole is cognition and thought itself, the other pole is the object, which corresponds to that thought and so is different from it. Using the example of the variable factor in algebra, Kant states that the object "must be thought only as something as such = x "²³⁵. What is the object, the unknown variable in the equation of knowing = x ? In the end, our cognition is the furthest we can reach in knowing; what is the object that lays beyond our cognition?

We cognize something once the synthetic unity of the manifold in intuition has been achieved. This very synthesis can only happen according to a rule of synthesis, as "a function of synthesis that makes the reproduction of the manifold necessary a priori and makes possible a concept in which this manifold is united"²³⁶. We saw in the previous section how this synthesis takes place between the manifold in intuition and the concepts of the understanding. This rule of synthesis limits our knowledge to the conditions that make possible our knowing and the unity of apperception. "The concept of this unity is the presentation of the object = x "²³⁷. The object of our knowledge, the unknown variable, is simply the presentation of the object according to the rules of synthesis that Kant has proposed. To speculate regarding the object in itself, beyond the act of synthesis in our concept, is to expend energy on a project that goes beyond what we can know.

Rather than knowledge based on things in themselves, the object of possible experience is founded completely on a transcendental basis, that is, upon the synthesis

möglichen Erfahrung (freilich aber nicht von ihnen als Dingen an sich selbst, dergleichen aber hier auch in keine Betrachtung kommen)".

²³⁴ Ibid., CPR, A104. "Was versteht man denn, wenn man von einem der Erkenntniß correspondirenden, mithin auch davon unterschiedenen Gegenstande redet?"

²³⁵ Ibid. "Es ist leicht einzusehen, daß dieser Gegenstand nur als etwas überhaupt = X müsse gedacht werden".

²³⁶ Ibid., A105. "Diese ist aber unmöglich, wenn die Anschauung nicht durch eine solche Function der Synthesis nach einer Regel hat hervorgebracht werden können, welche die Reproduktion des Mannigfaltigen a priori nothwendig und einen Begriff, in welchem dieses sich vereinigt, möglich macht".

²³⁷ Ibid. "Der Begriff dieser Einheit ist die Vorstellung vom Gegenstande = X ".

of apperception. For we *necessarily* think of extension, shape and impenetrability whenever we think of the concept of body. This necessity present in the concept can only come from a transcendental source. It is this transcendental basis of apperception that Kant presents in his transcendental idealism:

A transcendental basis of the unity of consciousness in the synthesis of the manifold of all our intuitions; and hence a transcendental basis also of the concepts of objects as such, and consequently also of all objects of experience—a transcendental basis without which it would be impossible to think any object for our intuitions. For this object is nothing more than that something whose concept expresses such a necessity of synthesis²³⁸.

Our knowledge of objects must necessarily conform to our transcendental rules of knowing. Thus, the object itself is completely determined by those rules of synthesis. We may go no further than those rules, since they are ultimately how we know and determine all aspects of the objects of knowledge and experience. It would be foolish to attempt to reach things in themselves, beyond the objects of knowledge in appearance.

Our knowing of things in appearance and only as appearance is due to our relying on the a priori forms of intuition. “All our intuition is nothing but the presentation of appearance. The things that we intuit are not in themselves what we intuit them as being. Nor do their relations in themselves have the character that they appear to us as having”²³⁹. The forms of time and space would completely disappear if we were to disappear. “Being appearances, [space and time] cannot exist in themselves, but can exist only in us”²⁴⁰. Thus we are left completely ignorant as to what objects might be in themselves; “all we know is the way in which we perceive them”²⁴¹. Space is a subjective condition and form of our intuition of objects of experience; it does not regard things in themselves. Space acts only as an a priori form, and must precede all sensible intuition. “The form of intuition (as a subjective character of sensibility) precedes all matter (the sensations)-and hence space and time precede all appearances and all data of experience-and is, rather, what makes experience possible in the first place”²⁴².

²³⁸ Ibid., A106. “Also muß ein transscendentaler Grund der Einheit des Bewußtseins in der Synthesis des Mannigfaltigen aller unserer Anschauungen, mithin auch der Begriffe der Objecte überhaupt, folglich auch aller Gegenstände der Erfahrung angetroffen werden, ohne welchen es unmöglich wäre, zu unsern Anschauungen irgend einen Gegenstand zu denken: denn dieser ist nichts mehr als das Etwas, davon der Begriff eine solche Nothwendigkeit der Synthesis ausdrückt”.

²³⁹ Ibid., A42/B59. “Alle unsre Anschauung nichts als die Vorstellung von Erscheinung sei; daß die Dinge, die wir anschauen, nicht das an sich selbst sind, wofür wir sie anschauen, noch ihre Verhältnisse so an sich selbst beschaffen sind, als sie uns erscheinen”.

²⁴⁰ Ibid. “Als Erscheinungen [Raum und Zeit] nicht an sich selbst, sondern nur in uns existiren können”.

²⁴¹ Ibid. “Wir kennen nichts als unsere Art, sie wahrzunehmen”.

²⁴² Ibid., A267/B323. “So geht die Form der Anschauung (als eine subjective Beschaffenheit der Sinnlichkeit) vor aller Materie (den Empfindungen), mithin Raum und Zeit vor allen Erscheinungen und allen datis der Erfahrung vorher und macht diese vielmehr allererst möglich”.

In the first edition of the CPR, Kant admits that the very concept of appearance includes a corresponding concept of something that is not in itself appearance. "If we are not to go in a constant circle, then the word appearance already indicates a reference to something the direct presentation of which is indeed sensible, but which in itself [...] must be something, i.e., an object independent of sensibility"²⁴³. Thus in 1781 Kant admits the distinction between appearances and things in themselves; "things in themselves" is a concept that necessarily corresponds to appearance. After this first publication, Kant received heavy criticism regarding the relationship between appearance and the thing in itself. In the above quote, the "constant circle" Kant wishes to avoid points towards a causal relationship between the thing and its appearance in us. However, "causality" is one of the concepts of understanding, which cannot be applied beyond empirical intuition and appearances. There cannot be a causal relationship beyond appearances and things, such that things in themselves cause their appearances in us. The concepts or categories can *only* find use in applying to sensed intuition; here the concept of causality does not respect that rule. Hence his 1781 edition was seen to contain important contradictions with its own method, and so required important changes.

Two years after the first edition of the CPR, Kant still held in his *Prolegomena* to a causal relationship between appearance and things in themselves. In the immediate aftermath to his first edition, some critics associate Kant's transcendental idealism with Berkeley's *esse est percipi*, becoming a philosophy of non-objective, only subjective knowledge. Kant asserts:

There are things given to us as objects of our senses existing outside us, yet we know nothing of them as they may be in themselves, but are acquainted only with their appearances, that is, with the representations that they produce in us because they affect our senses. Accordingly, I by all means avow that there are bodies outside us, that is, things which, though completely unknown to us as to what they may be in themselves, we know through the representations which their influence on our sensibility provides for us²⁴⁴.

Against those who accuse him of Berkeleyan idealism, Kant emphatically states the existence of things outside us; he only asserts our inability to know those things as they might be in themselves. His CPR simply wishes to limit our knowing to appearances,

²⁴³ Ibid., A252. "Wo nicht ein beständiger Cirkel herauskommen soll, das Wort Erscheinung schon eine Beziehung auf Etwas anzeigt, dessen unmittelbare Vorstellung zwar sinnlich ist, was aber an sich selbst, auch ohne diese Beschaffenheit unserer Sinnlichkeit (worauf sich die Form unserer Anschauung gründet), Etwas, d.i. ein von der Sinnlichkeit unabhängiger Gegenstand, sein muß".

²⁴⁴ Ibid., *Prolegomena*, 40 [4:289]. "Es sind uns Dinge als außer uns befindliche Gegenstände unserer Sinne gegeben, allein von dem, was sie an sich selbst sein mögen, wissen wir nichts, sondern kennen nur ihre Erscheinungen, d.i. die Vorstellungen, die sie in uns wirken, indem sie unsere Sinne afficiren. Demnach gestehe ich allerdings, daß es außer uns Körper gebe, d.i. Dinge, die, obzwar nach dem, was sie an sich selbst sein mögen, uns gänzlich unbekannt, wir durch die Vorstellungen kennen, welche ihr Einfluß auf unsre Sinnlichkeit uns verschafft".

with no possibility of knowing things in themselves. This line from the introduction to the second 1787 edition of the CPR illustrates this position: “Our rational cognition applies only to appearances, and leaves the thing in itself uncognized by us, even though inherently actual”²⁴⁵. Things do exist outside of us; we simply do not know them as they are, but only in appearance.

Transcendental philosophy is considered an idealism, insofar as we only know our own representations and objects of experience, and not things outside of us. “Objects of experience are *never given in themselves*, but are given only in experience and do not exist outside it at all”²⁴⁶. “Things in themselves” as a concept or set expression in Kant’s philosophy plays a key role, and has been the target of much criticism. Henri Allison explains Kant’s concept of things in themselves in the following way: “This ‘some-thing’, which is thought of as ‘affecting’ the mind, thereby functioning as the ‘cause’ or ‘ground’ of its representations (all of these locutions being found in Kant), cannot be taken under its empirical description, i.e., considered as a sensible (spatial-temporal) entity”²⁴⁷. The thing in itself receives its form of space and time, along with the categories, from the apperception or the *Ich denke*; these characteristics cannot be considered as part of the thing in itself. “Consequently, the thought of such an object is, by its very nature, the thought of something non-sensible, non-intuitable, and hence ‘merely intelligible’. But to ‘consider’ an object in this way is, by definition, to consider it as it is in itself”²⁴⁸. Things in themselves are simply a concept without any type of content, since any content found in appearances are introduced by the *Ich denke*.

We recall that Kant’s main inquiry throughout the CPR is how synthetic judgments are possible a priori; we thus realize why he goes to such lengths in distinguishing things in themselves from the objects of experience, as appearances. Our knowledge does not apply to things in themselves, because the rules of synthetic unity cannot be drawn from things in themselves. Things in themselves cannot conform to our understanding; only appearances can. Were our knowledge to rely on things in themselves, “my understanding would have to conform to them; they would therefore have to be given to me in advance so that these determinations could be drawn from them, but then they would not be

²⁴⁵ Ibid., CPR, B xx. “*Daß sie nämlich nur auf Erscheinungen gehe, die Sache an sich selbst dagegen zwar als für sich wirklich, aber von uns unerkant liegen lasse*”.

²⁴⁶ Ibid., A492/B521. “*Es sind demnach die Gegenstände der Erfahrung niemals an sich selbst, sondern nur in der Erfahrung gegeben und existiren außer derselben gar nicht*”.

²⁴⁷ ALLISON, H.E., «Things in Themselves, Noumena, and the Transcendental Object», 68.

²⁴⁸ Ibid.

cognized *a priori*²⁴⁹. Since the concepts of the understanding are what determine the object of experience, those concepts cannot be drawn from things in themselves, but they must be in us a priori, as determining our experience. Nor can we know things in themselves as far as their nature a posteriori. Kant agrees with Hume's skepticism, and cannot allow any possible induction from experience to necessity. "Experience teaches me what there is and how it is, but never that it necessarily must be so and not otherwise. Therefore [experience] can never teach me the nature of things in themselves"²⁵⁰. Our knowledge includes necessity, which can only be based on the apperception, not on things. Therefore our knowledge has nothing to do with things in themselves; experience simply allows me to know that there is something out there.

Since the founding of modern science, it purports to observe nature and formulate laws according to that observation. However, for Kant the mind's concepts are laws regarding its knowing; the concepts are not taken or drawn from nature.

Since the categories are not derived from nature and do not conform to it as their model (for then they would be merely empirical), how are we to comprehend the fact that nature must conform to the categories, i.e., how can the categories determine a priori the combination of nature's manifold without gleaning that combination from nature?²⁵¹

Here we arrive to the Copernican revolution, as proclaimed by Kant himself²⁵². Rather than our mind orbiting around nature and the world, so to speak, as it draws laws from its observation of the world, we proceed in the opposite direction: "Nature (regarded merely as nature as such) depends (as *natura formaliter spectata*) on the categories as the original basis of its necessary law-governedness"²⁵³. The laws that science discovers in nature rely on the mind's concepts, not on any particular structure inherent to the world. The law-governedness that we supposedly observe and glean from nature is in reality simply our mind's categories for understanding.

²⁴⁹ KANT, *Prolegomena*, 46 [4:294]. "Mein Verstand müßte sich nach ihnen richten; sie [die Dinge] müßten also mir vorher gegeben sein, um diese Bestimmungen von ihnen abzunehmen; alsdann aber wären sie nicht a priori erkannt".

²⁵⁰ Ibid., 46-47 [4:294]. "Nun lehrt mich die Erfahrung zwar, was dasei, und wie es sei, niemals aber, daß es nothwendiger Weise so und nicht anders sein müsse. Also kann sie die Natur der Dinge an sich selbst niemals lehren".

²⁵¹ Ibid., CPR, B163. "Nun fragt sich, da sie nicht von der Natur abgeleitet werden und sich nach ihr als ihrem Muster richten (weil sie sonst bloß empirisch sein würden), wie es zu begreifen sei, daß die Natur sich nach ihnen richten müsse, d.i. wie sie die Verbindung des Mannigfaltigen der Natur, ohne sie von dieser abzunehmen, a priori bestimmen können".

²⁵² Cf. Ibid., B xvi-xvii.

²⁵³ Ibid., B164-165. "Die Natur (bloß als Natur überhaupt betrachtet) als dem ursprünglichen Grunde ihrer nothwendigen Gesetzmäßigkeit (als *natura formaliter spectata*) abhängt".

Parallel to the distinction between appearances and things in themselves, Kant presents the distinction between phenomenon and noumenon. The phenomenon may be considered the appearance or representation of things *in us*. The noumenon may be seen as similar to things *in themselves*. The noumenon plays a key role, not in its actual content-value, but rather as a limit. “The concept of a noumenon is necessary in order not to extend sensible intuition even over things in themselves, and hence in order to limit the objective validity of sensible cognition”²⁵⁴. The forms of intuition in space-time, and the concepts of the understanding, only ever apply to sensible intuition; any application to the noumenon is illegitimate. This concept of the noumenon is in itself empty, because we can have no type of insight into what it is. “The concept of a noumenon is, therefore, only a *boundary concept* serving to limit the pretension of sensibility, and hence is only of negative use”²⁵⁵.

The noumenon plays an important role in transcendental philosophy. “[The concept of a noumenon] is [...] not arbitrarily invented; rather it coheres with the limitation of sensibility, yet without being able to posit anything positive outside sensibility’s range”²⁵⁶. If we cannot know the noumenon or things in themselves, why does Kant go to such lengths in explaining them? “[It] is to call attention to the fact that, although it is perfectly possible to ‘consider’ objects apart from their relation to our conceptual scheme [...], such consideration does not yield the genuine concept of a knowable object”²⁵⁷. Thus Kant has delineated the boundaries of human knowing, by clarifying up to what point we may use our concepts of the understanding, and where our knowledge become void of content.

In order to clarify his distinction between things in themselves and appearances, Kant recalls the role of the transcendentals in classical philosophy, which were *ens*, *unum*, *verum* and *bonum*. Philosophers before Kant fell into inextricable dilemmas, because they confabulated those terms into “predicates of *things*”, while the transcendentals are nothing but “logical requirements and criteria for all *cognition of things*”²⁵⁸. Here we see another

²⁵⁴ Ibid., A254/B310. “Ferner ist dieser Begriff [eines Noumenon] nothwendig, um die sinnliche Anschauung nicht bis über die Dinge an sich selbst auszudehnen und also um die objective Gültigkeit der sinnlichen Erkenntniß einzuschränken”.

²⁵⁵ Ibid., A255/B310. “Der Begriff eines Noumenon ist also bloß ein Grenzbegriff, um die Anmaßung der Sinnlichkeit einzuschränken, und also nur von negativem Gebrauche”.

²⁵⁶ Ibid., A255/B311. “[Der Begriff eines Noumenon] ist aber gleichwohl nicht willkürlich erdichtet, sondern hängt mit der Einschränkung der Sinnlichkeit zusammen, ohne doch etwas Positives außer dem Umfange derselben setzen zu können”.

²⁵⁷ ALLISON, H.E., «Things in Themselves, Noumena, and the Transcendental Object», 58.

²⁵⁸ KANT, CPR, B114. “In der That nur in formaler Bedeutung, als zur logischen Forderung in Ansehung jeder Erkenntniß gehörig, brauchten und doch diese Kriterien des Denkens unbehutsamer Weise zu Eigenschaften der Dinge an sich selbst machten”.

dimension of the Copernican revolution in transcendental philosophy: Rather than the mind orbiting around things and discovering things' intrinsic properties in the classical meaning of the transcendentals, things have to conform to the mind's rules of synthesis in knowing, if they are to be known at all. Thus all attributes and content of things rely entirely on the mind's concepts.

With his distinction between the phenomenon and the noumenon, parallel to the distinction between appearances and things in themselves, Kant can overcome Hume's skepticism and still propose to know things necessarily and universally. Things themselves do not have universal, necessary characteristics as such, but it is the mind's conceptual scheme that determines appearances and objects of experience such that they acquire necessity and universality. This distinction phenomenon/noumenon, appearance/things in themselves, may be considered Kant's greatest contribution to philosophy. At the same time, this point is also one of transcendental philosophy's weakest points, and quickly became the target of much criticism even from the first edition in 1781.

2.4. *Original apperception and the I think*

After having considered the two sources of knowing – empirical intuition and the understanding's concepts –, we now consider briefly Kant's teaching regarding the self, the *Ich denke-I think*, or original, transcendental apperception, all terms which Kant variably uses. Through his critique of reason, Kant discovers the elements and of human knowing and their proper use. We now turn to consider the mind in itself, to see what may be said regarding the self.

While presenting the conditions of possibility for synthetic a priori judgments, Kant asserts that such judgments are possible "if we refer [a] the formal conditions of a priori intuition, [b] the synthesis of imagination, and [c] the necessary unity of this synthesis in a transcendental apperception to a possible experiential cognition as such"²⁵⁹. The formal conditions [a] are the understanding's categories and space-time; [b] the imagination's synthesis regards empirical intuition, and these two elements are united [c] within the mind/*I think* into a single experience. Without a concrete object of experience, the *I think*'s synthesis is empty and pointless; it only becomes valid in reference to an object of

²⁵⁹ Ibid., A158/B197. "Wenn wir die formalen Bedingungen der Anschauung a priori, die Synthesis der Einbildungskraft und die nothwendige Einheit derselben in einer transscendentalen Apperception, auf ein mögliches Erfahrungserkenntniß überhaupt beziehen".

experience. Thus we can say “that the conditions for the *possibility of experience* as such are simultaneously conditions for the *possibility of objects of experience*”²⁶⁰. In order for experience to arise, the object of experience itself must arise at the same time; this object is determined by the mind’s synthesis, while giving that synthesis “objective validity” in synthetic a priori judgments. This “objective validity” provided by the object of experience would seem to give extra-mental, non-subjective input for our knowledge. Which factor plays the predominant role in Kant’s transcendental philosophy, things or the *I think*?

Knowledge and experience can take place only within a certain unity. The part of appearance in experience, “as data for a possible cognition, must a priori already have reference to, and be in harmony with, synthetic unity”²⁶¹. Appearances are what come from the passively receptive element of knowledge in sensibility; they can only be received if they come already in reference to unity with the understanding’s concepts and rules of synthesis in the apperception²⁶². Since the rules of understanding are the central reference point for the appearance of objects, those rules contain “the basis for the possibility of experience, as the sum of all cognition wherein the objects may be given to us”. Therefore it is the understanding and its rules that are “the source of all truth, i.e., the source of our cognition’s agreement with objects”²⁶³. Thus truth is equated with the synthesis of apperception according to the rules of the understanding; things’ objective value, as supplying empirical information, is reduced to a function towards, and in conformity with, the mind’s conceptual scheme.

What exactly is the *I think* for Kant? In the 1781 edition, Kant sees the *I think* as a necessary condition for knowing, not arising at all from empirical intuition. As a condition, transcendental apperception must precede “all experience [as what] makes experience itself possible”²⁶⁴. In the 1787 explanation of the transcendental apperception, the *I think* is an intuition, in that it is a “presentation that can be given prior to all thought”. As prior to thought, it is only an act of spontaneity, opposed to sensibility and not arising at all from sensibility. This presentation *I think* is called *original apperception*, as the “self-consciousness which, because it produces the presentation *I think* that must be capable

²⁶⁰ Ibid. “*Die Bedingungen der Möglichkeit der Erfahrung überhaupt sind zugleich Bedingungen der Möglichkeit der Gegenstände der Erfahrung*”.

²⁶¹ Ibid., A237/B296. “*Auf welche [synthetische Einheit] die Erscheinungen, als data zu einem möglichen Erkenntnisse, schon a priori in Beziehung und Einstimmung stehen müssen*”.

²⁶² Cf. Ibid.

²⁶³ Ibid. “*Diese Verstandesregeln [...] sogar der Quell aller Wahrheit, d.i. der Übereinstimmung unserer Erkenntniß mit Objecten*”.

²⁶⁴ Ibid., A107. “*Nun können keine Erkenntnisse in uns statt finden, keine Verknüpfung und Einheit derselben unter einander ohne diejenige Einheit des Bewußtseins, welche vor allen Datis der Anschauungen vorhergeht, und worauf in Beziehung alle Vorstellung von Gegenständen allein möglich ist*”.

of accompanying all other presentations [...], [it] cannot be accompanied by any further presentation”²⁶⁵. In order for presentations of objects of experience to arise, the *I think* must be originally and continually accompanying and allowing those presentations to arise. Finally, Kant attributes the possibility of a priori cognition to the unity of the *I think*, and so also calls it *transcendental* unity of self-consciousness. If objects of experience are to arise at all, they necessarily arise in conformity to the condition of standing together in one, unifying self-consciousness. This unity of self-consciousness is the *I think*, and thanks to its a priori forms, we can reach a priori cognition²⁶⁶.

Through the unity provided by the original apperception or *I think*, objects of experience and cognition may arise. Tuschling succinctly summarizes Kant’s doctrine of the possibility of synthetic judgments a priori thus:

The proof of the synthetic judgments a priori [...] is designed to show that every existent, which at first presents itself in individual empirical intuitions as fully isolated from every other existent, fits into a necessary (objective, universally valid) context. This permits a positive inference from one existent to another (always referring to empirical intuition or representations), because all existence, as existence of possible or actual contents of experience and objects of a cognizant subject (and not as monads existing of themselves), is subject to the conditions of conceptual synthesis or unity of thought, under which alone a single experiential element and its existence can become a part of the entire experience of one and the same subject²⁶⁷.

It is only thanks to the one, united conceptual scheme of the transcendental apperception that experience and objects of experience can arise. Their very existence, as far as possible objects of *our* experience, must be subject to the synthesis of the *I think* and its concepts. Objects may be experienced only within this conceptual scheme. Because our conceptual scheme extends to all objects of experience, we may cognize a priori thanks to that scheme. Kant attributes all unity of experience and cognition to the unity of apperception; in response to our question, we may say that things lose importance, in favor of the synthetic unity of the *I think*.

2.5. Laws of nature and science

After having shown the possibility of synthetic a priori judgments, we turn to the topic of scientific laws in transcendental philosophy. Isaac Newton’s laws of physics had a deep impact on Kant’s philosophy, and in large part his inquiry regarding synthetic a

²⁶⁵ Ibid., B132. “Weil sie dasjenige Selbstbewußtsein ist, was, in dem es die Vorstellung: Ich denke, hervorbringt, die alle andere muß begleiten können und in allem Bewußtsein ein und dasselbe ist, von keiner weiter begleitet werden kann”.

²⁶⁶ Cf. Ibid.

²⁶⁷ TUSCHLING, AE, 197.

priori judgments may be seen as an attempt to justify the flourishing scientific method and theories of his day. How can we predict future events? How are we to understand the constancy in nature, formulated in mathematical laws? Kant has no qualms in asserting *that* we think this way; his CPR wishes to investigate *how* we think so. “It is easy to show that in human cognition there are actually [synthetic a priori] judgments, [...] judgments that are necessary and in the strictest sense universal, and hence are pure a priori judgments”²⁶⁸. In scientific laws of nature, the principle of causality plays a key role, and so Kant must overcome Hume’s criticism against causation. He does so by going beyond empirical observation, which is always contingent and can never reach universality. Kant proves the existence of pure a priori principles in our cognition, as conditions of possibility for experience and objects of experience. These pure a priori principles are what allow for necessary, universal knowledge in scientific laws.

In defending the possibility of science against Hume’s attacks, Kant goes to great lengths to attribute knowledge predominantly to the mind’s categories and synthesis, rather than based on objective, extra-mental structures and reality. Well aware of the view commonly held before his Copernican revolution, Kant openly admits, “I suppose it sounds quite preposterous and strange that nature should conform to our subjective basis, apperception – indeed, that nature should in regard to its law-governedness depend on this basis”²⁶⁹. The common position in science is that we observe nature and formulate laws based on that observation; nature’s constancy and “law-governedness” is supposed to be inherent to nature, as allowing us to “discover” them in formulated laws. However, according to Kant our knowledge only deals with appearances, and so “nature is intrinsically nothing but a sum of appearances, and hence is not a thing in itself but is merely a multitude of the mind’s presentations”. Nature’s unity is only possible thanks to the “root power for all our cognition, viz., in transcendental apperception”²⁷⁰. It is transcendental apperception that grants the possibility of experience to any object, allowing for a priori cognition.

Kant’s argument in favor of the synthesis in transcendental apperception consists in proving that the contrary position is impossible: Unity of experience cannot be given

²⁶⁸ KANT, CPR, B4. “Daß es nun dergleichen nothwendige und im strengsten Sinne allgemeine, mithin reine Urtheile a priori im menschlichen Erkenntniß wirklich gebe, ist leicht zu zeigen”.

²⁶⁹ Ibid., A114. “Daß die Natur sich nach unserm subjectiven Grunde der Apperception richten, ja gar davon in Ansehung ihrer Gesetzmäßigkeit abhängen solle, lautet wohl sehr widersinnisch und befremdlich”.

²⁷⁰ Ibid. “Daß diese Natur an sich nichts als ein Inbegriff von Erscheinungen, mithin kein Ding an sich, sondern blos eine Menge von Vorstellungen des Gemüths sei, so wird man sich nicht wundern, sie blos in dem Radicalvermögen aller unsrer Erkenntniß, nämlich der transscendentalen Apperception”.

independently of our conceptual scheme. If we were to draw laws empirically from things in themselves, synthetic propositions would lose their universality. Empirical knowledge can only produce contingent unity, which “would fall far short of the necessary coherence that we mean when we speak of nature”²⁷¹. Since we do in fact have universal, necessary knowledge that is synthetic, its basis can only be from the mind’s transcendental apperception, not from things in themselves.

A recurring theme in Kant’s philosophy is the transition from transcendental philosophy to metaphysics, as regarding the structure of things outside of ourselves. At least in his CPR and *Prolegomena*, he believes that his transcendental philosophy allows for such a transition:

We will therefore be concerned here only with experience and with the universal conditions of its possibility which are given *a priori*, and from there we will determine nature as the whole object of all possible experience. [...] How the *a priori* conditions of the possibility of experience are at the same time the sources out of which all universal laws of nature must be derived²⁷².

By discovering the rules and laws governing our knowing through the synthesis possible objects of experience in the apperception, Kant believes he can derive the laws of nature from those very same laws. “We must not seek the universal laws of nature from nature by means of experience, but conversely, must seek nature, as regards its universal conformity to law, solely in the conditions of the possibility of experience that lie in our sensibility and understanding”²⁷³. Once again, the argument in favor of this derivation of nature’s laws from the laws of apperception is the fact of a priori knowledge: Only our conceptual scheme grants a priori knowledge due to its overarching system, which subsequently grants significance to the concrete objects of experience. A priori knowledge cannot come from experience; nature’s laws being a priori and synthetic, they can only come from the mind’s structure.

Here Kant returns to the law of causality as an example. Through perception we may be aware of something happening. This perception becomes actual when it is determined according to the a priori form of time, inasmuch as it is assigned a position in

²⁷¹ Ibid. “Die aber bei weitem an den nothwendigen Zusammenhang nicht reicht, den man meint, wenn man Natur nennt”.

²⁷² Ibid., *Prolegomena*, 49-50 [4:297]. “Wir werden es also hier blos mit der Erfahrung und den allgemeinen und a priori gegebenen Bedingungen ihrer Möglichkeit zu thun haben und daraus die Natur als den ganzen Gegenstand aller möglichen Erfahrung bestimmen. [...] wie die Bedingungen a priori von der Möglichkeit der Erfahrung zugleich die Quellen sind, aus denen alle allgemeine Naturgesetze hergeleitet werden müssen”.

²⁷³ Ibid., 71 [4:319]. “Daß wir die allgemeinen Gesetze derselben nicht von der Natur mittelst der Erfahrung, sondern umgekehrt die Natur ihrer allgemeinen Gesetzmäßigkeit nach blos aus den in unserer Sinnlichkeit und dem Verstande liegenden Bedingungen der Möglichkeit der Erfahrung suchen müssen”.

time. This rule of position in time gives coherence to perceptions. However, this rule in turn requires a condition: If perceptions are to have temporal succession, it must be according to the rule or principle that when an event follows a previous one, it always and universally follow on that preceding event. Such a law is the category of causality, or cause and effect, and is one of the twelve concepts of the understanding. Thus in order for perceptions to happen at all, the principle of sufficient basis or ground is what allows all experience. Only thanks to the understanding's a priori concepts can perceptions occur at all²⁷⁴. The category of causality is based on the principle of sufficient basis (or ground or reason, as different translations would have it). Scientific laws are based in large part on causality; hence their dependence on the mind's principles is clearly laid out.

After studying the mind's conceptual scheme as the condition of possibility for experience, Kant must now turn to the problem of existence of things outside of us. As we saw, he decidedly defends his theory against Berkeley's *esse est percipi*. How are we to infer from conditions of *knowledge* to conditions of *existence*? As Tuschling remarks, Kant himself finds this inferring from knowledge to existence as strange²⁷⁵. In the end, the fact that objects of experience are *given* in intuition is what convinces Kant of a possible connection between thought and existence. "All appearances as such are continuous magnitudes-both in terms of their intuition, viz., as extensive magnitudes, and in terms of their mere perception (sensation, and hence reality), viz., as intensive magnitudes"²⁷⁶. It is the intensive magnitude of perception that guarantees the reality of the object of perception. Kant sees the intensive magnitude present in sensed perception as a guarantee of the object's existence outside of us. Tuschling summarizes Kant's transition from the conditions of knowledge to the conditions of existence:

The general structure of singular perception (that is, sense perception taken distributively) is transferred to the totality of possible empirical intuitions of an individual (collective unity of experience, first order) and to the totality of possible empirical intuition of any knowing subject (collective unity of experience, second order). This, in turn, is identified with the totality of material existence as the representational content of all subjects. The general conditions of perception are objectified as a world of appearances to which the experiencing subjects themselves necessarily belong²⁷⁷.

Kant goes from the singular perception of an object in individual experience, to general experience for the single knowing individual, and concludes with the one, objectified world that provides content for all representation in knowing subjects. The

²⁷⁴ Cf. *Ibid.*, CPR, A200-201/B245-246.

²⁷⁵ Cf. *Ibid.*, CPR, in A166-167/B208-209. Cited by TUSCHLING, AE, 211.

²⁷⁶ KANT, CPR, A170/B212. "Alle Erscheinungen überhaupt sind demnach kontinuierliche Größen sowohl ihrer Anschauung nach als extensive, oder der bloßen Wahrnehmung (Empfindung und mithin Realität) nach als intensive Größen".

²⁷⁷ TUSCHLING, AE, 211-212.

conditions of knowing require the existence of a world of appearances, in which we knowing subjects are inserted. Kant sees the world has having objective existence outside of us, but only as ever known according to the mind's categories. His deduction from transcendental conditions for objects to their actual existence appears inconclusive, and Kant will come back to it in his *Opus postumum*.

The topic of existence leads us to the distinction between existence of what we perceive, and existence of what we conceive purely a priori. If we are to assign existence to the object of experience, Kant believes it is necessary for us to go outside the concepts themselves. "In the case of objects of the senses this is done through the coherence of these objects, according to empirical laws, with some one of my perceptions"²⁷⁸. It is the intensive magnitude of such perceptions that allows us to assign existence to such objects of intuition. The case of pure thought's objects is different, because they have no corresponding perception to guarantee existence. Kant admits that these purely mental ideas cannot be declared absolutely impossible; however, we are prohibited from justifying their existence at all. These ideas of pure thought, whose role in thought will be the subject of the next section. Kant concludes his critique of the understanding per se here; existence of bodies is asserted through the intensive magnitude of the object of experience in empirical perception.

2.6. *The understanding and reason*

In the section regarding the difference between the phenomenon and the noumenon, Kant draws attention to the proper use of the understanding's concepts, along with the risks of any improper use of those concepts. "We may say therefore that the use that the understanding can make of all its a priori principles and, indeed, of all its concepts is nothing but an empirical and never a transcendental use"²⁷⁹. The understanding will try to overstep its bounds and apply its categories to objects without empirical perception; Kant's is a *critique*, in the sense of establishing the boundaries and proper use of understanding and reason. This final section presents the difference between the understanding and reason, with their proper roles and legitimate claims on knowledge. The *Transcendental Dialectic* is the part that may be properly considered the critique of

²⁷⁸ KANT, CPR, A601/B629. "Bei Gegenständen der Sinne geschieht dieses durch den Zusammenhang mit irgend einer meiner Wahrnehmungen nach empirischen Gesetzen".

²⁷⁹ Ibid., A238/B297. "Daß also der Verstand von allen seinen Grundsätzen a priori, ja von allen seinen Begriffen keinen andern als empirischen, niemals aber einen transscendentalen Gebrauch machen könne, ist ein Satz, der, wenn er mit Überzeugung erkannt werden kann".

pure reason, and Kant dedicates almost twice as much space to this part on reason as he does to the understanding. Given the focus of this thesis, I cannot present in its totality the ideas of pure reason (“the self, the world, and God”); I will limit myself to the boundary between the understanding and reason.

Under what conditions is it possible for us to know objects of experience? We have seen that the individual object fits into the individual *I think*'s scheme, while that individual scheme in turn fits into the general scheme for thinking. Thus begins the series of conditions for knowing. The mind naturally extends its search for the conditions of knowing to the extreme of the ultimate ground or *unconditioned*, upon which the entire series of conditions must rely. Whereas the understanding's role is regarding the object of experience as such, the reason is a different faculty of the apperception. If the object of experience is given to our knowledge under certain conditions, then those conditions must in their turn be given. The “transcendental concept of reason is none other than the concept of the *totality of conditions* for a given conditioned”²⁸⁰. Experience and its objects may arise only if its conditions are given; the totality of conditions can rest only on the unconditioned base, and as such the totality of conditions is unconditioned. And so the pure concepts of reason can be seen as the concepts of the unconditioned.

Reason's search for the totality of conditions is based on the nature of human reason, which seeks “to extend, if possible, the unity of understanding up to the unconditioned”²⁸¹. However, reason's concepts have no object to which they may apply, as do the understanding's concepts; reason's role is merely to place the faculty of the understanding “in the direction wherein its use, while being expanded to the utmost, is simultaneously brought into thoroughgoing agreement with itself”²⁸². While the understanding is the power which refers to objects of intuition and their synthesis in the imagination, pure reason is dedicated to the totality of the absolutely unconditioned. Kant's *Critique* fulfills its objective when it deals with *pure reason* and its ideas. “By an idea I mean a necessary concept of reason for which no congruent object can be given in the senses”²⁸³. Since reason's pure concepts deal solely with absolute totality and the unconditioned, they can have no corresponding, “congruent object in the senses”. They

²⁸⁰ Ibid., A322/B379. “*Also ist der transscendentale Vernunftbegriff kein anderer, als der von der Totalität der Bedingungen zu einem gegebenen Bedingten*”.

²⁸¹ Ibid., A323/B380. “*Als Aufgaben, um die Einheit des Verstandes wo möglich bis zum Unbedingten fortzusetzen*”.

²⁸² Ibid. “[*Diesen transscendentalen Begriffen*] mithin keinen andern Nutzen haben, als den Verstand in die Richtung zu bringen, darin sein Gebrauch, indem er aufs äußerste erweitert, zugleich mit sich selbst durchgehends einstimmig gemacht wird”.

²⁸³ Ibid., A327/B383. “*Ich verstehe unter der Idee einen nothwendigen Vernunftbegriff, dem kein congruierender Gegenstand in den Sinnen gegeben werden kann*”.

are called both *transcendental ideas* (since they are not arbitrary, but come from reason's basic structure²⁸⁴), and *transcendent*, which means they go beyond "the boundary of all experience"²⁸⁵. Thus the pure concepts of reason, or its transcendental ideas, have no possible object of experience corresponding to them.

If reason's concepts do not correspond to anything in experience, what purpose do they serve in our knowing? Reason's concepts form *regulative principles*, which moves the understanding to consider greater objectives than mere empirical intuition. "By moving the goal to be approached by this [empirical] use so far away, they bring this use's agreement with itself [...] to the highest degree"²⁸⁶. This *regulative* role of reason's concepts is to be distinguished clearly from any possible *constitutive* role, which would posit the reality of those concepts outside of reason. The tendency to posit such reality necessarily leads to illusion and error, because the ideas of pure reason have no possibly corresponding object in experience to guarantee their existence. Those ideas merely serve the regulative purpose of forcing the understanding's use to its utmost limit. The reason's ideas play an important role, but must be understood as "merely in your brain and cannot be given outside it at all. Consequently, you need only take care to be at one with yourselves, and to prevent the amphiboly that turns your idea into a supposed presentation of an object"²⁸⁷.

Kant's cosmological principle regarding the world whole is an idea of pure reason that posits the "greatest possible continuation and expansion of experience, whereby no empirical boundary must count as absolute"²⁸⁸. It posits the world as a unity, both in space and in time, but that unity necessarily goes beyond all possibility of regression in time. It simply proposes the boundaries in space (the universe's edge) and time (T=0). Hence the idea of the world is simply a rule or a regulative principle that stimulates the understanding to seek the previous condition of a given experience, in a regressing chain that cannot be known in its entirety.

²⁸⁴ Cf. Ibid., A336/B393.

²⁸⁵ Ibid., A327/B384. "Übersteigen die Grenze aller Erfahrung".

²⁸⁶ Ibid., A701-702/B729-730. "Sie das Ziel der Annäherung desselben so weit hinausrücken, die Zusammenstimmung desselben mit sich selbst durch systematische Einheit zum höchsten Grade bringen".

²⁸⁷ Ibid., A484/B512. "Euer Gegenstand ist bloß in eurem Gehirne und kann außer demselben gar nicht gegeben werden; daher ihr nur dafür zu sorgen habt, mit euch selbst einig zu werden und die Amphibolie zu verhüten, die eure Idee zu einer vermeintlichen Vorstellung eines empirisch gegebenen und also auch nach Erfahrungsgesetzen zu erkennenden Objects macht".

²⁸⁸ Ibid., A509/B537. "Ein Grundsatz der größtmöglichen Fortsetzung und Erweiterung der Erfahrung, nach welchem keine empirische Grenze für absolute Grenze gelten muß".

Likewise the idea of the supreme being (God) plays a regulative role in causality, as the “all-sufficient necessary cause”, allowing the world to exist. But this idea of a supreme being is regulative, in that the understanding looks for the ultimate grounding as *if* it existed. However, its existence necessarily transcends any possible empirical experience; thus, it is only an ideal, “not an assertion of an existence necessary in itself”²⁸⁹. By a natural tendency, we cannot avoid making this regulative principle into a constitutive one, thinking the supreme being to exist in reality. Kant’s critique contributes to showing how these ideas must be taken as regulative and never as constitutive, as in existing outside of us.

A poignant image that Kant uses for the role of reason’s ideas is the *horizon*: “What comprises the entire range of such possible objects for our cognition and has been called by us the rational concept of unconditioned totality. To reach this horizon empirically is impossible, and all attempts to determine it a priori according to a certain principle have been futile”²⁹⁰. However, just as the horizon lets us situate objects in perspective, so too the ideas of reason allow us to aim at the boundary of our objective experience, so as to position the objects of experience within a horizon. The horizon in and of itself is unattainable, and exists only to place things in perspective.

While Kant dedicates the greater part of his work to his critique of pure reason, I limit my presentation to his caveats regarding any subreption, or misuse, of the concepts of the understanding and of pure reason. The concepts of the understanding are meant to be used only in empirical knowledge; any application to non-empirical knowledge such as ideas is unwarranted and misleading.

2.7. Conclusion of Kant’s Critique of Pure Reason regarding the problem of affection

After presenting a summary of Kant’s transcendental philosophy as presented in both editions of the CPR and the *Prolegomena*, I wish to give an overview of his teaching. I do so from the viewpoint of the question presented as the guiding thread of this thesis: “What is the ground of the relation of that in us which we call ‘representation’ to the

²⁸⁹ Ibid., A619/B647. “Ist nicht eine Behauptung einer an sich nothwendigen Existenz”.

²⁹⁰ Ibid., A759/B787. “Der Inbegriff aller möglichen Gegenstände für unsere Erkenntniß scheint uns eine ebene Fläche zu sein, die ihren scheinbaren Horizont hat, nämlich das, was den ganzen Umfang derselben befaßt, und ist von uns der Vernunftbegriff der unbedingten Totalität genannt worden. Empirisch denselben zu erreichen, ist unmöglich, und nach einem gewissen Princip ihn a priori zu bestimmen, dazu sind alle Versuche vergeblich gewesen”.

object?”²⁹¹ This question has become known as Kant’s problem of the bridge; he wishes to know on what basis we can go from representations in us to objects outside of us. The term *ground* alludes to some *thing* that grounds our knowing things outside of us. Whether the CPR arrives at a concrete thing as grounding, or simply studies the internal process of how we know, must be left for another section. His study of human knowing has certainly sparked inquiry into aspects of the process of human knowledge that previously had never been considered.

After presenting the basic terminology of the CPR, we considered the two all-important sources of knowing objects of experience: empirical intuition in the sensibility, and the concepts or categories of the understanding. They provide the matter and the form of the object, respectively. The imagination is what brings about the schemata, as a synthesis of empirical intuition subsumed and determined according to the understanding’s concepts. Empirical intuition does not allow for knowledge of things outside of us, beyond their mere existence. We form appearances or representations of things in us, which we then apply the concepts to. In no way can we know how things are in themselves. The rules of apperception apply universally to all possible objects of experience, because without those rules, those objects would be impossible to know. Thus the laws of the apperception are what give structure and necessity to the laws of nature, and not the other way around. And the boundary of the mind’s conceptual scheme is the empirical; to apply them to anything beyond the senses leads necessarily to false conclusions.

The CPR is focused only on the inner workings of the human mind and how we know. However, at several points he unconsciously steps into the field of metaphysics and makes statements regarding reality outside the mind. Those comments create serious problems within the CPR and in overall transcendental philosophy. Those problems and ambiguities will be the topic of the following part.

3. Ambiguities in Kant’s *Critique of Pure Reason* regarding its transcendental and physical claims

²⁹¹ Ibid., Letter to M. Herz, February 21, 1772, C 10:130, as translated by TUSCHLING, AE, 201. “*Auf welchem Grunde beruht die Beziehung desjenigen, was man in uns Vorstellung nennt, auf den Gegenstand?*”

With a basic overview of the CPR, we now focus on the ambiguities present in the work, especially in the Analogies of Experience. Whereas Hume's problem regarded real relationships between things, Kant's solution is decidedly epistemological; he holds causality to regard only our mental representations of interaction between things, and not real, extrinsic, independent interaction. Kant himself admits Hume to be correct in his doubt:

[Hume] rightly affirmed: that we in no way have insight through reason into the possibility of causality, i.e., the possibility of relating the existence of one thing to the existence of some other thing that would necessarily be posited through the first one. [...] Nonetheless, I am very far from taking these concepts to be merely borrowed from experience, and from taking the necessity represented in them to be falsely imputed and a mere illusion through which long habit deludes us; rather, I have sufficiently shown that they and the principles taken from them stand firm *a priori* prior to all experience, and have their undoubted objective correctness, though of course only with respect to experience²⁹².

Hume regards any causal relation between objects as impossible; we simply attribute cause and effect out of "long habit". In order to defend causality and scientific laws, Kant places the answer to the problem before experience (*a priori*), as based on the mind's transcendental categories. We note the profound shift in perspective from metaphysics in Hume to epistemology in Kant. So deep is the shift that Kant compares himself to Copernicus in discovering a completely different model of the universe: Rather than our understanding revolving around the object by conforming itself to the object, "I can quite readily conceive of this possibility if the object (as object of the senses) conforms to the character of our power of intuition"²⁹³. We do not so much observe and know phenomena in nature by conforming our minds to objective, extrinsic structures; Kant sees all objects and phenomena as possibly understood *only* in light of our own, subjective mental structures. He believes to be able to overcome thus Hume's critique and to defend scientific laws and universal causality: Such laws regard *only* our mental categories and representations. By shifting from the metaphysical realm of causality between things into the realm of the mind's *a priori* categories, Kant believes he defends human knowledge from skepticism.

²⁹² KANT, *Prolegomena*, 62 [4:310-311]. "Er behauptete mit Recht: daß wir die Möglichkeit der Causalität, d.i. der Beziehung des Daseins eines Dinges auf das Dasein von irgend etwas anderem, was durch jenes nothwendig gesetzt werde, durch Vernunft auf keine Weise einsehen. [...] Gleichwohl bin ich weit davon entfernt, diese Begriffe als bloß aus der Erfahrung entlehnt und die Nothwendigkeit, die in ihnen vorgestellt wird, als angedichtet und für bloßen Schein zu halten, den uns eine lange Gewohnheit vorspiegelt; vielmehr habe ich hinreichend gezeigt, daß sie und die Grundsätze aus denselben *a priori* vor aller Erfahrung fest stehen und ihre ungezweifelte objective Richtigkeit, aber freilich nur in Ansehung der Erfahrung haben".

²⁹³ *Ibid.*, CPR, B xvi-xvii. "Richtet sich aber der Gegenstand (als Object der Sinne) nach der Beschaffenheit unseres Anschauungsvermögens, so kann ich mir diese Möglichkeit ganz wohl vorstellen".

3.1. Experience in knowledge as an assumed “pre-established” harmony

Similar to Yolton’s criticism of Locke and Hume for not clarifying sufficiently the role of sensation and reflection in experience, we see a lack of clarity in Kant’s position regarding the relationship of sensed intuition and the understanding’s categories. He attributes the matter in empirical knowledge to the senses, while the form comes from the understanding, through the imagination. However, Kant separates each source of knowing such that they are alien to each other, and any communication between the two becomes impossible. Fincham summarizes Maimon’s critique of Kant, published in 1790:

Maimon objects, however, that this supposed solution immediately generates another version of the problem it was intended to solve. For Kant insists that sensibility and understanding are completely heterogeneous faculties, thus meaning that a connection between *a priori* categories and *a priori* forms of intuition is, just as much as any connection between *a priori* categories and the *a posteriori* given, a connection between two completely heterogeneous elements²⁹⁴.

Along with Maimon, Schelling cannot see how Kant can hope to unite the two sources of sensibility and understanding. “For [Kant’s disciples] the world and all reality prove primordially alien to our spirit [*Gesite*] [sic], and the world bears no affinity to the spirit other than that of an accidental [*zufällige*] affect”²⁹⁵. The alien nature of both sources form such a divide between the two that Kant’s theory of the imagination remedies little between the two sources.

Whereas Maimon thinks that Leibniz’s rationalism provides sufficient source for our knowledge, Kant reads Leibniz’s pre-established harmony differently. Rather than the harmony between perception and actual reality in motion as pre-established, Kant creates an *epistemological* principle of pre-established harmony: The pre-established harmony lays between our sensibility and understanding. Kant sees such a harmony as completely beyond the limits of our critical understanding, and so Villinger argues it to be a *factum* for Kant. He presents Kant’s own justification from his 1789 letter to the same Markus Herz:

I have [...] strongly convinced myself that Leibniz with his pre-established harmony [...] had in view not the harmony of two different beings, namely sensible and intelligible beings, but of two different capacities of the very same being, in whom sensibility and understanding harmonize to give rise to an empirical cognition, of whose source [viz, the harmony], if we wanted to judge it, even though such investigation lies completely beyond the bounds of human reason, we could give no further ground than our divine creator, though since it is indeed given we can completely explain the justification of a priori judgment by means of it (i. e. the *quid juris*)²⁹⁶.

²⁹⁴ FINCHAM, R.M., «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal of the History of Philosophy*, 23 (2015) 6, 1038.

²⁹⁵ SCHELLING, F.W.J., *Historisch-kritische Ausgabe*, vol. I, 4, 78–79, translated by PFAU, *Idealism and the Endgame of Theory*, 74, as cited by FINCHAM, «Reconciling Leibnizian Monadology and Kantian Criticism», 1051.

²⁹⁶ KANT, Letter to M. Herz, 1789, AA 11:52, as cited by VILLINGER, R., «Recovering the 'True Meaning' of the Pre-Established Harmony: On a Neglected Key to Kant's Theory of Intuition», in *Kant-Studien*, 108

Such harmony between the two sources of knowledge is simply a fact implanted in us by God, and cannot be considered further or justified how this may happen. Kant's critical philosophy lays the foundation of a key element in his theory of knowledge – the imagination – on the gratuitous harmony between the alien, heterogeneous sources of sensibility and intelligence. This ambiguity received ample criticism from the start, as we see in the case of Maimon and Schelling.

3.2. *The concept of substance in the First Analogy*

While I include criticism from other authors, I follow mostly Jeffrey Edward's *Substance, Force, and the Possibility of Knowledge: On Kant's philosophy of material nature* regarding the contradictions inherent to the Third Analogy of Experience. Along with Burkard Tuschling, Edwards makes a coherent argument by placing the CPR within Kant's overall philosophical project, starting from his doctoral thesis *Nova dilucidatio* in 1755 through to his *Opus postumum*; this overview allows Edwards to draw out the ambiguities present throughout Kant's metaphysics.

The Analogies of Experience form part of the Transcendental Analytic of Principles in the Logic; after deducing the twelve categories of the understanding, Kant considers them in four groups of three categories per group. The Analogies regard the relation between perceptions, and establish the general principle that all intuitions must form part of a necessary connection between perceptions²⁹⁷. The Analogies of Experience are principles of synthetic judgment that correspond to the relational concepts of *substance* (inherence and subsistence), *causality* and *community* from the table of the twelve categories. I choose to focus on the anomalies present in the Analogies because it is the area which most affects Kant's metaphysical and scientific view of the world. The main ambiguity is contained in the Third Analogy regarding the teaching of "matter everywhere" (presented in section 2). Beforehand I present briefly his First Analogy regarding substance, so as to have a clearer understanding of his view of substance and

(2017) 3, 364. "[Gleichwohl] überrede ich mich sehr, daß Leibnitz mit seiner Vorherbestimmten Harmonie [...] nicht die Harmonie zweyer Verschiedenen Wesen, nämlich Sinnen und Verstandeswesen, sondern zweyer Vermögen eben desselben Wesens, in welchem Sinnlichkeit und Verstand zu einem Erfahrungserkenntnis zusammenstimmen, vor Augen gehabt habe, von deren Ursprung, wenn wir ja darüber urtheilen wollten, obzwar eine solche Nachforschung gänzlich über die Grenze der menschlichen Vernunft hinaus liegt, wir weiter keinen Grund, als den Göttlichen Urheber von uns selbst angeben können, wenn wir gleich die Befugnis, vermittelt derselben a priori zu urtheilen, (d. i. das *quid iuris*) da sie einmal gegeben sind, vollkommen erklären können".

²⁹⁷ Cf. Ibid., A176/B218.

matter. In section 3 I present Kant's fundamentally *dynamic* view of matter, with important consequences for his transcendental philosophy. In section 4 I show Kant's tendency to go beyond his own limits and make statements regarding the structure of the world that are contrary to his transcendental teaching.

The First Analogy of Experience is a principle of synthetic judgment regarding appearances; through this Analogy appearances, as objects of experience, acquire *permanence* in perception. Kant formulates the principle considerably different in the A and B editions:

- A: "All appearances contain the permanent (i.e., *substance*) as the object itself, and the mutable as its mere determination, i.e., as a way in which the object exists".
B: "In all variation by appearances substance is permanent, and its quantum in nature is neither increased nor decreased"²⁹⁸.

The 1781 A edition's view of substance is related to accidental properties, along the lines of classical philosophy's distinction between the permanent substance and its changing accidents. The 1787 B edition sees substance as the permanent, with no mention of determinations or accidents. This point of permanence is what the understanding's judgment contributes to appearance: "Substances ([contained] in appearance) are the substrates of all time determinations"²⁹⁹. In this first Analogy, the understanding's synthetic judgment according to the concept of substance contributes the aspect of permanence to the appearance. As permanent, substances cannot come into existence, nor cease to exist; "this would itself annul the sole condition of the empirical unity of time"³⁰⁰. For Kant's transcendental philosophy, time is the one guarantee of the connection between the apperception and appearances; therefore time must be one and the same for all. Consequently, everything must remain forever in time. This one time allows for the relation between perceptions: perceptions as permanent, thanks to the concept of substance; and perceptions in succession one of another, thanks to the concept of causality. Things and bodies have no consistency in themselves from which we gather the idea of permanent. Permanence is attributed to the object in appearance by the understanding's concepts. Experience itself is only ever particular and disjointed.

²⁹⁸ Ibid., A182: "Alle Erscheinungen enthalten das Beharrliche (Substanz) als den Gegenstand selbst und das Wandelbare als dessen bloße Bestimmung, d.i. eine Art, wie der Gegenstand existirt".

B224: "Bei allem Wechsel der Erscheinungen beharrt die Substanz, und das Quantum derselben wird in der Natur weder vermehrt noch vermindert".

²⁹⁹ Ibid., A188/B231. "Substanzen (in der Erscheinung) sind die Substrate aller Zeitbestimmungen".

³⁰⁰ Ibid. "Das Entstehen einiger und das Vergehen anderer derselben würde selbst die einzige Bedingung der empirischen Einheit der Zeit aufheben".

Kant's denial of substance as arising and ceasing has led to confusion as to how Kant conceives of substance: Is substance the particular object of experience, or is Substance to be considered singular, as what underlies all change and variation as one single being?

Even if one accepts that there is an omnipresent sense of "substance" operative in the Analogies, it must be admitted that Kant himself equivocates between the singular and reference dividing uses of 'substance', sometimes even in the same sentence. [...] Kant's use of the singular "substance" in the B edition principle of the First Analogy and the role that "matter everywhere" plays in Third Analogy seem to suggest a conception of sempiternal and omnipresent Substance rather than a conception of sempiternal and individuated substances³⁰¹.

As Hall remarks, we can see that the three Analogies – substance, causality and community – influence each other, and it is difficult to reconcile what is said in one Analogy with the other two Analogies. The Third Analogy requires matter everywhere in order to conceive of objects (substances) as reciprocally influencing each other; is that matter everywhere itself Substance? It is unclear what Kant understands by substance: either individuals, or a single Substance, as presented in the OP as the ether.

Similar to what we saw in Locke and Hume's teaching regarding substance, Kant also denies any interior depth to substance. Substance is defined in terms of relation, and it is telling that it is put in the table of categories under the section of relation. Rather than having any properties intrinsic to itself, substance is simply the permanent in change, either in relation to other appearances, or as the underlying element to objects of experience. When Kant speaks of "underlying", it would appear that he refers to an interior of things, much in line with Leibniz's monads as interiorly perceiving. However, Kant discards Leibniz's "inner"-ness regarding monads, as a mere fancy. Leibniz projects into things what we ourselves experience inwardly, that is, inner perception. "What intrinsic accidents can I think of but those offered to me by my inner sense-viz., what either is itself a thinking or is analogous to it?"³⁰² Such extrapolation in attributing inner-ness to things and matter is a mere fancy³⁰³. This interiority is only comparative, not absolute, as Michael Oberst clarifies:

Both quotes [A284/B340; A285/B341] show that there is no absolute interior in space, but only conditions, even if some realities are "comparatively interior". But then how are we to understand that some conditions are simply the "first substratum of all outer perception" or "self-standing and enduring"? Independence and endurance are attributes of substances in

³⁰¹ HALL, B., «A Dilemma for Kant's Theory of Substance», in *British Journal for the History of Philosophy*, 19/1 (2011), 90.

³⁰² KANT, CPR, A265-266/B321. "Allein was kann ich mir für innere Accidenzen denken, als diejenigen, so mein innerer Sinn mir darbietet, nämlich das, was entweder selbst ein Denken, oder mit diesem analogisch ist?"

³⁰³ Cf. Ibid., A277/B333.

appearance. But as I see it, since we are dealing with conditions, they are only ever comparatively enduring and independent. After all, conditions cannot be absolutely independent nor interior³⁰⁴.

Kant is careful not to venture into the field of metaphysics to discover the supposed properties of things; substance as independent and enduring is simply a category applying to appearances, not things in themselves. The categories are only conditions for our experience of objects in knowing. Thus, any interiority to things is avoided, and substance is given value only insofar as it signifies the permanence in perception of appearances, as undergoing change and action from other substances.

What are things for us, and how are we to think of them? The categories applied to the object result in “matter as *substantia phenomenon*”³⁰⁵. This “permanent appearance in space (impenetrable extension) can contain only relations and nothing absolutely intrinsic, and can yet be the primary substratum of all outer perception”³⁰⁶. Thus permanence is merely relational, and never based on bodies themselves. Relation is what in the end defines things outside of us: “Such a thing, however, also is mere appearance and cannot be thought at all through pure categories; the thing itself consists in the mere relation of something as such to the senses”³⁰⁷. What consistency and properties things may have in themselves is unknowable; all determinations of the object are due to the apperception.

3.2. Dynamic influence and matter everywhere in the Third Analogy

The principle of the Third Analogy is named “principle of simultaneity according to the law of interaction or community”. It states: “*All substances, insofar as they can be perceived in space as simultaneous, are in thoroughgoing interaction*”³⁰⁸. Appearances in perception not only happen in succession, one after another, as in the Second Analogy of

³⁰⁴ OBERST, M., «Kant über Substanzen in der Erscheinung», in *Kant-Studien*, 108 (2017) 1, 14. “*Beide Zitate [A284/B340; A285/B341] zeigen, dass es kein absolut Inneres im Raum gibt, sondern nur Verhältnisse, auch wenn einige von denen nur ‘komparativ innerlich’ sind. Aber was heißt es dann, dass einige Verhältnisse nur das ‘erste Substratum aller äußeren Wahrnehmung’ oder ‘selbstständige und beharrliche’ seien? Unabhängigkeit und Beharrlichkeit sind Attribute von Substanzen in der Erscheinung. Aber da es um Verhältnisse geht, nehme ich an, dass sie nur komparativ-beharrlich und -unabhängig sind. Denn Verhältnisse können nicht absolut unabhängig oder innerlich sein*”. Author’s translation.

³⁰⁵ KANT, CPR, A277/B333. “*Die Materie ist substantia phaenomenon*”.

³⁰⁶ Ibid., A284/B340. “*Eine beharrliche Erscheinung im Raume (undurchdringliche Ausdehnung) lauter Verhältnisse und gar nichts schlechthin Innerliches enthalten und dennoch das erste Substratum aller äußeren Wahrnehmung sein könne*”.

³⁰⁷ A285/B341. “*Ein solches Ding ist auch bloße Erscheinung und kann gar nicht durch reine Kategorien gedacht werden; es besteht selbst in dem bloßen Verhältnisse von Etwas überhaupt zu den Sinnen*”.

³⁰⁸ Ibid. A211/B256-257. “*Alle Substanzen, so fern sie im Raume als zugleich wahrgenommen werden können, sind in durchgängiger Wechselwirkung*”.

causality; they also form community, in that perceptions can “succeed one another *reciprocally*”. Kant provides the example of simultaneity as the moon and the earth: “I can carry on my perception either first with the moon and thereafter with the earth, or, vice versa, first with the earth and then with the moon”³⁰⁹. Regardless of their order of succession, perceptions in a relationship of simultaneity can interact as community.

As a first part of the proof for the Third Analogy, Kant states: “There must be something else, besides mere existence, whereby A determines for B – and also, vice versa, B in turn for A – their positions in time. For only under this condition can those substances be presented empirically as existing simultaneously”³¹⁰. This “something else” would appear to be the mind’s concept or category of simultaneity, which so structures appearances that their objects of experience are in reciprocal influence. However, Kant goes much further than this properly transcendental conclusion regarding that “something else”.

The community that is formed through this Third Analogy is above all *dynamic*. This attribute for Kant implies influence between things:

We can easily tell by our experiences: that only the continuous influences in all positions of space can lead our sense from one object to another; that the light playing between our eye and the celestial bodies can bring about an indirect community between us and them and can thereby prove their simultaneity³¹¹.

This statement is unusual, because it asserts a community between the subject and things, based on the continuous influences in all positions in space. These influences, which Kant does not explain in detail here, involve light, as an influence between bodies and our eye. The CPR is supposed to consider only the formal conditions of empirical thought; Kant here seems to step outside the transcendental conceptual realm, to assert something about the world. This principle of interacting community is supposed to apply only to appearances in our perception. We will study this more in detail later; here we simply note the importance of *influence* in Kant’s philosophy, where substances and matter are primordially *dynamic*.

³⁰⁹ Ibid. “So kann ich meine Wahrnehmung zuerst am Monde und nachher an der Erde, oder auch umgekehrt zuerst an der Erde und dann am Monde anstellen”.

³¹⁰ Ibid., A212/B259 “Es muß also noch außer dem bloßen Dasein etwas sein, wodurch A dem B seine Stelle in der Zeit bestimmt und umgekehrt auch wiederum B dem A, weil nur unter dieser Bedingung gedachte Substanzen als zugleich existierend empirisch vorgestellt werden können”.

³¹¹ Ibid., A213/B260 “Unseren Erfahrungen ist es leicht anzumerken, daß nur die kontinuierlichen Einflüsse in allen Stellen des Raumes unsern Sinn von einem Gegenstande zum andern leiten können, daß das Licht, welches zwischen unserm Auge und den Weltkörpern spielt, eine mittelbare Gemeinschaft zwischen uns und diesen bewirkt und dadurch das Zugleichsein der letzteren beweisen”.

Immediately following the above quote, Kant mentions another condition for us to be able to form this synthesis of simultaneity or community, besides light and influence: “We cannot empirically change place (and perceive this change) unless *matter everywhere* makes possible the perception of our position”³¹². It is ubiquitous matter that allows for simultaneous community in interaction to take place between objects, as the interspersed condition for their interaction. In line with his dynamics, this matter everywhere is subordinated to “reciprocal influence”, in that bodies may influence each other only by means of this omnipresent matter. It seems that Kant is making an assertion about physical interaction between bodies, and not merely our mind’s conditions for knowing. Kant uses this element of matter everywhere as proof against the possibility of empty space: At least within the scope of our possible experience, empty space is not possible, because without interspersed matter no simultaneity would be possible. Such empty space may exist, but not as anything that we could possibly experience.

Edwards summarizes this part of Kant’s Third Analogy:

We cannot change our location (i.e., we cannot perceive the change of our spatial location relative to objects) except under the fourfold provision that (a) the presence of matter everywhere makes possible the perception of our position; (b) this matter establishes (although only mediately) the coexistence (*Koexistenz*) of even the most remote objects; (c) this matter establishes the coexistence of these objects by establishing its own coexistence (*Zugleichsein*) correlative to them; and (d) this matter establishes its coexistence solely by means of its reciprocal influence³¹³.

In just a few lines, Kant has asserted the existence of matter everywhere as the condition for reciprocal influence. However, this condition (matter everywhere, or non-empty space) is proven to exist by the fact that we do indeed perceive things in reciprocal influence. The circularity of the argument seems to have escaped Kant, along with its non-transcendental, clearly metaphysical status.

Part of the confusion comes from Kant’s view of substances and their mutual influence in reciprocal relation to each other. In the 1787 edition we read:

The relation of substances wherein the one substance contains determinations whose basis is contained in the other substance is the relation of influence; and if this latter thing reciprocally contains the basis of the determinations in the former thing, then the relation is that of community or interaction³¹⁴.

³¹² Ibid. Emphasis added. “*Wir keinen Ort empirisch verändern (diese Veränderung wahrnehmen) können, ohne daß uns allerwärts Materie die Wahrnehmung unserer Stelle möglich mache*”.

³¹³ EDWARDS, J., *Substance, Force, and the Possibility of Knowledge: On Kant’s philosophy of material nature*, University of California Press, Berkeley 2000, 20–21. Future reference to this work will be SFPK.

³¹⁴ KANT, CPR, B257-258. “*Nun ist aber das Verhältniß der Substanzen, in welchem die eine Bestimmungen enthält, wovon der Grund in der anderen enthalten ist, das Verhältniß des Einflusses,*

Edwards explains the confabulation present in Kant's proof, between relation of influence and relation of community. The relation of influence is a relation between substances, where one substance's determinations are grounded in the other substance; this is fundamentally the Second Analogy of influence in causality. The relation of community is also a relation of influence, "insofar as the *relation* of influence reciprocally contains the ground of the determinations in the other *relation* of substances"³¹⁵. This would seem to be simply "a combination of one-sided relations of causes and effects established between things in space"³¹⁶, following the Second Analogy. Thus "influence" in the Third Analogy could be interpreted in terms of cause and effect in the same sense as the Second; it would then be unclear what specific value or role the Third Analogy plays.

Kant states in B111, regarding the table of categories, that the influence involved in the reciprocally determining community of objects "must be a feature unique to the category of community as a primitive concept of the understanding"³¹⁷. It is not simply a further development of the concept of causality, but rather *influence* has its own primordial role. "The very notion of influence is presented as being unintelligible apart from the special act of pure understanding through which the concept of reciprocal causal determination is originally acquired"³¹⁸. In the Analogies, the judgment of influence in community is not to be reduced to causality, but is understood as its own special act of the understanding. In his 1787 edition of the CPR, at both B111 and B257-258, Kant holds the concept of community and the judgment of simultaneity as equivalent; however, concepts and judgments are supposed to play different roles. Both of these parts were added in the second edition; and they seem to be redundant. The concept of influence explained in B111 would seem to correct the underlying mistake of metaphysical claims in the Third Analogy, by placing it fully as a "the special act of pure understanding". But in 1787 Kant still kept the Third Analogy as it stood in 1781, and so we are left with the doubt of whether influence, light and matter everywhere are a priori conditions for knowing, or if they have real consistency outside of ourselves.

und wenn wechselseitig dieses den Grund der Bestimmungen in dem anderen enthält, das Verhältniß der Gemeinschaft oder Wechselwirkung".

³¹⁵ EDWARDS, SFPK, 24.

³¹⁶ *Ibid.*

³¹⁷ *Ibid.*, 25.

³¹⁸ *Ibid.*

In order to understand Kant's position on influence, we refer to a much earlier work in Kant's career, his doctoral thesis *Nova dilucidatio* (1755). Tuschling sees the work as Kant's attempt to apply Leibniz's principle of sufficient reason, not only as a logical principle, but as a cosmological one. He applies this principle to physical substances as a single world through two principles:

- 1) Changes in these substances are only conceivable if they are considered as actually interacting with each other, that is, if there is supposed to exist a "relation of substances in which the one contains determinations the ground of which is contained in the other," as Kant still puts it in the first *Critique* (B257-8; cf. N[ova dilucidatio], proposition XII, 1:410).
- 2) This *commercium substantiarum* is not merely the result of their existence, but rather an independent, self-sufficient system of causal interaction between substances, so created by a particular act of God. Whether this interaction is to be understood primarily ontologically, metaphysically or physically is not clear; all three meanings are apparently intended³¹⁹.

These principles were formulated 25 years before Kant's critical period, yet they are strikingly similar to his CPR formulation of the community of the Third Analogy. As we saw regarding Jacobi's claim, Kant holds a strong belief in things existing outside of us. While the CPR supposes our knowledge of that world as based only on our mind's conceptual scheme, not on things in themselves, Kant nonetheless introduces elements and notions into the CPR that are clearly of a metaphysical, cosmological nature. Kant formulates notions such as interaction and community of substances in cosmological terms in 1755; Kant transforms them into transcendental terms in the CPR, but with some remnants of their cosmological, physical sense. This results in a marked ambiguity between the mental-logical-transcendental level and the cosmological-metaphysical-real level.

However ambiguous the Third Analogy may be, it is clear that for Kant "our experience of coexistent objects depends on the a priori determinable function of a continuum, or plenum, of influences"³²⁰. This continuum must be dynamic and filling all space, as "matter everywhere", if our judgment of simultaneity is to hold. But this continuum would then be a *material* a priori condition necessary for our experience of objects. Whereas the entire CPR is concerned with the *formal*, subjective conditions for knowing, Kant now introduces a *material*, universal a priori condition for our experience of objects. The Third Analogy takes the "*transcendental* function of the entire field of dynamical interactions that lies within the horizon of outer perception" with its condition of influence and matter everywhere, and "establishes the existence of this dynamical plenum as a material transcendental condition of our knowledge of sensible nature"³²¹. Despite its

³¹⁹ TUSCHLING, AE, 193–194.

³²⁰ EDWARDS, SFPK, 42.

³²¹ Ibid.

best efforts, the CPR cannot remain on a purely transcendental level, given Kant's deeper interests in providing for synthetic a priori judgments regarding the physical world. He inadvertently must make claims regarding the material world, while the validity of those claims is dubious and clearly in contradiction to his overall thesis: "The form of all appearance must altogether lie ready for the sensations a priori in the mind; and hence that form must be capable of being examined apart from all sensation"³²².

The step or transition from the transcendental level to the physical or metaphysical level in the Third Analogy is clearly made. "Our experience demonstrates the existence of something enduring outside us. [...] For this reason 'the consciousness of my existence is at the same time an immediate consciousness of the existence of other things outside me' (B275-276)"³²³. Tuschling states the problems inherent in this doctrine, based on the incoherence of the two distinct levels:

How can an existent independent of us as knowing subjects be, nevertheless, nothing but an existent only "in appearance" and "for us"? How can such an existent, independent of us as it is, function transcendently for our knowledge, as substratum for the empirical determination of time, duration, and the possibility of determining "all positions in time," making "perception of our position possible to us" (A213/B260)? And how can such an existent with this function and all its characteristics be the subject of a transcendental theory and still exist "outside us"?

The function of the a priori conditions of knowing is strictly formal, only applying in appearance and for us. Kant now posits the existence of an external being, that must exist if things are to become objects of experience. What justifies this transition from formal to actual existence? And what is to keep transcendental idealism from becoming dogmatic idealism, now that we may derive outer existence simply from the conditions of our knowing? From very early on in the CPR, Kant distinguishes his idealism as strictly transcendental, as in it only presents the formal conditions present a priori in the mind. He avoids absolute idealism by relying on experience to supply the matter for knowing, and so includes an element a posteriori. However, an a priori *material* condition such as his matter everywhere, or non-empty space, no longer deals with the mind's conceptual scheme alone, and is making a claim on things in themselves³²⁴.

The incongruity of the Third Analogy has been presented, following Tuschling and Edwards' lead. In the following section we will present more clearly Kant's dynamic view of matter, which will allow us to understand better these somewhat startling

³²² KANT, CPR, A20/B34. "Die Form derselben aber muß zu ihnen insgesamt im Gemüthe a priori bereit liegen und daher abgesondert von aller Empfindung können betrachtet werden".

³²³ TUSCHLING, AE, 199.

³²⁴ Cf. Ibid., 199-200.

conclusions in the Third Analogy. By understanding better Kant's view of influence, force and matter, we may comprehend his abrupt transition from the formal to the material a priori conditions of synthetic judgments.

3.3. Kant's dynamics regarding matter, force and influence

Similar to his teaching regarding matter everywhere in the Third Analogy of Experience, Kant's understanding of *influence* plays a considerable role in how we know things. Edwards presents this possible reading of Kant's argument against empty space in A212/B258-259: In an attempt to understand Kant's NON-empty space, we may view non-empty space as the space between bodies that is determined or filled by *influences*, or the causal elements between substances. These *influences* "are elements that establish the relation of causal reciprocity between substances, and that, in doing so, make possible the connection of perceptions", i.e. the simultaneous coexistence of objects³²⁵. This role of "establishing the relation" makes the concept of *influence* a condition that is a priori to possible experience. Similar to matter everywhere being a material a priori condition for possible experience, we also have another element, influence, which plays a key role in Kant's CPR and overall philosophy. What does influence mean for Kant?

In A265/B321, Kant states that "we are acquainted with substance in space only through forces that are active in space: either in propelling other substances toward the substance (attraction), or in preventing them from penetrating into the substance (repulsion and impenetrability)". Whereas substance is classically seen as the underlying, unchanging element in experience, here Kant defines substance in terms of *forces*, which are constitutive of substances in their balance between repulsion and attraction. This view of substance is called dynamic, because it reduces substance to the counterbalanced forces of attraction and repulsion.

In his 1786 *Metaphysical Foundations of Natural Science* (MFNS), Kant attributes matter's filling space not to any intrinsic property of substance in space, but "through a special moving force"³²⁶. Besides constituting body, *force* also explains the interplay between bodies, and so fills all space: "This action at a distance, which is possible even without the mediation of matter lying in between, is called immediate action at a distance,

³²⁵ EDWARDS, SFPK, 37.

³²⁶ KANT, I., *Metaphysischen Anfangsgründe der Naturwissenschaften*, 4:497, as cited by OBERST, «Kant über Substanzen in der Erscheinung», 8.

or the *action* of matters on one another *through empty space*³²⁷. Kant sees all space as filled with diminishing or increasing force between bodies, as he concludes at the end of the chapter regarding Dynamics: “All experience yields only comparatively empty spaces for our cognition, which can be completely explained, to any arbitrary degree, by the matter’s property of filling its space with greater or infinitely diminishing expansive force, without requiring empty spaces”³²⁸. He even goes so far as to posit matter as dynamic ether³²⁹.

As Michael Oberst observes, “Kant is saying that the existence of matter implies the existence of forces, through which matter has a causal influence on other matter. [...] When matter ‘fills’ a space, it also holds effective repulsive force for that place”³³⁰. Force is what *constitutes* substance as matter in space, and force is also what grants bodies influence on other matter. Karin de Boer states: “[Kant] considers [forces] to precede and ground material objects, in other words, to be noumenal rather than phenomenal”³³¹. Thus forces can be seen to play a constitutive role in Kant’s physics and metaphysics, since forces are what constitutes bodies and matter in space.

While Oberst reads Kant’s teaching in MFNS as asserting forces to be at the basis of the causal influence between bodies, Edwards cautions that nowhere in the CPR does Kant explicitly identify *influence* with material *force*³³². Nevertheless, Edwards feels confident that an implicit identification between the two concepts is present in Kant’s transcendental doctrine:

If *all* matter is known *only* as something constituted by the action of attractive and repulsive forces, and if influence can be understood in terms of these forces, then our entire problem concerning material conditions of possible experience could be formulated in terms of a cosmic matter conceived as a universal continuum of attractive and repulsive forces³³³.

³²⁷ Ibid., «Metaphysical Foundations of Natural Science», Friedmann, M. (translation), in Allison, H. – Heath, P. (eds.), *Theoretical Philosophy after 1781*, Cambridge University Press, New York 2002, 223. Future reference to this work as MFNS. [4:511-512]. “*Die Wirkung einer Materie auf die andere außer der Berührung ist die Wirkung in die Ferne (actio in distans). Diese Wirkung in die Ferne, die auch ohne Vermittelung zwischen inne liegender Materie möglich ist, heißt die unmittelbare Wirkung in die Ferne, oder auch die Wirkung der Materien auf einander durch den leeren Raum*”.

³²⁸ Ibid., 244. [4:535]. “*Denn alle Erfahrung giebt uns nur comparativ-leere Räume zu erkennen, welche nach allen beliebigen Graden aus der Eigenschaft der Materie ihren Raum mit größerer oder bis ins Unendliche immer kleinerer Ausspannungskraft zu erfüllen, vollkommen erklärt werden können, ohne leere Räume zu bedürfen*”.

³²⁹ Cf. Ibid., 243 [4:534].

³³⁰ M. OBERST, «Kant über Substanzen in der Erscheinung», 8. “*Kant sagt, dass die Existenz der Materie die Existenz von Kräften impliziere, durch welche Materie einen kausalen Einfluss auf andere Materie hat. Die Kraft, wodurch andere Körper aus dem Raum einer Materie zurückgetrieben werden, ist die ‘Zurückstoßungskraft’ (MAN, AA 04: 498). Wenn Materie einen Raum ‘erfüllt’, dann verfügt sie also über dort wirksame Zurückstoßungskräfte*”. Author’s translation.

³³¹ DE BOER, K., «Kant’s Multi-Layered Conception of Things in Themselves, Transcendental Objects, and Monads», in *Kant-Studien*, 105 (2014) 2, 255.

³³² Cf. EDWARDS, SFPK, 50-51.

³³³ Ibid. 51.

Since force is the constitutive factor in the universe, then the continuum of matter everywhere can now be given a basic characteristic: The continuum consists in attractive and repulsive forces. Those forces both constitute bodies themselves, and through the continuum of matter, they also allow for influence between bodies. It is this definition of matter and substance by interplaying forces that may be called Kant's *dynamics*. Force constitutes substances, as filling space through repulsion and attraction, and force also constitutes the influence transmitted between substances, which influence fills all of space³³⁴.

In his arguments against the mechanistic teaching of empty space, Kant holds the varying intensity in perception as an attribute of matter as real (*das Reale*). It is the real in sensed perception that upholds objectivity in empirical knowledge³³⁵. This intensive magnitude or degree of sensation inherent to *all* sensations implies an *influence* on the senses³³⁶. We see that influence not only unites substances into simultaneous community, but also allows for our sensation in empirical intuition. Might not this influence based on forces between bodies in space be the same influence that causes sensation in us? This connection is left implicit in the CPR, and will be made explicit in the OP, as we will see.

The topic of force as influences filling all of space recalls an earlier teaching of Kant, found in his *Inaugural Dissertation* (1770). There Kant states that the human mind "senses external things only through the presence of one sustaining common cause; and space, which is the sensuously cognized universal and necessary condition of the compresence of all things, can therefore be called OMNIPRESENTIA PHAENOMENON [all-present phenomenon]"³³⁷. Among other conclusions, Edwards draws the following regarding space:

Space is the sensuously cognized (*sensitive cognita*) general and necessary condition of the compresence (i.e., the coexistence) of these things in their totality. As such, and inasmuch as it can be *thought* as a function of the all-encompassing sustentative activity of the divine creator, space can be speculatively termed *omnipraesentia phaenomenon*³³⁸.

³³⁴ Cf. *Ibid.*, 37.

³³⁵ Cf. KANT, CPR, B207: "The Anticipation of Perception. Their principle is: *In all appearances the real that is an object of sensation has an intensive magnitude, i.e. a degree.*" *Das Princip derselben ist: In allen Erscheinungen hat das Reale, was ein Gegenstand der Empfindung ist, intensive Größe, d.i. einen Grad.*

³³⁶ Cf. EDWARDS, SFPK, 33.

³³⁷ KANT, *Inaugural Dissertation*, 2:409-410, as cited by Edwards, SFPK, 178.

³³⁸ *Ibid.*, 179.

In his 1770 *Inaugural Dissertation*, space plays a role very similar to that of force, as space-filling influence between bodies. Its presence everywhere is a premonition of matter everywhere in the CPR's Third Analogy of Experience. Thanks to this earlier work we can appreciate how Kant can conceive of space as a material, "sensuously cognized" condition that is universal and necessary for the co-existence of all things. Without this concept of space as non-empty, Kant cannot see how we can arrive at our conceiving things as simultaneously existing. In order for two objects to be conceived as reciprocally influencing each other, space must be omnipresent as the influence-filled medium that transmits influence between them. This dynamic view of matter as constituted by forces and filling all space through influence plays an essential role in the overall project of Kant's philosophy.

Kant's *Metaphysical Foundations of Natural Science* was published in 1786, a year before the second edition of the CPR. The MFNS helps us to understand better Kant's dynamic view of matter, along with another emerging element: the dynamical plenum or cosmic matter. This work complements Kant's *Critique*, as he explains his understanding of matter more specifically. Edwards summarizes the important points of MFNS thus:

[Kant] maintains that matter, regarded dynamically, is something constituted through the interplay of original attractive and repulsive forces. He argues that since matter fills space continuously by virtue of these forces' action, there is no need to assume empty space in order to explain the formation and the physical properties of observable bodies. His argument against empty space leads ultimately to the hypothesis that there is a kind of cosmic matter that, though not directly perceivable, fills continuously the space between all empirically identifiable bodies³³⁹.

In MFNS Kant no longer posits matter everywhere on a transcendental, formal level, but holds space to be objectively filled by a plenum or cosmic matter that allows bodies to exist, as well as allowing them to influence each other. Thanks to this work published before the 1787 edition of CPR, we can understand better Kant's teaching regarding matter everywhere. This plenum will play a primordial role in the OP.

How is this physical, dynamic view of bodies and the ether to be reconciled with space as the a priori form for all intuition? Kant's solution in the CPR to Hume's critique requires that the determinations of the object be only from the subject or the apperception, and not from things themselves. A related problem much debated in Kant's time was the divisibility of bodies in space into infinitely small parts. Kant solved the problem by placing appearances, their body surface and space as all within us. Those appearances may

³³⁹ Ibid., 5–6.

indeed be divisible, without having to venture any metaphysical solutions to the problem³⁴⁰. Kant solves important problems such as causality and infinite divisibility of bodies, by holding our knowledge as only regarding appearances, not bodies. Yet, how are we to understand his dynamics and ether in their properly physical context, if all our knowledge is only transcendental, that is, of appearances and not bodies?

In the First Analogy of Experience, we saw the concept of substance as important in providing permanence to perception; through causality in the Second Analogy, we come to see the interacting, reciprocally influencing community of substances in the Third Analogy. This community of *substances* is nevertheless ambivalent: Does Kant understand such a community as accidental and relational, based on permanent substances? Or, in light of his dynamic view of substance as constituted fundamentally by force, does force and influence take over for substance, as constituting community? His dynamic view of force changes his concept of causality: "According to *this* concept of causality, force is not an accidental determination of any given particular substance"³⁴¹. Causality in classical philosophy is seen as fundamentally depending on particular substances. If substances are constituted by force, then substance no longer carries out the role of causing change in others; nor can substance be seen as the causal ground of its accidents. Forces constitute substance as matter in space, and constitute any influences between bodies. This dynamic view of matter and substance affects the Analogy regarding dynamic community; "the Kantian dynamical concept of matter plainly demands a fundamental rethinking of the entire substance/accident scheme of things that the account of the community of substances presupposes"³⁴². Kant will revisit the issue of forces and matter in his OP, when he speaks of primordial matter as filling space by its moving forces. The universal plenum as a *material* a priori condition of possible experience clearly calls for a deep revision of transcendental philosophy³⁴³.

Beginning from his ambiguous presentation of substance as either individual particulars or one Substance underlying and undergoing all change, Kant's dynamic view of substance adds further confusion by reducing substance to forces, and by presenting influence as forces that interconnect substances. Elements drawn from Kant's metaphysical works, such as his *Inaugural Dissertation* and MFNS, allow us to understand

³⁴⁰ Cf. KANT, MFNS, 217-219 [4:505-508]. See also DI BELLA, S., «Kant's Reevaluation of Monadology: Aa historical - philosophical puzzle», in *Estudos kantianos*, 4 (2016), 2, 50.

³⁴¹ EDWARDS, SFPK, 162.

³⁴² Ibid.

³⁴³ Cf. TUSCHLING, AE, 205.

better his meaning in the CPR; however, his CPR is meant to stay on a purely transcendental level, without any teaching regarding metaphysics. The CPR's solution to the divisibility of body as only appearance in space, along with the ambiguity present in the CPR regarding the Third Analogy, show the inherent conflict of transcendental philosophy.

3.4. Kant's ambiguity between the transcendental and the physical levels

Kant's critical, transcendental philosophy of the three *Critiques* (*Critique of Pure Reason*, *Critique of Practical Reason*, and *Critique of Judgment*) should be seen in light of his overall natural philosophy, as his view of the world and our interaction with it. His transcendental philosophy deals only with our knowledge of the world; his natural philosophy seeks to understand the world. Tuschling sees in Kant's *influxus physicus* a key principle that accompanies his thought throughout his career, as repeatedly causing significant contradictions in his thought. In his early work *Nova dilucidatio*, Kant seeks to overcome Leibniz's principle of pre-established harmony with his *influxus physicus*. Nevertheless Kant keeps Leibniz's view of substance as completely isolated, with no possible interaction between monads or substances. This is puzzling, because physical influence would seem to imply interaction between substances. However, this isolation of substances plays an important role throughout Kant's metaphysics and natural philosophy. An important duality is constantly at play in his thought: "independently existing individual substances on the one hand, community [*influxus physicus*] on the other"³⁴⁴.

This internal conflict of Kant's philosophy results from his trying "to unite what Leibniz has been careful to keep apart: metaphysics and physics, or self-sufficient substances and dynamically interacting matter"³⁴⁵. In his 1790 defense against J. Eberhard titled *On a discovery whereby any new critique of pure reason is to be made superfluous by an older one*, Kant argues that he is simply making explicit what Leibniz himself left implicit. Regarding Leibniz's pre-established harmony, Kant still holds some type of real relationship between the mind, the senses and things.

Soul and that substrate of *appearances*, wholly unknown to us, which we call body, are, to be sure, entirely different entities, but these *appearances* themselves, as mere forms of its intuition, resting on the constitution of the subject (soul), are merely representations, and there the community between understanding and sensibility in the same subject can well be conceived

³⁴⁴ Ibid., 194.

³⁴⁵ Ibid., 195.

under certain *a priori* laws, along with the necessary natural dependence of the latter [sensibility] upon external things³⁴⁶.

Leibniz had held monads as not interacting, so as to avoid the very problems that Kant finds himself caught in. This conflict in Kant's natural philosophy, alongside his critique of human knowing, becomes more and more apparent to Kant himself, and constitutes an important motivation for further consideration in his OP.

Leopoldo Prieto López sees three key concepts in Kant's transcendental philosophy as deriving from his physics and natural philosophy: force, matter and motion. We have already seen the importance of force and matter in Kant's philosophy; motion is another concept which plays into Kant's transcendental philosophy. Knowing itself is made up of the act of synthesis between the matter of empirical intuition according to the form of the understanding's concepts. This synthesis is essentially motion; it can only take place according to the spatial-temporally continuous. The synthesis involved in how we sense objects implies necessarily a movement of describing a space according to the continuous³⁴⁷. However, all three Kantian concepts – force, matter and motion – “appear in transcendental philosophy as physical realities at first sight. But then, there arises in the same concepts a new, transcendental aspect, which ends up being the important one. [...] This transformation has an understandably deep impact on the concept of experience”³⁴⁸. By adopting terms from his natural philosophy and giving them a strictly transcendental meaning, Kant becomes ever more idealistic. If reality outside of us relies completely on our conceptual scheme, then physics and natural science can be defined in terms of transcendental philosophy. However, the opposite is just as true in Kant: We find him regressing to the physical, natural sense of force, matter and motion, and so

³⁴⁶ KANT, *On a discovery whereby any new critique of pure reason is to be made superfluous by an older one. A response to Johann A. Eberhard*, in Allison, H. – Heath, P. (eds.), *Theoretical Philosophy after 1781*, Allison, H. (translation), Cambridge University Press, New York 2002, 334-335. Future reference to this work as OD. [8:249] “*Seele und das uns gänzlich unbekanntes Substrat der Erscheinungen, welche wir Körper nennen, sind zwar ganz verschiedene Wesen, aber diese Erscheinungen selbst, als bloße auf des Subjects (der Seele) Beschaffenheit beruhende Formen ihrer Anschauung, sind bloße Vorstellungen, und da läßt sich die Gemeinschaft zwischen Verstande und Sinnlichkeit in demselben Subjecte nach gewissen Gesetzen a priori wohl denken und doch zugleich die nothwendige natürliche Abhängigkeit der letzteren von äußeren Dingen*”.

³⁴⁷ Cf. KANT, CPR, B137-138: “In order to cognize something or other---e.g., a line-in space, I must draw it; and hence I must bring about synthetically a determinate combination of the given manifold”. «*Um aber irgend etwas im Raume zu erkennen, z.B. eine Linie, muß ich sie ziehen und also eine bestimmte Verbindung des gegebenen Mannigfaltigen synthetisch zu Stande bringen*».

³⁴⁸ PRIETO LÓPEZ, L., «El Opus postumum de Kant: la resolución de la física en filosofía transcendental», in *Alpha Omega*, 2 (1999) 3, 456. “*Estos tres conceptos se nos muestran en la filosofía transcendental prima facie bajo un aspecto físico. Pero, acto seguido, se hace presente en ellos otro aspecto, esta vez transcendental, que termina siendo el prevalente [...] Tal transformación, como se comprenderá, tiene como efecto una mutación profunda en el concepto de experiencia*”. Author's translation.

creating confusion. Such subjective and formal conditions of intuition as space and time come to take on a predominantly cosmological meaning³⁴⁹.

In the previous section we saw Kant's theory of the universal plenum as he presented it in the MFNS. He derives the concept of this plenum from an *empirical* concept; Edwards remarks, "In the context of his transcendental theory, however, no concept of an a priori necessary or transcendental condition of experience is supposed to be obtainable in this way"³⁵⁰. Such a derivation from empirical to transcendental goes against the entire thesis of his transcendental philosophy. While the Third Analogy of Experience in the CPR posits a dynamical plenum in different terms than the MFNS, it is only intelligible as a continuum of original forces of matter, in the way meant in the MFNS.

Although this presupposition does undermine the entire basis for the distinction between the transcendental part of the metaphysics of nature and the foundational principles and laws of physics, Kant is in fact constrained to accept it. Otherwise, his transcendental theory cannot deliver an account of substance as appearances that offers a viable alternative to the Leibnizian monadological theory of substance³⁵¹.

In trying to resolve the a priori conditions for empirical knowledge, Kant finds himself forced to accept cosmic matter or plenum as matter everywhere, as a material condition necessary for our knowledge through experience. This clearly goes against his basic project in the CPR, and yet in 1787, after publishing MFNS, Kant keeps the Third Analogy text intact, including his teaching regarding matter everywhere.

In the following part, we will see Kant's *Opus postumum* in its attempt to solve these serious anomalies left in transcendental philosophy. Kant must revisit his basic supposition that we deal only with appearances and not things themselves; he cannot properly connect the subjective element of knowledge with objective existence outside of us. "The inference from conditions of the synthesizing activity of the knowing subject to the absolute totality of existence, which was to be conceived as independent of the subject, and, at the same time, as of a world of appearances transcendently dependent on this subject, simply could not be accepted"³⁵². The world of existence and the world of appearance are left too separated for any such inference or transition to be permissible. In his attempt to derive all knowledge from the subject's a priori concepts and conditions, Kant is left with the problem of things existing outside of us. The interaction of apperception and cosmic matter or ether becomes a pressing issue; the anomalies and

³⁴⁹ Cf. TUSCHLING, AE, 205.

³⁵⁰ EDWARDS, SFPK, 6.

³⁵¹ Ibid.

³⁵² TUSCHLING, AE, 213–214.

incongruencies in his theory cannot bridge the gap between the mind's concepts and things existing in real relationship outside of us.

4. Kant's solutions in the *Opus postumum* to the ambiguities in the *Critique of Pure Reason*

Kant's *Opus postumum* (OP) is a series of drafts which never reached official publication. As drafts, we find in the OP both complete arguments and arguments left unfinished. The stack of papers was inherited first by his family, and then bought by different philosophers. These drafts took 130 years to be published in German, and that intervening time period meant serious difficulties in piecing together Kant's original order of folios and loose sheets. A coherent English translation also had its difficulties; the Cambridge edition was published in 1993, under Eckart Förster's direction and following Erick Adickes's order of the drafts.

Kant's transcendental criticism of how we know arguably forms the basis for today's scientific method and theories of knowledge. However, while many take his philosophy to be rationally objective and a firm theory of knowledge, a basic reading of the OP shows his idealistic, even solipsistic understanding of ourselves and the world. His much better-known CPR appears to be a solid basis for scientific knowledge and epistemology in general; the OP may lead us to doubt such a role. Some have tried to discard that Kant's OP should have the same philosophical rigor as the CPR and his other *Critiques*; it indeed must be recognized that these folios never reached publication, and so must not be taken on the same level as the other works. However, the OP does provide us with a better understanding of Kant's attempts to solve the problems he himself had left unsolved in the CPR. In the OP we find such positions as self-affection and self-positing, along with explicit arguments for absolute idealism. If our knowledge of the natural world is to hold any claims on reality, how such a teaching can continue to form the basis for how we know, both on a natural level as well as on a scientific level, requires much consideration.

Before presenting the actual OP, Tuschling's comparison between the CPR and the OP can help us to understand better what Kant was trying to do in the last years of his philosophical thought. One important difference between the two works is regarding the form and the matter of possible perceptions as objects of experience. In the CPR Kant only regards the a priori form of all perceptions, and he does not regard the matter of such

perceptions. In the OP, Kant holds that all perception must be assumed to exist a priori in a single cosmic, dynamic system³⁵³. The subjective forms of intuition – space and time – are not enough to explain fully objects of experience; they “would remain absolutely empty if it were not for the ether or dynamic continuum”³⁵⁴. As the matter for our perception, the continuum plays a key role in the possibility of the objects of experience, and so Kant has to show how the apperception relates to the continuum. The OP presents the relationship between apperception and the continuum thus: The continuum or ether is “*different* from the formal structures of space and time, makes them possible, is produced by the knowing subject’s acts of synthesis, and yet is independent of the subject”³⁵⁵. This unique role of the continuum occupies an important part of the OP, known as the “*Übergang* [Transition] 1-14”.

The OP’s teaching of the continuum or ether can be considered as an answer to the guiding question that occupied Kant since 1772: “What is the ground of the relation of that in us which we call ‘representation’ to the object?” The CPR considers the formal, subjective conditions of space and time “in us” as giving unity both to objects themselves and their interacting relationships. Still, Kant does not answer the question how those formal conditions of space and time interact with a third important element, force³⁵⁶. The interaction between apperception and the continuum as force becomes Kant’s subject matter in his OP, as the missing link to his quest for the grounding of representation. This interaction can be summarized within a sort of *influxus physicus*. Dynamic cosmic matter or the ether “produces a community of all bodies, and at the same time, puts the knowing subject into the condition of possible experience of even the most distant object”³⁵⁷. The forces inherent to the ether are what allow for our experience of objects, and so we may reach the ground for the representation in us of things outside of us.

We find an opposite method of deduction in the OP, compared to the CPR. In the earlier work, Kant starts from the given unity in perception, and then infers the collective unity of the whole of possible experience. In his subsequent OP, “Kant supposes the absolute totality of the synthetic unity of perception to be given a priori, that is, as ‘the material principle of unity of possible experience’ (OP 21:585.17-18)”³⁵⁸. Kant supposes

³⁵³ Cf. *Ibid.*, 200.

³⁵⁴ *Ibid.*

³⁵⁵ *Ibid.*, 201.

³⁵⁶ Cf. *Ibid.*

³⁵⁷ KANT, I., *Opus Postumum*, AA 21:562, as cited by TUSCHLING, AE, 207-208. “*Daß sie [die Materie und ihrer inneren Bewegung] nämlich im Zugleichseyn aller Theile desselben neben einander alle körperliche Dinge in Gemeinschaft und das Subject in die Bedingung möglicher Erfahrung auch des entferntesten setzt*”.

³⁵⁸ TUSCHLING, AE, 212.

that our representations rest upon the *one*, material condition of “sense-object outside us” (OP 21:582); it is by the forces of this one matter that our perception arises. How does Kant prove the existence of such cosmic matter? “The objective reality of the material [...] is grounded *logically*, according to the principle of identity”³⁵⁹; the dynamic plenum’s existence is not simply a hypothesis to explain certain phenomena. Kant must assume the real existence of any condition that makes our experience possible a priori. If it did not exist, then our experience would not exist; since our experience does exist, then the conditions must exist. Therefore, the ether or cosmic matter must actually exist³⁶⁰. This type of deduction is the opposite of the CPR’s method; what caused Kant to adopt such a radically different method?

Publicly Kant defended his *Critiques* and transcendental idealism against criticism from philosophers such as Fichte, Schelling and Beck; by studying the OP, we realize that Kant in fact accepts some of the criticism against his CPR and works on modifying his theory³⁶¹. By accepting such criticism and methods of his own followers and critics, Kant “modifies the basic structure of transcendental idealism, in order to [...] answer the question of objective reference”³⁶². Kant faces two opposing solutions to the problem: either deny that things affect the self, and place space and things “in us” (this is Beck and Schelling’s solution); or adapt his *influxus physicus* to include the independent existence of cosmic matter. The ether proofs in the *Übergang* 1-14 are attempts along the lines of the second possible solution; nonetheless, they fail in their attempt to solve the problem.

His working upon these problems shows, however, that a series of philosophical systems, published by his successors but stimulated by Kant’s transcendental idealism, are not defections from classical criticism – as the orthodox view of the matter, ever since Kant’s days, would have it. They are, on the contrary, attempts to save the core of transcendental idealism (whatever that may be) in face of the difficulties and contradictions that result from its own premises. Despite his official declarations to the contrary (especially the one against Fichte, cf. C 12:370–71), Kant is convinced that transcendental idealism has to be revised and further developed. He himself takes part in such an undertaking and is in the end even prepared to admit several versions of transcendental idealism (those of “Schelling, Spinoza, Lichtenberg”: see Op 21:87.29–31)—at least *in foro interno*³⁶³.

We can appreciate Kant’s efforts in the OP as attempts to “revise and develop” transcendental idealism, by solving the contradictions that result from the premises of the

³⁵⁹ KANT, *Opus postumum*, 21:583 [91]. Future reference to this work as OP. I follow the standard citation method of the *Opus postumum*, as giving the AA edition volume number, followed by the page number. Where applicable, I also give the Cambridge edition page number in brackets, since its ordering differs considerably from the AA order. See KANT, I., *Opus postumum*, Förster, E. (ed.), Cambridge University Press, Cambridge 1993.

³⁶⁰ Cf. *Ibid.*

³⁶¹ Cf. TUSCHLING, AE, 215-216.

³⁶² *Ibid.*, 215.

³⁶³ *Ibid.*, 216.

CPR. If these further attempts fail to convince us, then the question arises whether the very premises of transcendental idealism are the problem. If Kant himself struggles to adjust his theory to our experience of knowing, then his theory may be seen to be insufficient. Now that we understand better Kant's objective in the OP as adapting his CPR to the criticism received, we turn to consider the parts of the OP that are of interest for our problem of affection.

4.1. *The ether: its description*

To appreciate the change in method between the CPR and the OP, let us see how Kant refers to sensed perception, compared to a priori synthetic knowledge: "The merely subjective modifications in the stimulation of our perceptions (called feeling) [...] do not belong to the present (merely theoretical) investigation"³⁶⁴. Transcendental philosophy is only interested in the possibility of synthetic a priori knowledge; subjective, sensorial elements in perception are not considered important in how we know. In the CPR Kant does not consider at any great length sensed perception, but at least he grants it some importance as guaranteeing quantified reality for objects of experience outside of our minds. In the OP, Kant no longer considers sensation as of any importance.

Kant refers to the material object outside of us in various terms in the OP. Such terms include the ether, the caloric, cosmic matter, light-material, moving material and the continuum. We start our consideration of the ether by considering the forces of repulsion and attraction that we found as constituting matter in space in the CPR and the MFNS. Repulsion and attraction lead to impacts and counter-impacts, as an idea of "a trembling (oscillating, vibrating) motion of the matter which fills the entire universe, includes within itself all bodies, and is both elastic and at the same time attractive in itself"³⁶⁵. Because dynamic forces constitute bodies, there must be an elastic matter that fills all the universe and bodies themselves. Such elastic matter is what allows for the basic motion of attraction and repulsion. This cosmic matter penetrates all corporeal things, as constituting them through forces of repulsion and attraction.

³⁶⁴ KANT, OP 22:530 [158]. "*Die blos subjective Modificationen der Belebung unserer Wahrnehmungen Gefühl genannt welches die innere Wahrnehmung deren Zustand zu erhalten oder von demselben uns zu befreyen wir uns angetrieben finden gehören nicht zur gegenwärtigen (blos theoretischen) Untersuchung*".

³⁶⁵ Ibid., 21:310 [25]. "*Und eine Zitternde (oscillirende, vibrirende) Bewegung der den ganzen Weltraum erfüllenden und alle Körper in sich zugleich mit begreifenden elastischen zugleich aber auch in sich selbst attractiven Materie*".

This concept of the continuum penetrating bodies leads Kant to another name for caloric: "light-material". As penetrating all bodies, this light-material "produces community in the moving forces of the matter of celestial bodies"³⁶⁶. Here we see the importance of dynamic, interacting community re-surfacing, as we found it in the Third Analogy of Experience. However, in the OP the concept of light-material and caloric plays an even more important role, as "a material principle of the unity of possible experience; one which combines all experiences into a single experience"³⁶⁷. A definite shift has occurred in the OP, from subjective conditions of knowledge in the CPR, to material, objective conditions necessary for our experience to take place.

The characteristics of this material are fundamental for our experience. "It is all-embracing, *individual (unica)* and the basis of all [forces] for the unity of the object of one experience"³⁶⁸. If our experience is to have a unity, as *our* experience, there must be an independent material whose unity gives unity to experience. In order to carry out its role, this material must be "*universally distributed, all-penetrating, and all-moving* (not that it is itself movable)"³⁶⁹. Since it is present everywhere, the ether allows for bodies and their movements; and as a condition for our experience, this material is necessary, as in permanent.

The ether carries out several key functions in Kant's system on a physical level. Since matter is above all constituted by moving forces, "it is to be acknowledged as a primordially moving material - not hypothetically invented, but one whose forces give it reality and which underlies all motion of matter; a continuum which, taken in its own right, forms a whole of moving forces, whose existence is known *a priori*"³⁷⁰. All motion is seen as arising from this primordially moving continuum. Besides motion, the universal material also gives grounds for space: As a magnitude, space "cannot exist save as a part of a greater whole. The whole must be given first in order that the manifold be thought in it as a part"³⁷¹. Here we can see the change of direction in deduction: In the CPR we start from

³⁶⁶ Ibid., 21:585 [92]. "*Gemeinschaft der bewegenden Kräfte der Materie der Weltkörper bewirkt*".

³⁶⁷ Ibid. "*Ein materielles Princip der Einheit möglicher Erfahrung welche alle Erfahrungen zu Einer verbindet*".

³⁶⁸ Ibid., 21:584 [92]. "*Er allbefassend einzeln (vnica) und die Basis aller zur Einsicht des Objects der (einen) Erfahrung ist*".

³⁶⁹ Ibid. "*Allverbreitet, alldurchdringend und allbewegend ist (nicht aber daß er selbst in seinem Platze beweglich*".

³⁷⁰ Ibid., 21:223-224 [72]. "*So wird dieser als ein uranfanglich bewegender Stoff nicht als hypothetisch gedichteter sondern seinen Kräften nach realer Stoff der allen Bewegungen der Materie zum Grunde liegt anzuerkennen und ein Continuum seyn welches auch für sich selbst betrachtet ein Ganzes der bewegenden Kräfte ausmacht dessen Existenz a priori erkannt wird*".

³⁷¹ Ibid., 21:221 [71]. "*Da es aber ungereimt ist daß da Theile nothwendig Gründe der Möglichkeit eines Ganzen sind ein Ding an sich blos als Theil existiren könne denn das Ganze muß zuerst gegeben seyn damit das Mannigfaltige in ihm als Theil gedacht werde*".

the individual object, and through the series of conditions for its possibility, we arrive to the whole. Space and time are seen in the CPR as fundamentally space and time *in us*, as a priori forms of empirical intuition. Now in the OP space in us is seen to rely as a part on the whole, which is the universal material continuum. This shift from space in us to space as substantially and primordially a part of the ether is a drastic modification in transcendental philosophy.

In order for physical motion to exist, “a single (thus, immaterial [!]) being must be assumed as the *mover* outside or within this body”³⁷². This being must organize matter according to a *purpose*, a concept important for Kant especially in his *Critique of Judgment*. Since this being is immaterial and gives purposeful structure to matter, Kant calls it “a world-soul, as it were”³⁷³. However, this “world-soul” cannot be known in itself, to such a degree as to assert whether or not it has understanding. We can only state that it grants matter structure and purpose. Kant is wary to call it a “world-soul”, and uses this term much less often than “caloric” and “ether”; nevertheless, it is telling that he entertains the concept.

A final function or role that the caloric plays is that of allowing for perception. Since the caloric is fundamentally a moving force, it gives rise to real objects of experience for the subject's internal forms of space and time. Without “something which renders [intuitions] knowable for the senses”, our internal forms of space and time could not provide real objects. The fundamental moving matter is what strikes the subject and provides real objects for the forms of space and time in us. “The universal basis of the moving force of matter affecting the senses is a universally and uniformly distributed world-material; without whose presupposition an outer object of the senses [cannot] have an empirically possible object”³⁷⁴. In this sense, we can say that Kant has discovered his ground for our representations of things outside us; it is the necessarily existing universal matter that gives rise to our perception in empirical intuition. The ether is the solution to a problem that occupied Kant for over 25 years; the problem of affection has found its answer in the material a priori condition of knowledge, the ether.

³⁷² Ibid., 22:548 [85]. “Es muß ein einfaches, mithin immaterielles, ob als Theil der Sinnenwelt, oder ein von ihr unterschiedenes Wesen als Bewegter außer diesem Körper oder in ihm angenommen werden”.

³⁷³ Ibid. “Dieses Wesen (gleichsam als Weltseele)”.

³⁷⁴ Ibid., 22:475 [134]. “Die allgemeine Basis der bewegenden und die Sinne afficirenden Kräfte der Materie ist ein allgemein und gleichförmig verbreiteter Weltstoff ohne dessen Voraussetzung ein äußeres Object der Sinne keinen empirisch möglichen Gegenstand haben”.

4.2. The ether: its proof

Since the OP is a series of drafts, we find several proofs for the ether's existence throughout the *Übergang* 1-14. In *Übergang* 8, Kant starts from the subjective principles of knowing, and deduces the existence of the ether analytically, not synthetically. This is surprising, given that the ether is supposed to be a material condition for knowledge, and so we would expect to deduce it synthetically. However, our knowledge itself can only occur on the basis of the possibility of experience, and the ether is a supreme condition of experience.

This amounts to making the capacity to have experience of this object in general into the ground of proof; to derive from this ground of proof its concept of **object**; and to present *a priori*, through reason, the conditions of the possibility of knowledge of the object, as well as its actuality (under those determinations)³⁷⁵.

The mere fact or possibility of our experience is proof enough to show that the object exists thanks to matter universally distributed. It is the determinations of the subject that demand the existence of the universal material; the proof of this ether is analytic, in that it is derived from the subject's own conditions and determinations for experience. We are familiar with the subject (ourselves) and its determinations for knowing; the ether must be deduced from those conditions and determinations. The proof is not regarding the "inner constitution" of the object or material condition of experience; such inner properties are unknowable for Kant, and superfluous. For him it is enough that the subject's conditions for possible experience demand the existence of this ether, to show that the ether exists. Were it not so, we would not experience anything at all. Since it is clear we do experience something, then the ether *must* exist.

The proof against empty space that we saw in the Third Analogy of Experience in the CPR appears again in the OP, as an argument for the existence of the ether. Given our conditions for how we know, "empty space is not an object of possible experience"³⁷⁶. Space can only become an object of possible experience if there is "a universally distributed, all-penetrating world-material, possessing moving forces"³⁷⁷. Space relies on

³⁷⁵ Ibid., 21:548-549 [79]. "Sie kann also wofern es irgend auf eine Art möglich ist nur indirect das **subjective** Princip der Möglichkeit der Erfahrung statt des objectiven der Erfahrung selbst zum Grunde legend beweisführend seyn nämlich das Vermögen überhaupt über diesen Gegenstand Erfahrung zu haben zum Beweisgrunde aufzustellen und aus diesem ihren Begriffe vom **Object** ableiten und *a priori* durch Vernunft die Bedingungen der Möglichkeit der Erkenntnis desselben der Wirklichkeit des Objects (unter jenen Bestimmungen desselben) darstellen".

³⁷⁶ Ibid., 21:229 [76]. "Der leere Raum aber kein Gegenstand möglicher Erfahrung ist".

³⁷⁷ Ibid. "Der Raum überhaupt ein Gegenstand möglicher Erfahrung (des Messens, der Richtung etc.) wird, ist ein allgemein verbreiteter alldurchdringender mit bewegenden Kräften versehener Weltstoff dessen Wirklichkeit blos auf dem Princip der Möglichkeit äußerer Erfahrung beruht".

the underlying world-material for its conception and use. Given our experience of outer bodies existing in space, then the underlying condition of space – the world material – must itself exist. With our senses, we can have no possible experience of empty space. Thus, “a material in cosmic space exists [...] and it is inferred *a priori*”³⁷⁸. No possible experience of empty space *for us* necessarily means that a universal material must fill all. Kant is emphatic in repeating several times that this not a “boundary” concept, like the Ideas of Pure Reason that are problematically posited. The world material is “apodictically certain”³⁷⁹.

The term “Übergang” used for this part of the OP refers to Kant’s seeking to go from metaphysics-transcendental philosophy to physics-natural philosophy. Whereas the formal conditions of the understanding have been studied in the CPR, in the OP the material conditions are to be deduced as well, allowing for this transition into physics. By proving the world-material’s existence, we have the basis for physics’ possibility; it is only by the caloric that we have the principle of the possibility of experience, which “forms a system. Not *out of* and *by means of* experience; but *for* it and its possibility”³⁸⁰. The starting point of our knowledge regarding the world in physics relies on the a priori proof of the existence of the world-material; it is only thanks to this material condition that we can have any experience at all. The CPR holds natural laws as deriving from the subject’s transcendental laws according to synthesis. The OP draws the natural consequence: Laws are not drawn *from* experience, but laws, including the existence of the world-material, exist a priori *for* experience. A priori knowledge has taken all priority over a posteriori, experiential knowledge.

As Kant approaches absolute idealism, he still tries to stay true to his search for the possibility of scientific, physical laws. The transition (*Übergang*) from metaphysics to physics can take place, as the relationship of form and matter requiring each other. “Metaphysical foundations of natural science yield something that is certain and a complete system; but their purpose [*Gebrauch*] – the only one which can be envisaged for them – is physics, for which they can give us no material”³⁸¹. The a priori conditions for experience need “to be filled”. Thus not only is the transition from metaphysics to

³⁷⁸ Ibid., 21:226 [74]. “*Daß ein Stoff im Weltraume existire der die Basis aller bewegenden Kräfte der Materie ausmache kann a priori schon nach dem Princip der Identität schon daraus gefolgert werden*”.

³⁷⁹ Ibid., 22:476 [134]. “*Apodictisch gewiß*”.

³⁸⁰ Ibid. “*Wird Physik allererst möglich nach dem Princip der Möglichkeit der Erfahrung die selber nur Eine und Objectiv ein System ist. Nicht aus und vermittelt der Erfahrung sondern für dieselbe und ihre Möglichkeit*”.

³⁸¹ Ibid., 21:474 [39]. “*Metaphysische Anfangsgründe d. N. W. geben zwar etwas gewisses und ein vollständiges System: aber ihr Gebrauch den man allein dabey beabsichtigen kann ist doch die Physik zu der sie uns keinen Stoff geben können*”.

physics possible, it is even necessary: The conceptual scheme of our mind is meant *only* for empirical experience; on its own, it cannot fill itself. “There *must* be a transition from the metaphysical foundations of natural science to physics”, if we are ever to arrive to natural philosophy³⁸².

Given the unity of the whole of possible experience, the concept of the ether must be affirmed. Bryan Hall summarizes the proofs thus:

Since there is a unity of the whole of possible experience, and its concept contains the concept of the ether a priori, the ether itself also exists. If there is a unity of the whole of possible experience, then the ether must exist. As Kant says [...], the existence of the ether is not proven by experience, but rather, a priori as a necessary condition for experience. Consequently, the ether should be considered a transcendental material condition for experience³⁸³.

The ether’s existence is thus solidly shown to exist a priori to all experience, as the material condition for that experience. Kant has arrived at “the ground of the relation of that in us what we call representation to the object”.

4.3. *The teaching of self-affection and self-positing (Selbstaffektion and Selbstsetzung)*

Apart from the ether proofs and the transition from metaphysics to physics, a considerable part of the OP is dedicated to the teaching of self-positing. Erich Adickes dates this set of writing as subsequent to the *Übergang* writings. Of all the writings in the OP, these last ones are the most often claimed to be the result of Kant’s mind failing. However, it has been well argued that Kant was in full use of his faculties when he wrote his *Selbstsetzungslehre*³⁸⁴. This teaching is a natural consequence of the entire transcendental project, begun in the CPR and carried out through the previous ether proofs. If the ether must exist simply because our knowledge demands it as one of its conditions, then the subjective precedes and absorbs the objective elements in knowing. In that case, it is the subject that not only determines how the object is to be known, by its a priori determinations, but also places the object, in order to know the self’s own determinations. As we remarked in the introduction, Kant here appears to accept the criticism of Fichte, Schelling and Beck to his CPR.

³⁸² Ibid. Emphasis added. “*Es muß zu einem Übergange von den Met. A. Gr. der NW. zur Physik kommen wenn Naturwissenschaft Vernunftwissenschaft (philosophia naturalis) werden soll*”.

³⁸³ HALL, B., «A Dilemma for Kant’s Theory of Substance», in *British Journal for the History of Philosophy*, 19 (2011) 1, 102.

³⁸⁴ Cf. FÖRSTER, E., «Introduction», in KANT, *Opus Postumum*, xxviii-xix.

The CPR's study of the formal conditions for our knowledge leads us to the conclusion that the understanding does not draw information of knowledge from the object; rather the understanding starts from itself. The OP goes a step further and sees the understanding as responsible for constructing intuitions according to a principle: "The subject makes itself into an object"³⁸⁵. The manifold of sensibility is synthetically presented a priori thanks to the subject; "the unconditioned unity of the manifold in intuition is not *given* to the subject by another object, but is *thought* through itself"³⁸⁶. Whereas the a priori forms of intuition – space and time – were held in the CPR as ways of anticipating perception, in the OP they become the actual "forms of the objects in appearance"³⁸⁷.

Thanks to the subject's positing the object, Kant can overcome the difficulty of how to combine the two heterogeneous elements in knowing – the understanding's concepts and sensed intuition. Our united experience comes about through the understanding's "thoroughgoing determination of the object", which is "likewise [the object's] actuality"³⁸⁸. The object's independence from ourselves has been lost, to the point that the subject's thoroughgoing determination happens through the categories, and produces the object. "One cannot *have* (receive) *experience* without *making* it"³⁸⁹. Since the subject's a priori conditions determine what type of perceptions are even possible for it to have, it is the subject that determines "thoroughly" the object of perception. And where the CPR limits this determination to the merely formal, leaving reality and existence as relying on external sensation, the OP attributes the very existence of the object of perception to the subject's a priori principles³⁹⁰. Since the subject produces experience in itself, its categories determine both the formal and the existential aspects of the object. "I cannot say I *have* this or that experience; rather, I *make* it for myself"³⁹¹.

As we saw in the ether proofs, perception is based on the moving force of primordial matter. The appearance of motion in space is based on a more fundamental appearance, which Kant refers to as "appearance of appearance". Initial, basic

³⁸⁵ KANT, OP, 22:443 [164]. "Die Extraposition ist mit der Intusposition des Manigfaltigen der Anschauung als Erscheinung durch ein Princip der synthetischen Einheit der Erkenntnis a priori folglich durch transcendentale Principien verbunden. Das Subject macht sich zum Object".

³⁸⁶ Ibid., OP 22:443-444 [164]. "Die unbedingte Einheit des Manigfaltigen in der Anschauung ist nicht dem Subject von einem andern Gegenstande gegeben sondern durch dasselbe gedacht".

³⁸⁷ Ibid. "Formen der Gegenstände in der Erscheinung".

³⁸⁸ Ibid., 22:553 [88]. "Wenn nun ein gewisser zwar anfangs nur hypothetisch angenommener Stoff als Gegenstand möglicher Erfahrung gedacht wird so ist das die Zusammenstimmung seiner Requisite wenn der Begriff davon zugleich die durchgängige Bestimmung desselben nach dem Satz der Identität enthält zugleich ein Beweis seiner Wirklichkeit (*existentia est omnimodo determinatio*)".

³⁸⁹ Ibid., 22:497 [143]. "Erfahrung kan man nicht haben (empfangen) ohne sie zu machen".

³⁹⁰ Cf. Ibid.

³⁹¹ Ibid., 22:444 [164]. "Ich kann nicht sagen ich habe diese oder jene Erfahrung sondern ich mache sie mir".

appearance is the representation of the object in the senses, as the subject is affected by the object. However, by a proper critique of knowledge we come to realize that it is the subject that affects itself, becoming a motion in appearance for itself. This is the “appearance of appearance”: the subject affecting itself, through motion or impact on the outer senses. “Since the subject itself makes and causes the motion through which it is affected, [it] inserts *a priori* into the subject what it receives from without, and is self-moving”³⁹². Representations of objects do not “enter the subject”, but rather “they and their principles of their mutual connection emerge from the subject”³⁹³. The subject produces the object of experience, in order to come to knowledge; such knowledge is not received but produced.

We may distinguish between direct or simple appearance and indirect appearance; Kant refers to indirect appearance as the appearance of appearance and the phenomenon of the phenomenon. This distinction allows us to discover the true source of knowledge: the subject. This appearance of appearance is “appearance of the self-affecting subject (hence, indirect)”³⁹⁴. It is only through the appearance of the object that the subject indirectly knows that it is affecting itself. “The subject, *which affects itself*, recognizes itself as phenomenon, and likewise, necessarily determines its existence in experience, through apprehension in space and time”³⁹⁵. The subject is the thoroughly determining which affects itself, and so determines itself through experience.

The subject’s role in knowledge has assumed the lead role, to the point that it plays the only role.

“I am” is the logical act which precedes all representation of the object; it is a *verbum* by which I posit myself. I exist in space and time and thoroughly determine my existence in space and time (*omnimoda determinatio est existentia*) as appearance according to the formal conditions for the connection of the manifold of intuition; I am both an outer and inner object for myself. What is subjective in the determination of myself is, equally, objective by the rule of identity, according to a principle of synthetic *a priori* knowledge. There is only one space and one time, each of which is represented in intuition [as] an unconditional intuitive whole, that is, as infinite³⁹⁶.

³⁹² Ibid., 22:321 [107]. “*Da das Subject diejenige Bewegung selbst macht und verursacht durch welche sie afficirt wird und a priori in das Subject hineinlegt was es von aussen empfängt und sich selbst bewegend ist*”.

³⁹³ Ibid., 22:86 [191]. “*Die Vorstellungen der Sinnenobjecte kommen nicht ins Subject hinein sondern sie und die Principien ihrer Verknüpfung unter einander wirken zur Erkenntnis dessen hinaus um Gegenstände als Erscheinungen zu denken*”.

³⁹⁴ Ibid., 22:367 [117]. “*Erscheinung des sich selbst afficirenden Subjects mithin indirect*”.

³⁹⁵ Ibid., 22:465 [131]. “*Das Subject welches sich selbst afficirt erkennt sich selbst als Phänomen und bestimmt sein Daseyn in der Erfahrung durch Apprehension in Raum und Zeit zugleich als nothwendig*”.

³⁹⁶ Ibid., 22:85 [191]. “*Ich bin: ist der logische Act der vor aller Vorstellung des Objects vorhergeht ist ein Verbum wodurch ich mich selbst setze. Ich existire im Raume und der Zeit und bestimme mein Daseyn im Raume und der Zeit durchgängig (omnimoda determinatio est existentia) als Erscheinung nach den formalen Bedingungen der Verknüpfung des Manigfaltigen der Anschauung und bin mir selbst ein äußerer u. innerer Gegenstand. Das Subjective der Bestimmung meiner selbst ist zugleich objectiv nach*

The CPR's study of the conditions of possibility for synthetic a priori judgments begins with the a priori forms determining sensation; since sensation is formless matter, its structure and form can only come from the subject³⁹⁷. In the CPR Kant is careful to keep the formal conditions of knowledge in reference to sensibility, as their only legitimate use. However, his Transcendental Aesthetic deals only with the formal conditions of space and time; he does not consider sensibility and its receptivity as worthy of study. In the OP, Kant's a priori, subjective conditions of knowledge reach the logical conclusion of the CPR's principles. It is the "I am" – no longer the "I think" of the CPR – that gives objectivity to the object, by affecting itself. And since the "I am" is obviously given, then we must conclude that "I posit myself". The ultimate condition of possibility is the existence of the absolute whole. "This amounts to the absolute unity of all possible objects of experience, consequently also to the existence of such a whole"³⁹⁸. The whole is the subject itself, which contains all, including such ideas as God and the world. God and the world are "not substances outside my thought, but rather, [they are] the thought through which we ourselves make these objects (through synthetic *a priori* cognitions from concepts) and, subjectively, are self-creators of the objects thought"³⁹⁹. As a result of his teaching on *Selbstaffizierung* and *Selbstsetzung*, transcendental idealism approaches the absolute idealism of Baruch Spinoza, whom Kant frequently mentions in his OP. No longer is it the mind's conceptual schemes that we know a priori; we now know all things in ourselves, and all things are our mind's concepts and objects.

4.4. Conclusions regarding the Opus postumum

We started by presenting Kant's deduction of the ether for physics and natural science, and ended by presenting his *Selbstsetzungslehre*. How are we supposed to understand them together, when at first glance they appear to be opposed? This is yet another example of Kant's combination of both empiricist and rationalist, idealist currents. Tuschling puts primordial matter or ether in the OP on the same level as apperception, as

der Regel der Identität nach einem Princip der synthetischen Erkenntnis a priori u. es ist nur Ein Raum u. Eine Zeit welche jede ein unbedingtes Ganze der Anschauung in der Anschauung d.i. als unendlich vorgestellt werden".

³⁹⁷ Cf. KANT, CPR, A20/B34.

³⁹⁸ Ibid., OP 22:553 [88]. "Die Einheit derselben [Bedingungen] in der durchgängigen Bestimmung des Objects ist zugleich die Wirklichkeit desselben".

³⁹⁹ Ibid., 21:21 [228]. "Nicht Substanzen ausser meinen Gedanken sondern das Denken wodurch wir uns die Gegenstände selbst durch synthetische Erkenntnisse a priori aus Begriffen selbst machen und der gedachten Gegenstände subjectiv Selbstschöpfer sind".

the “supreme condition of the possibility of experience of objects in general”⁴⁰⁰. However, this reading of the OP is only one possible interpretation, “if one chooses to assert that existence is independent of the subject”. Another equally valid interpretation of Kant’s teaching on primordial matter is the deduction of “the object of all possible experience from apperception”. This second interpretation sees any distinction or independence of the object as subsumed into “analytic unity”⁴⁰¹, relying completely on the subject. Empiricists and scientists would read Kant in the first interpretation, in order to keep the independence of matter outside us; rationalist philosophers would agree with the second interpretation. Kant’s attempts to maintain the realism of independent beings notwithstanding, he appears to come down decidedly on the idealistic side. His deduction of the ether from a priori conditions of knowing goes far beyond the principles of the empirical method.

Prieto sees Kant’s teaching of the appearance of appearance (or phenomenon of the phenomenon) as the final solution to Kant’s problem of affection, “what is the ground of that representation in us of the object?” In the end, our affection is explained “by setting aside (or eliminating) completely the influence upon the self of the *problematic* transcendent entity”⁴⁰². Kant solves the problem of the object’s representation in us by completely eliminating all things in themselves; he only requires the subject to be present⁴⁰³. “The transcendental subject, the *I think*, ends up assimilating and absorbing the real of experience and of existence. The transcendental object or the thing in itself finally becomes a merely logical correlate to the principle of self-positing (*Selbstsetzung*)”⁴⁰⁴. Kant’s transcendental idealism has reached its climax and becomes absolute idealism: “The spirit of man is Spinoza’s God (so far as the formal element of all sense-objects is concerned) and transcendental idealism is realism in an absolute sense”⁴⁰⁵.

In terms of the CPR, Kant’s OP deduction of the ether falls under the area of Transcendental Dialectic and reason’s search for the unconditioned, absolute totality of

⁴⁰⁰ Ibid., 21:554, as cited by TUSCHLING, AE, 208.

⁴⁰¹ TUSCHLING, AE, 208.

⁴⁰² PRIETO LÓPEZ, «La Nueva Estética Transcendental del Opus Postumum de Kant», 109. “*Desplazando (o eliminando) definitivamente de este modo el influjo de la problemática entidad trascendente*”. Author’s translation.

⁴⁰³ Cf. VLEESCHAUWER, H.J., *La deduction transcendental dans l’oeuvre de Kant*, vol. III, Paris, 1937, 608, as cited in PRIETO, «La Nueva Estética Transcendental del Opus Postumum de Kant», 109.

⁴⁰⁴ PRIETO LÓPEZ, «El Opus postumum de Kant: la resolución de la física en filosofía transcendental», 470. “*El sujeto transcendental, el «Yo pienso» ha terminado por asimilar y absorber en sí mismo lo real de la experiencia, la existencia. El objeto transcendental o la cosa en sí se muestra definitivamente como un mero correlato lógico del principio de la autoposición (Selbstsetzung)*”. Author’s translation.

⁴⁰⁵ KANT, OP 21:99 [255].

appearances in possible experience. In the CPR such searching was proven to be a natural tendency, but utterly fruitless: Concepts are only useful in application to sensed intuition. How are we to read the OP's ether deduction in light of the CPR's prohibition? The changes between the CPR and OP "blur the borderlines between intuitions, concept of the understanding, and concept of reason, or, respectively, between Aesthetic, Analytic, and Dialectic"⁴⁰⁶. Universal matter becomes the supreme principle that allows for our experience, and "apperception is linked to the dynamic continuum as its sole object"⁴⁰⁷. Kant could not be satisfied with this deduction from the self to the external condition of experience as presented in the ether proofs. Unconvinced by the results, he goes on to the teachings on *Selbstaffectation*, *Selbstsetzung* and *Selbstkonstitution* in later writings of the OP. It is clear to Kant *that* the apperception and primordial matter stand in direct relation to each other; *how* to deduce that matter from the *I think* is what brings him to such positions⁴⁰⁸.

5. Conclusions from Kant's transcendental philosophy regarding the problem of affection

Two basic questions or problems occupy Kant's transcendental philosophy and metaphysics throughout his career. We term as cosmological-metaphysical the question that Tuschling phrases thus: "How can things (bodies, substances) form one world, not solely in the representations of thinking monads, but really and materially, that is, as a world constituted by universal physical reaction?"⁴⁰⁹ The second question we term as Kant's critical-epistemological question, "'What is the ground of the relation of that in us which we call 'representation' to the object?'"⁴¹⁰

Let us first consider Kant's response to the cosmological-metaphysical question. In order to defend his *influxus physicus* as physical reactions in a united world, Kant has to face Hume's criticism regarding the impossibility of necessary causality. In the CPR Kant agrees that *things in themselves* cannot have the necessary causal relations we attribute to them; however "we neither have, nor can have, experience of things existing in themselves, but 'only of our representations'"⁴¹¹. It is the concepts of understanding that

⁴⁰⁶ TUSCHLING, AE, 213.

⁴⁰⁷ Ibid.

⁴⁰⁸ Cf. Ibid.

⁴⁰⁹ Ibid., 209.

⁴¹⁰ KANT, Letter to M. Herz, February 21, 1772, C 10:130, as cited by TUSCHLING, AE, 201. "Auf welchem Grunde beruhet die Beziehung desienigen, was man in uns Vorstellung nennt, auf den Gegenstand?"

⁴¹¹ TUSCHLING, AE, 198.

grant the universal, necessary characteristic to our representations, thus allowing for a priori synthetic judgments. Kant holds matter as the permanent in appearance, and even equates matter with substance⁴¹². Matter is completely unknowable, and may act only as the substratum for appearance: “Matter is not at all an object for pure understanding. The transcendental object, on the other hand, which may be the basis of this appearance that we call matter, is a mere something about which we would not understand”⁴¹³. Matter is amorphous and completely undetermined, about which we can know nothing but its existence. Our science only leads to synthetic a priori judgments regarding appearances and not things. The inner-workings of the ether are impossible to know: “All natural philosophy consists, rather, in the reduction of given, apparently different forces to a smaller number of forces and powers that explain the actions of the former, although this reduction proceeds only up to fundamental forces, beyond which our reason cannot go”⁴¹⁴. Once more it is unclear whether science for Kant is based on nature or the mind’s categories. He must posit them as coinciding perfectly, in a way reminiscent of Leibniz’s pre-established harmony, only without a divine figure as the guarantor of such coinciding⁴¹⁵.

The CPR’s answer to Hume’s criticism already implies the answer to the second question regarding our knowledge through representation. Matter as external to us becomes “matter in us”:

In the fourth paralogism of the 1781 edition of *the Critique of Pure Reason*, Kant holds matter as matter “in us”. In this respect we can speak of Kant’s epistemological occasionalism: upon the occasion of a sensed affection, the subject develops the entire content of the representation⁴¹⁶.

The mind’s priority over empirical sensation is clear, since sensation is left as simply an occasion for us to develop an object. Ralph C.S. Walker notices a clear development in favor of the mind’s priority over the senses between the A and B editions

⁴¹² Cf. KANT, A185/B228.

⁴¹³ KANT, A277/B333. “*Das transscendentale Object aber, welches der Grund dieser Erscheinung sein mag, die wir Materie nennen, ist ein bloßes Etwas, wovon wir nicht einmal verstehen würden, was es sei*”.

⁴¹⁴ KANT, MFNS, 243, [4:534]. “*Besteht alle Naturphilosophie in der Zurückführung gegebener, dem Anscheine nach verschiedener Kräfte auf eine geringere Zahl Kräfte und Vermögen, die zu Erklärung der Wirkungen der ersten zulangen, welche Reduction aber nur bis zu Grundkräften fortgeht, über die unsere Vernunft nicht hinaus kann*”.

⁴¹⁵ Cf. HAHMANN, A., «What Leibniz missed – or Kant misread? Kant’s critique of Leibnizian metaphysics in light of two recent interpretations», in *Estudos Kantianos*, 4 (2016) 2, 177.

⁴¹⁶ PRIETO LÓPEZ, «El Opus postumum de Kant: la resolución de la física en filosofía transcendental», 457. “*La materia, como dirá Kant en el Cuarto Paralogismo de la primera edición de la Crítica, es una materia “in us”. En este sentido cabe hablar de un ocasionalismo epistemológico kantiano. Con ocasión de una afección sensible, el sujeto elabora la totalidad del contenido de la representación*”. Author’s translation.

the CPR: "A synthesis was empirical in [the manner dominant in A] if it was governed by a rule derived from experience and not provided by the mind from its own resources. But the B deduction places the greatest emphasis on the mind's spontaneity in synthesis of every kind"⁴¹⁷. In his attempt to defend human knowing through universal causality against Hume's criticism, Kant grants us knowledge only of objects within us on an ever more subjective level. Thus we see how his metaphysical-cosmological concern affects his critical-epistemological concern, and vice-versa.

If we consider the two questions in reverse order, we come up against the problem of the *worin / woraus* in knowing. Prieto explains:

In the question *worin* (or the question "what it consists in") we consider representation in its internal, immanent conditions inasmuch as they are the inner, constitutive principles of representation. Internally, representation consists in a matter and a form. [An important disciple of Kant] Reinhold regards Kant's *Critique* as dedicated exclusively to this consideration⁴¹⁸.

Representation consists in (*worin*) the matter of sensation being subsumed into the form of the categories of the understanding. However, there is also the question regarding the *woraus*: "Besides asking about the content of representation, it is necessary as well to ask about the origin of the representation, or the question *woraus* (regarding the aspect 'where does it come from'). The question of *woraus* [...] involves the study of the cause of representation"⁴¹⁹. This question naturally goes beyond the domain and scope of the CPR, and into the area of metaphysics. It is related to the question regarding the "ground of the representation", as formulated in his 1772 letter to Markus Herz. However, Kant's metaphysics is seriously limited, if he wishes to formulate an answer to Hume's problem of causality. If all we know are our representations and not things in themselves, then the *woraus* question seems to be illegitimate. The OP is an attempt to answer this metaphysical question, beyond the transcendental criticism of reason in the CPR⁴²⁰.

It is in his attempt to find the causal grounding of our representation that Kant "places all the causal activity as the subject's self-determination through immanent

⁴¹⁷ WALKER, R.C.S., «Synthesis and Transcendental Idealism», in *Kant-Studien*, 76 (1985) 1, 21–22.

⁴¹⁸ PRIETO LÓPEZ, «La Nueva Estética Transcendental del Opus Postumum de Kant», 92–93. "De acuerdo con la cuestión *worin* (o cuestión de «en qué consiste») se estudia la representación en sus condiciones internas e inmanentes, pues de lo que se trata de saber aquí es cuáles son los principios internos constitutivos de la representación. Ésta se constituye de una materia y de una forma. Como sugiere Reinhold, la *Critica* de Kant ha asumido exclusivamente este estudio". Author's translation.

⁴¹⁹ Ibid. "Además de preguntarnos por el contenido de la representación, es necesario plantearse también la cuestión del origen de la representación o la cuestión *woraus* (cuestión del «de dónde proviene»). La cuestión del *woraus* [...] comporta el estudio de la causa de la representación". Author's translation.

⁴²⁰ Cf. Ibid. 93.

causality of self-affection. The self, by positing itself, posits itself also as an empirical object in space and time, in view of sensed apprehension"⁴²¹. As we saw in the previous section, the deduction of the supreme material principle for experience is something Kant could not satisfactorily achieve. His answer to the *woraus* problem is left completely in the self-positing subject, which gets rid of the object as a possible causal ground altogether. Eliminating the object in order to solve the problem would seem hardly a plausible solution, since it eliminates the problem itself.

I hold Kant's solutions to his "ground of representation" problem as eschewed by his concept of substance. If there is to be a solid grounding in our representation, both the subject and the object must have consistency. For Kant, the object has very little autonomous independence outside of the subject; at least, as far as we can *know*. After all, we are only dealing with our representations and appearances, with no possibility of knowing things themselves. The concept of substance, as derived from Locke and Hume, is little more than sensations that erupt upon the senses, but with no consistency underlying them. At least, we are left completely ignorant of the nature of any such underlying substance.

Alongside his transcendental philosophy, Kant develops his physics regarding the world as predominantly dynamic. In his *Metaphysical Foundations of Natural Science*, substance and matter in space are *constituted* by the forces of attraction and repulsion. Bodies lose their consistency in themselves, and are simply the interplay of underlying, counterbalanced forces. The OP's dynamic continuum becomes the one Substance, as the ever-fluxing matter that penetrates and constitutes all bodies, and as what allows our perception. Substance has been dissolved into the dynamic continuum⁴²². How does Kant's dynamics affect his teaching regarding a priori knowledge? The furthest the subject can know is the senses being affected, which arises through the dynamic forces outside of us. Those forces must be a priori, as primordial matter or ether.

Kant can only go as far as the appearance of appearance, because sensitivity and empirical intuition receive practically no consideration in his transcendental philosophy; between the matter of sensation and the form of concepts, he regards only the formal aspects as worth of study. A continuous ambiguity runs throughout Kant's entire career, starting with the *Nova dilucidatio*, through the CPR and MFNS, to his OP. He fails to

⁴²¹ Ibid. "Se transfiere toda la actividad causal al poder del sujeto, quien se determina a sí mismo con una causalidad inmanente, en la forma de una autoafección; o como en la misma obra se dice, el yo, poniéndose a sí mismo, se pone también como objeto empírico en el espacio y en el tiempo en orden a la *aprehensión sensible*". Author's translation.

⁴²² Cf. EDWARDS, SFPK, 90-91.

distinguish the realms of reality and of thought. He shows considerable interest in reality, through his physics and dynamics; he also considers our capacity for knowing to a remarkable degree of analysis, particularly in the CPR. However, he confuses the two realms rather easily. His physics affects his purely transcendental efforts by asserting matter everywhere in the Third Analogy of Experience in the CPR. But on an even larger scale, the CPR answers Hume's critique of causality by placing all of science in the mind, or transcendental. However, his writings in physics from the same time period (MFNS, 1786) take a stance in science that requires him to revisit his theory of knowledge. Thus he asserts a material supreme condition of experience in the OP, and overturns the CPR's entire project. It seems that his failure to consider properly physical bodies and their metaphysical standing leads him to ambiguous conclusions. If Kant has to revisit so many key aspects of the CPR, it reveals his difficulty in explaining how we know things outside of us.

What content can the mind give to itself? If he can only deal with the mind's concepts and forms, then Kant is forced to deduce the universe from the apperception. As a totality, the universe goes beyond the scope that we may allow the concepts of the understanding. Kant cannot reasonably find an answer from within his system, because it is a system that is closed in the mind. My thesis is that only with a proper understanding of substance and its sensed qualities can we arrive to a reasonable answer to Kant's search for the "ground of representation". There seems to be a plausible connection between sensed qualities and things' properties, as well as a significant relationship between our senses and our intellect. These connections will be explored in the second part of this thesis.

As the full title of the *Prolegomena* states, any future metaphysics must regard Kant's critical philosophy in considering our knowledge of the world. Alongside a proper consideration of substance, we must also consider the mind's capacity to know things. Like no philosopher before him, Kant studied the mind's role in how we know things. Any metaphysics regarding substance must also consider how the mind comes to know substance through representation. Kant discarded empirical knowledge through sensation, and we have seen where that led him: to the apperception positing both itself and the object. I suggest we revisit empirical sensation, to see if there might not be something of content for our knowledge there, which may provide a ground for our representation. How does the mind come upon necessary and universal knowledge, except by starting from the senses? I argue that the senses do give us valuable

information regarding the world. To cast off the senses as a mere rhapsody of impulses⁴²³ is to leave the mind closed up within itself.

Kant's transcendental philosophy has left us with the problem of the bridge: What allows a connection between the object and the subject? I would suggest that Kant's philosophy left this unbridgeable gap between object and subject, because of three different problems. First and foremost, a chasm is placed between the subject and the object, because the senses do not provide us with any meaningful information from the object. A second problem is the relationship between appearances and things in themselves; the object has been split in two, with the part of sensible qualities having no clear link to things themselves. A third problem is the relationship between sensitivity and the understanding: The imagination is to act as a third player to intermediate between the two heterogeneous elements of knowing. Yet that mediation comes up very short, with the mind's conceptual scheme absorbing more and more importance. Thus, the problem of the gap between object and subject involves also the problem of the gap in the object (appearance-things in themselves) and in the subject (sensitivity-understanding).

Whereas the CPR apparently answers the problem of how we form synthetic a priori judgments, the OP brings about important changes that influence several important factors, in an attempt to justify transcendental philosophy. If that attempt came up short, then perhaps his Copernican revolution was an error, and we should reconsider substance and our empirical knowledge of bodies outside of us.

⁴²³ Cf. KANT, CPR, A156/B195.

CHAPTER 3. KARL POPPER'S THEORY OF FALSIFIABILITY AND PROPENSITIES

Just as Copernicus's revolution impacted the way we see our place in the physical universe, so too did Kant's theory of knowledge impact the way we understand our knowledge of the world and ourselves. Even though he published his last work over two centuries ago, Kant's transcendental philosophy continues to influence how we see knowledge and science. During the 20th century the philosophy of science was born, due in large part to the shift away from Newtonian physical laws to new theories such as Einstein's theory of relativity and Heisenberg's indeterminism principle. As scientists and philosophers struggle to understand that shift, their basis remains very much Kantian. As an example of that basis, I present a brief summary of Karl R. Popper's (1902-1994) theory of falsifiability, along with his theory of propensities. His theory of falsifiability regards our scientific theories on an epistemological level, while his propensities regard things and their relationships on a metaphysical level. While Popper criticizes several aspects of Kant's philosophy, Popper appears to follow Kant's attempts of combining empirical observation with rational theory. Popper claims to be a realist, as in he accepts the existence of things outside of us. However, his theory of knowledge and truth remains on a level of idealism that is reminiscent of Kant. In Popper we may appreciate how Kant's philosophy has influenced our understanding of the world.

1. Popper's admiration and critique of Kant

In his study of the history of science, Popper attributes many scientific discoveries, such as Einstein's and Bohr's, to Kant's method of knowing. "Kant made an indelible impression not only upon philosophy but also upon physics and cosmology"⁴²⁴. Kant's shift from passive observation to the subject's spontaneity in apperception meant a new approach in how scientists formulate their hypothesis. "The experimenter must not wait till it pleases nature to reveal her secrets, but [...] he must question her. He must cross-examine nature in the light of his doubts, his conjectures, his theories, his ideas, and his

⁴²⁴ POPPER, K.R., *Conjectures and Refutations: The Growth of Scientific Knowledge*, Routledge, London 1991, 181. Future reference to this work will appear as CR.

inspirations"⁴²⁵. Not only did Kant affect philosophy with his transcendental teaching, but Popper sees Kant as changing the way that scientists approach the physical world. No longer do they observe empirical phenomena passively, but they now understand their science as their own creation, as their own discovery. They no longer have to rely on empirical data to build their theories, but rather through those theories they *produce* the universe, at least in part. "It is we who create our knowledge of [the world]. We are discoverers: and discovery is a creative art"⁴²⁶. Through scientific theory, the knowing subject structures and orders the universe, and thus creates it to a certain extent.

Well-grounded in 20th-century science, Popper gives much more importance to the individual knowing subject than Kant did. Popper sees all human beings as thirsting for explanation through insatiable curiosity⁴²⁷, which drives us to invent myths and theories in order to explain the world around us. We are more than mere receptors of sensed data; we create ideas that structure the world around us. The majority of theories do not stand up to the test of experience; however, the subject's dominant role in forming theories is more relevant in 20th-century theories of knowledge than in Kant's philosophy. Kant was the first to consider the subject's influence in how we know the world around us; 20th-century philosophy brought that initial intuition to its consequences. For Popper, all our thought is imbued by theories, much like the categories in Kant; all we perceive is theory-laden⁴²⁸. We will see this more in detail, but it is important to situate Popper's theory as a logical consequence of Kant's theory of knowledge.

As regards Kant's ether theory and dynamic theory of the physical world, Popper sees it as a clear forerunner to 20th-century physics. The theories presented especially in Kant's *Metaphysical Foundation of Natural Science* "may be described as the joint ancestors of all modern theories of the structure of matter; the theories of Faraday and Maxwell, of Einstein, de Broglie and Schrödinger, and also of the 'dualism of matter and field'"⁴²⁹. Popper sees modern science's interplay between fields and matter as similar to Kant's dynamic understanding of matter; Popper derides any dualistic view of fields and matter as "crude Cartesian". Thus Popper would seem to agree with Kant's dynamic view of matter.

⁴²⁵ Ibid.

⁴²⁶ Ibid.

⁴²⁷ Ibid., 95.

⁴²⁸ Cf. Ibid., *The Myth of the Framework: In defence of science and rationality*. Routledge, New York 1996, 75: "I have taught [...] that all observations are theory-impregnated, and that their main function is to check and refute, rather than to prove, our theories".

⁴²⁹ Ibid., *The Myth of the Framework: In defence of science and rationality*, Routledge, New York 1996, 117. Future reference to this work as MF.

While Popper admires Kant in many aspects, he criticizes Kant for his rationalist idealism. In his critique of conventionalism on how we create scientific theory, Popper also criticizes Kant's idealism. The conventionalist view of science holds that we impose our laws and theories on nature, which on its own has no structure whatsoever. What we know in science is our laws, not nature. This is a consequence of Kant's placing necessity and universality in us, and not in nature. The conventionalist "does not believe that nature is simple. Only the '*laws of nature*' are simple; and these, the conventionalist holds, are our own free creations"⁴³⁰. It is all by the mind's structuring and subsequent conventions that we determine the world in science; no structure is to be found in nature that would justify such order. "It is this construction which determines the properties of an artificial world: a world of concepts implicitly defined by the natural laws which we have chosen. It is only *this* world of which science speaks"⁴³¹. According to Popper, the conventionalist view of science takes its cue from Kant's transcendental philosophy, and cannot justify going beyond theory to reality. Thus Popper sets his theory in opposition to Kant's transcendental philosophy; as a realist, Popper thinks that science does legitimately make statements regarding reality, whereas Kant and the conventionalists' view would deny any such statements.

As we saw, Kant's *Critique of Pure Reason* sought to justify how scientific theory could be possible, particularly Newton's physical laws. However, with Einstein's theory, we lose the admiration that for two centuries Newton's physics had inspired. Popper summarizes Kant's admiration for Newtonian physics thus:

Never had there been a better theory, nor one more severely tested. Newton's theory not only accurately predicted the orbits of all the planets, including their deviations from Kepler's ellipses, but also the orbits of all their satellites. Moreover, its few simple principles supplied at the same time a celestial mechanics and a terrestrial mechanics. Here was a universally valid system of the world that described the laws of cosmic motion in the simplest and clearest way possible – and with absolute accuracy. [...] It added, apart from the concept of time, only two essentially new concepts to Euclidean geometry: the concept of mass or of a material *mass-point*, and the even more important concept of a directed *force* (*vis* in Latin and *dynamis* in Greek from which the name 'dynamics' for Newton's theory is derived).⁴³²

Newton's mechanical and dynamical laws held sway in Kant's mind, and were the paradigm of science for the Königsberg philosopher. Precisely in his complete acceptance of Newton did Kant's theory of knowledge find its demise: By assuming Newton's theories to be true a priori, his transcendental philosophy was dogmatic. With Einstein's special

⁴³⁰ Ibid., *The Logic of Scientific Discovery*, Taylor & Francis e-Library (Routledge), 2005, 58. Future reference to this work as LSD.

⁴³¹ Ibid.

⁴³² Ibid., CR, 185.

and general theory of relativity, Newtonian physics no longer held the title of “true”, but only a viable theory. Einstein showed that Newton’s “was certainly *not the only possible* system of celestial mechanics that could explain the phenomena in a simple and convincing way”⁴³³. By allowing science to view its theories more correctly – as hypothesis that may approximately explain phenomena, but not as dogmatic truth – Einstein forced a revision of Kant’s theory of knowledge. Popper proposes a re-formulation of Kant’s phrase regarding natural laws:

Kant: “Our intellect does not draw its laws from nature ... but imposes them upon nature”.

Popper: “Our intellect does not draw its laws from nature, but tries – with varying degrees of success – to impose upon nature laws which it freely invents”⁴³⁴.

The difference between the two formulas is how far our intellect achieve in imposing its laws on nature. Since Kant assumed Newton’s laws to be *true*, he supposed the intellects’ laws as *always* successfully imposed on nature. After Einstein, however, we understand “that very different theories and very different interpretations are also possible, and that they may even be superior to Newton’s”⁴³⁵. Whereas Kant assumed that the categories of the understanding obtain universal truth in Newton’s physics, the understanding must now be open to other possible explanations of phenomena. We can only judge theories according to their explanatory power, as allowing us to predict phenomena more accurately. Thus Kant’s theory, while marking a clear watershed moment in the history of human thought, requires serious revision: His assumption of Newton’s natural science as true eschews his philosophy. Popper’s theory of falsification or falsifiability can be seen as an attempt to adjust Kant’s theory to post-Einsteinian scientific theory.

We see that Popper both admires Kant’s theory for its influence, while also demonstrating its inherent weakness, as based on a dogmatic belief in the truth of Newton’s scientific theory. We will present how Popper attempted to situate epistemology within the context of 20th-century scientific theory; we also propose that Popper’s philosophy continues to hold a markedly Kantian basis.

⁴³³ Ibid., 191.

⁴³⁴ Cf. Ibid. Popper does not provide any exact reference for Kant’s formulation.

⁴³⁵ Ibid., 191-192.

2. Sources of knowledge, scientific theory and Popper's critique of induction

In his seminal work *The Logic of Scientific Discovery*, Popper makes important clarifications regarding science and its legitimate goals regarding our knowledge. "Science is not a system of certain, or well-established, statements; nor is it a system which steadily advances towards a state of finality. Our science is not knowledge (*episteme*): it can never claim to have attained truth, or even a substitute for it, such as probability"⁴³⁶. Popper considers science as incapable of achieving systematic knowledge, let alone truth. This is sobering, given Popper's importance in the philosophy of science. What then is to be expected from scientific inquiry, if we cannot attain truth and knowledge (*episteme*)? Science has to do with "the striving for knowledge and the search for truth". Rather than aiming at knowledge, science is only guesswork, based on metaphysical "faith in laws, in regularities which we can uncover-discover"⁴³⁷. Scientific theory is guesswork, based on the metaphysical, non-empirical belief in causal laws and regularity. Science speculates and conjectures as to structures in the physical world.

Contrary to Kant's systematic presentation of the sources of empirical knowledge, Popper professes no interest in identifying the exact sources of our knowing⁴³⁸. Since we cannot know but only guess, then the sources of knowing require little attention: There may be multiple sources, including unconscious ones. More than sources, Popper is interested in the *problem* a given theory or assertion is trying to solve. When faced with concrete problems and possible solutions, experimental tests may then be thought up to refute a proposed solution⁴³⁹. If scientific theories aim at solving problems, then experience and observation are no longer the source and starting point for our knowing. Experience becomes the litmus test for any given theory: "Experience should not be taken as the ultimate 'source of knowledge', but rather as a system of fallible expectations or anticipations which each of us arrives at by trial and error"⁴⁴⁰. We make our conjectures and theories in our minds, as attempts to solve problems that we see around us; experimental testing then seeks to refute those theories, in order to show how far they account for the phenomena.

⁴³⁶ Ibid., LSD, 278.

⁴³⁷ Ibid.

⁴³⁸ Cf. Ibid., CR, 27.

⁴³⁹ Cf. Ibid.

⁴⁴⁰ Ibid., *Realism and the Aim of Science: From the Postscript to the Logic of Scientific Discovery*, Routledge, London 1994, 46–47. Future reference to this work as RAS.

In this process of conjectures and theory-making, there is no known reality beyond us upon which we may solidly build our theories. “Science does not rest upon solid bedrock. The bold structure of its theories rises, as it were, above a swamp. It is like a building erected on piles. The piles are driven down from above into the swamp, but not down to any natural or ‘given’ basis”⁴⁴¹. Our mind drives its theories down into the swamp of reality outside of us, and builds up from a given fundamental level; that level is not “truth” as grounding the rest of the structure, but simply a convenient starting point. Further digging is always possible, because we never reach truth. The subject’s central role in knowing is clearly present, and reality’s role is simply a testing ground for how far a given theory achieves prediction of physical phenomena. No knowledge and truth are attainable in science, but only an approximation to empirical, observable facts.

In an article regarding Berkeley and Mach, Popper summarizes Berkeley’s theory of knowledge in a series of points, each point supported by a direct quote from Berkeley. While Popper does not agree with all the points, his presentation of Berkeley’s critique of Newtonian physics may be seen as a close description of Popper’s own stance. As we saw in the previous section, Newton had managed to predict celestial and terrestrial motion to an enormous degree of accuracy. Berkeley allows for Newton’s theory to be accurate in giving results, but false in Newton’s premises of causality. Berkeley uses the example of gravity: “The view that gravity causally explains the motion of bodies [...] must be discarded”⁴⁴². Berkeley accepts the *results* of Newton’s theory without accepting the *explanation* part of his theory; the distinction is key for Berkeley. The following is a direct quote from Berkeley, as given by Popper:

It is of the greatest importance [...] to distinguish between *mathematical hypotheses* and the *natures [or essences] of things* [...] If we observe this distinction, then all the famous theorems of mechanical philosophy which [...] make it possible to subject the world system [i.e. the solar system] to human calculations, may be preserved; and at the same time, the study of motion will be freed of a thousand pointless trivialities and subtleties, and from [meaningless] abstract ideas (*De Motu*, 66)⁴⁴³.

The subtleties and abstract ideas mentioned by Berkeley include such ideas as causality due to gravity. Newton’s theory allows the physicist to predict motion correctly through mathematics, whereas his attribution of such motion to bodies’ nature or properties is irrelevant. The distinction between phenomenon and reality is certainly present in Popper’s philosophy, and explains why he juxtaposes scientific theory with observed facts. It is pointless to inquire into the natures and essences of things; we only

⁴⁴¹ Ibid., LSD, 94.

⁴⁴² Ibid., 168.

⁴⁴³ Ibid.

have to deal with the mathematical prediction of phenomena according to laws. Those laws are both the height of our knowing, as well as the limit: We cannot say that we derive those laws from things themselves.

Popper's theory of falsifiability seeks to solve the problem of demarcation. He equates his problem of demarcation with Kant's problem of the limits of scientific knowledge⁴⁴⁴. This problem involves "finding a criterion by which we can distinguish between assertions (statements, systems of statements) which belong to the empirical sciences, and assertions which may be described as 'metaphysical'"⁴⁴⁵. For science to be "empirical", its theories must allow us to deduce possible observations that either corroborate or refute them; metaphysics cannot be empirically corroborated or disproven, because it lacks such derivable tests that can be observed. Popper's search for this criterion of demarcation leads to the theory of falsifiability, which we will consider in the following section. In this section, we consider the different theories and proposals that other philosophers and scientists propose as the basis for scientific theory, along with Popper's critique of those attempts. His critique follows in large part Hume's criticism of induction. Popper's criticism of others' positions helps us to appreciate more fully Popper's own stance.

In epistemology and several theories of knowledge, Popper sees a dominant current of what he calls *psychologism*. As an example of this school, Popper takes issue with J.F. Fries. The psychologistic view holds that immediate knowledge is obtained through sensed experience, which then forms the basis of all mediate knowledge and theories including science. Science must necessarily speak of our experience, and "perceptual perception must be the sole 'source of knowledge' of all the empirical sciences"⁴⁴⁶. Truth comes when our ideas agree with our sensed experience, as the basis for all our knowledge. "Science is merely an attempt to classify and describe this perceptual knowledge, these immediate experiences whose truth we cannot doubt"⁴⁴⁷. This school of psychologism relies on sensed perception as the basis for all scientific theory, similar to Locke's theory of knowledge.

Wittgenstein holds a view similar to psychologism, and his philosophy influenced the positivistic school of science. In the problem of demarcation, or the criterion for distinguishing empirical science from metaphysics, Wittgenstein attributes to science the

⁴⁴⁴ Cf. *Ibid.*, 314.

⁴⁴⁵ *Ibid.*

⁴⁴⁶ *Ibid.*, 75.

⁴⁴⁷ *Ibid.*, 76.

characteristic of “meaning” or “sense”. According to Popper, Wittgenstein holds that “every meaningful or senseful proposition must be a truth function of ‘atomic’ propositions, i.e., it must be logically completely reducible to (or deducible from) singular observation statements”⁴⁴⁸. This is similar to the psychologistic view, in that observational statements, like perceptual perception, form the basis for all meaningful statements. Any statement which does not have some observational statement as its basis is metaphysical and meaningless. However, Popper cannot see how such “singular observation statements” can possibly come about through deduction from universal laws in science. “The laws of nature are no more reducible to observation statements than metaphysical utterances”⁴⁴⁹. Not only does Wittgenstein deny any meaning in metaphysics, but his criterion for demarcation would deny any such sense for natural science too. Universal laws cannot result in particular observation statements, since induction from singular, repeated instances cannot hold. Wittgenstein’s criterion of demarcation as derivable empirical statements is too drastic and eliminates any possibility of science.

We already saw Berkeley’s attempt to solve this problem, via his distinction between mathematical and metaphysical theory. Popper refers to Berkeley’s theory and others similar to it as “instrumentalism”: Theories are simply instruments for us to predict phenomena, and so useful for our technology. Berkeley thinks he can save the truth-value of scientific theory through its usefulness as an instrument, without searching into the “occult properties” inherent to the nature of things. Theories serve only for our purposes, without needing to speak about occult properties of things. Popper repeatedly rebuts instrumentalism in his work, remarking that there is no real difference between ordinary language and theoretical, scientific language. We do in fact attribute universal properties to particular things in ordinary, empirical experience. “There is no sharp dividing line between an ‘empirical language’ and a ‘theoretical language’: *we are theorizing all the time*, even when we make the most trivial singular statement”⁴⁵⁰. The instrumentalist distinction does not hold, because universal attributes are a part of ordinary speech, as well as scientific speech. We must address the problem of universals in general.

A final theory of scientific knowledge that Popper opposes is optimistic rationalism. Examples of such optimistic rationalists in science are René Descartes and Francis Bacon, according to Popper.

⁴⁴⁸ Ibid., 314.

⁴⁴⁹ Ibid., 315.

⁴⁵⁰ Ibid., 443. Emphasis in the original.

According to this view, science is an inductive process: it proceeds by the inference of general scientific laws, governing a range of behaviours and properties, from specific observations of specific events or behaviours by specific materials or elements under controlled conditions. On this view, scientific theories are thus inferred from facts about the world, derived from the repeated observation of specific phenomena, and hence, scientific knowledge begins in observations which in turn give rise to theories which aim at universality or generality⁴⁵¹.

This straightforward process from observed individual facts and events towards general theory and laws is a common view of how we form scientific theory. However, a key element of such a theory of scientific law is that we leave behind all prejudices and mental schemas that obstruct our proper observation⁴⁵². Popper criticizes the possibility of such “un-prejudiced” observation. Rather than starting with observed objects in science, we start with our theories and work from there: “We have to ‘make’ our experiences. It is we who always formulate the questions to be put to nature; it is we who try again and again to put these questions so as to elicit a clear-cut ‘yes’ or ‘no’ (for nature does not give an answer unless pressed for it)”⁴⁵³. It is only by confronting our universal statements with experimental phenomena that we come to hold our theory as satisfactory.

The difference between universals and particulars is important to understand human thought. In universal laws and statements, we find a transcendence that goes beyond a given number of instances. “Singular statements transcend experience because the universal terms which normally occur in them entail dispositions to behave in a law-like manner, so that they entail universal laws”⁴⁵⁴. “Dispositional terms” for Popper are properties or propensities to act or behave in a given circumstance. Such terms are necessarily transcendent of any singular observation, because they predict future, unobserved behavior. In a statement as particular and supposedly “observable” as “Here is a glass of water”, Popper sees universal terms that transcend our empirical experience to such a degree that they cannot be related to that experience. Both “glass” and “water” involve such dispositional properties that cannot be gathered from experience. We cannot draw universals from experience, because they transcend the number of experiences or instances we can have. “Universals cannot be reduced to classes of experiences; they cannot be ‘constituted’”⁴⁵⁵. Universals present in ordinary speech reveals to Popper that experience is not the main source of knowing; our mind alone can justify universals.

⁴⁵¹ PARVIN, P., «The Rationalist Tradition and the Problem of Induction: Karl Popper's rejection of epistemological optimism», in *History of European Ideas*, 37 (2011), 261.

⁴⁵² Cf. *Ibid.*

⁴⁵³ POPPER, LSD, 280.

⁴⁵⁴ *Ibid.*, 445.

⁴⁵⁵ *Ibid.*, 76.

If scientific laws are “transcendent” of our particular experience, they are necessarily non-verifiable. For a universal law to be verified, it must be shown to be instantiated in *every* possible case and *every* possible world. Scientific laws clearly cannot be verifiable in this sense, because we simply cannot observe all of history and every possible world. What role do such universal scientific laws play, if they are so “removed” from our experience? We need laws on a daily level, because “there is no such thing as ‘pure experience’, but only experience interpreted in the light of expectations or theories which are ‘transcendent’”⁴⁵⁶. We thus can only see things as interpreted through theory, and never purely as they are in themselves. It is this transcendent character of theory that then allows us to explain singular experiences; only by transcending experience can we hope to explain experience in universal, general terms. Popper does see science as implementing universal terms and statements; he only denies the inductive method that would bridge the gap between observation of particulars and universal theory. The fact that we *do* use universal terms validly indicates that such terms have their basis completely in the mind, and not based on things themselves.

Since theory cannot be induced from observation, neither can we deduce from abstract theory to observable, particular statements as Wittgenstein and the Circle of Vienna propose. What then is the relationship between scientific theory and observation? What role do empirical facts play in science? Observations can come into conflict and refute theory, such that we infer the theory to be false. “The possibility of refuting theories by observations is the basis of all empirical tests”⁴⁵⁷. The gap between universal laws and particular observations is bridged by the confrontation and possible refutation of theory by observation. Popper is insistent on deducing the proper type of observational statement from universal law, in order for such a law to be “empirical”. “From ‘All ravens are black’ we cannot derive any observational statement like ‘There is a black raven here now’”⁴⁵⁸. A law only becomes observable when it *forbids* certain observable facts, such as “There is no white raven here”. If facts are actually observed contrary to what the theory predicts, then we infer that the theory has been falsified. We test our universal laws and statements according to observed facts that would contradict them: “The empirical content of a theory is determined by (and equal to) the class of those observational statements, or basic statements, which *contradict* the theory”⁴⁵⁹. We will consider more closely Popper’s theory of falsifiability in scientific theory in the next section; here we simply how Popper relates universal laws and particular observation.

⁴⁵⁶ Ibid., 446.

⁴⁵⁷ Ibid., 192.

⁴⁵⁸ Ibid., 385.T

⁴⁵⁹ Ibid.

Since no induction is possible from any given amount of observations to universal statements, Popper agrees with Hume. However, Popper also re-reads Hume's criticism of induction and discovers a streak of psychologism in Hume as well. Since Hume came before Kant, he could not appreciate fully the subjective influences and filters that come with our repetition of experiences. Hume thinks that the resemblance between two particular experiences is what causes the mind to associate them; however, Popper sees such similarity as actually "similarity-for-us". Since all our observation is theory-laden and full of subjective interpretations, there can be no such thing as similarity among events or things. Subjective expectation and theory must necessarily precede every experience, and so there cannot be any repetition of events and things as resembling each *other in themselves*⁴⁶⁰. Hume did not appreciate the influence of the knowing subject's theories and interpretations affecting his entire experience.

Popper sees the principle of induction as a non-falsifiable statement, which cannot form the basis for our knowledge. For such an assumption "would amount to the misconceived notion of a synthetic statement which is *a priori* valid, *i.e.* an irrefutable statement about reality"⁴⁶¹. Such induction is seen as necessary to uphold the uniformity of nature, as the necessary principle for scientific laws. However, Popper takes issue with an such inductive logic, since it leads either to an infinite regress in possible instantiations of the law from observation, or to an aprioristic belief in the non-falsifiable principle of induction as metaphysically binding. An infinite regress is impossible, and any aprioristic belief cannot sustain rigorous, empirical scientific theory.

Since no particular, observable statements can be properly deduced from universal theory and laws, "the best we can say of a hypothesis is that up to now it has been able to show its worth, and that it has been more successful than other hypotheses", without ever being "justified, verified, or even shown to be probable"⁴⁶². Such "worth" has been shown by the tests put to it as attempts to refute and falsify it; empirical observation can only lead to falsification, not corroboration or verification. "A basic statement which contradicts a theory *t* may be called a 'potential falsifier' of *t*"⁴⁶³. This is as far as scientific observation may lead us; no truth and verification of our theories can be justified, due to the limits of human knowing.

⁴⁶⁰ Cf. *Ibid.*, CR, 45.

⁴⁶¹ *Ibid.*, LSD, 251-252.

⁴⁶² *Ibid.*, 317.

⁴⁶³ *Ibid.*, CR, 385.

Critics question just how far Popper's doubt regarding induction is actually the same as Hume's doubt. Drieschner sees Hume's doubt as so drastic that no scientific theory could possibly be formulated. "When we take Hume's challenge seriously in a sense that includes the structure of time, namely that *from tomorrow on* everything could be entirely different, then we can say nothing, literally *nothing* about the future"⁴⁶⁴. Such a challenge to saying anything about the future prohibits the possibility of science, as Kant rightfully saw. While Popper appears to agree with such prohibition of induction regarding the future, Drieschner sees him as substituting in his own expression of Hume's doubt. Where Hume doubt or questions all laws of nature, Popper presupposes such laws as existing, and must now find a way for showing the validity of such laws⁴⁶⁵. He thus conflates the two levels of doubt, and substitutes Hume's radical doubt for his own doubt, to pave the way for his falsifiability.

3. The theory of falsifiability in empirical science

Given the impossibility of inducing from particular, observable events to scientific theory, Popper proposes *falsifiability* as the proper criterion of demarcation between science which is empirical, and unobservable metaphysics. Such a theory is based on deduction, rather than induction, as it starts from within our theory and seeks to come up with cases that would falsify it⁴⁶⁶. This criterion of falsifiability requires that statements and systems pretending to assert something about the world be "capable of clashing with experience; or, more precisely, [...] they can be *systematically tested*, that is to say, if they can be subjected [...] to tests which *might* result in their refutation"⁴⁶⁷. If a given theory is to be held as empirical, it must provide a set of empirical observations which, if observed as occurring, would contradict the said theory and so falsify it. Popper thus avoids any need for verification; verification would require *all* cases to be observed and verified, and so goes beyond the limits of human observation. The method adopted by scientists in their theories is to derive certain observable statements that would refute the theory. If those statements are not observed as occurring, then the theory passes the test as not falsified. The amount of tests is potentially infinite, and so no theory can be said to be completely safe from falsifying observation. It is this aspect of being "capable of clashing

⁴⁶⁴ DRIESCHNER, M., «Popper and Synthetic Judgments A Priori», in *Journal for General Philosophy of Science*, 36 (2005), 52.

⁴⁶⁵ Cf. POPPER, CR, 53-54.

⁴⁶⁶ Cf. PARVIN, P., «The rationalist tradition and the problem of induction: Karl Popper's rejection of epistemological optimism», 263.

⁴⁶⁷ POPPER, LSD, 315.

with experience” through tests that grants a given scientific theory its empirical nature. The gap between the universality of scientific theory and observed facts can thus be bridged. “In so far as a scientific statement speaks about reality, it must be falsifiable; and in so far as it is not falsifiable, it does not speak about reality”⁴⁶⁸. Popper proposes this aspect of falsifiability as the guarantee that science is speaking about the real world.

Popper develops the theory of falsifiability by comparing theories such as Freud’s and Adler’s psychoanalysis and Marx’s political science with Einstein’s theory of relativity⁴⁶⁹. He notices that while Freud’s theory can justify and explain all given cases, Einstein’s theory seeks to come up with an empirical experiment that would disprove his theory. This capacity of being disproven by observed experiments is the demarcation criterion between the empirical sciences and non-empirical theories. Non-empirical theories have an apparent advantage: “If all conceivable observations agree with my theory, then I cannot be entitled to claim of any particular observation that it gives empirical support to my theory”⁴⁷⁰. The apparent advantage of agreement in all cases ends up being the downfall of non-empirical science: Its theories cannot “clash with experience” in possible refutability through experiments. This clash is only possible for the empirical sciences. How does a scientist guarantee that his theory is empirical, and so scientific? By answering the question regarding his theory: “Can I describe any possible results of observation or experiment which, if actually reached, would refute my theory? If not, then my theory is clearly not an empirical theory”⁴⁷¹.

What level of certainty can we gain from such falsifiability of scientific theory? Theories are conjectures that we pose in trying to describe reality; by falsifying those conjectures, we show that they are inadequate and do not describe reality. The reigning theory in a given field is not held to be certain and true: It is simply “an attempt to incorporate all the falsifications ever found in the field, by explaining them in the simplest way”⁴⁷². The theory currently held by the scientific community only remains on the level of conjecture, without possibly becoming certain knowledge of reality. Popper does not deny reality outside of us; he simply does not allow for *certain* knowledge of that reality. Our knowledge of reality can only come closer and closer to the observed facts, without ever reaching certainty.

⁴⁶⁸ Ibid., 316.

⁴⁶⁹ Cf. Ibid., RAS, 162-163.

⁴⁷⁰ Ibid., MF, 88.

⁴⁷¹ Ibid.

⁴⁷² Ibid., CR, 116.

In order to test a theory, the scientist comes up with a “class of potential falsifiers”, that is, basic, observable statements that would refute or falsify the theory. The larger the class of potential falsifiers, the higher the degree of falsifiability of the theory; a theory “says more about the world of experience [...] [when] it rules out a larger class of basic statements”⁴⁷³. When potential falsifying observations fail to refute the theory, they become corroboration for the theory. The scientific theorist “aims at restricting the range of permitted events to a minimum”⁴⁷⁴. By so reducing the allowed events, the scientist narrows down his theory to coincide as much as possible with the real world. Thus scientific theory approaches and “explains” reality through tests that would falsify the theory. With the increase of falsifiability, we reduce the amount of permitted events according to the theory; this is how it grows in “empirical content”. A higher amount of empirical content involves closer proximity to observed reality through tests. It is through falsifiability that a scientific theory gains credit as explaining the real world, by passing tests that are genuine attempts to falsify it.

4. The theory of propensities

20th-century science saw an increase in theories related to probability, frequency and statistics, as well as the discovery of the principle of indeterminism in quantum mechanics. Whereas scientific theory beforehand had always been interested in necessary predictions of events, theories of probability come into play with a certain amount of indeterminism. The contrast between determinism in universal laws and the newly discovered indeterminism in probability appears as opposing elements in scientific theory. Popper sees both types of theory as necessary for science, because both allow the scientist “to search for laws which will enable him to deduce predictions”⁴⁷⁵. The scientist’s main aim remains the same, but it now consists in two main areas: formulating both laws leading to “single” or “precision statements” (“deterministic laws”), as well as laws that lead to frequency predictions (“laws asserting probabilities”). Both types of laws may lead to statements of the other type. For example, Popper goes to considerable lengths to show that Heisenberg’s principle of indeterminism is *not* a statement regarding the actual location of a given particle, but regarded *our knowing* with certainty a priori where it will be⁴⁷⁶. In other words, Heisenberg’s principle does not prohibit precision statements themselves, but only our knowledge of location and velocity simultaneously.

⁴⁷³ Ibid., LSD, 96.

⁴⁷⁴ Ibid.

⁴⁷⁵ Ibid., 243.

⁴⁷⁶ Cf. Ibid., 224-242.

In the area of probability laws, we may still make precision, single statements. The two areas are not incompatible, but each area requires its own set of laws and falsification.

Quantum mechanics and the principle of indeterminism, based on laws of probability, seem to threaten science's capacity of determinism through laws. However, Popper shows that science involves both the deterministic *and* the indeterministic view.

Should it ever become possible to work in physics with nothing but frequency statements, then we should still not be entitled to draw indeterminist conclusions; which is to say that we should still not be entitled to assert that "there are no precise laws in nature, no laws from which predictions about the course of single or elementary processes can be deduced". The scientist will never let anything stop him searching for laws, including laws of this kind. And however successfully we might operate with probability estimates, we must not conclude that the search for precision laws is vain⁴⁷⁷.

Science's objective is to formulate empirical laws, and the use of probability does not change that view of the physical world. Scientific theory is still an attempt to predict through laws. To use Kant's terminology, law-governedness is our way of conceiving reality, and we can only come to know the world through some sort of constant law.

In the area of the laws of probability and frequencies, Popper proposes his theory of *propensity* as an explanation of those laws. Frequencies occur as the repetition of a given experiment; propensity refers to "the disposition (or whatever you may wish to call it) of the set-up to *produce these frequencies*, if only the experiment is repeated sufficiently often"⁴⁷⁸. Propensities are more than mere frequencies: They form the basis of frequencies. Some rare events may be too difficult to replicate or repeat sufficiently to produce any type of frequency; however, such events would still have propensities to occur. "Propensities are dispositions to produce frequencies"⁴⁷⁹. It is in view of the new field of probability theory and frequencies that Popper develops his theory of propensities.

If propensities "produce" frequencies, then we may consider frequencies "as the results, or the outward expressions, or the appearances, of a hidden and not directly observable physical disposition or tendency or propensity"⁴⁸⁰. Popper defends his propensities against any criticism of obscurantism or "occult qualities" from classical metaphysics: "These propensities are physically real in the sense in which, say, attractive or repulsive forces may be physically real"⁴⁸¹. Popper holds propensities as the

⁴⁷⁷ Ibid., 243-244.

⁴⁷⁸ Ibid., RAS, 397.

⁴⁷⁹ Ibid.

⁴⁸⁰ Ibid., 286.

⁴⁸¹ Ibid., 286-287.

unobservable basis for the observable frequency of certain behavior and phenomena. He understands that scientists and theorists may attempt to avoid any such hidden or occult physical reality, but eventually scientists must give some explanation involving an unobservable basis. Popper holds his propensity theory as providing a solid, explanatory basis for frequency theory in science⁴⁸².

By drawing a parallel with the concept of “force”, Popper explains his idea of propensities. The concept of forces allows us to describe a “dispositional physical entity” through equations that explain observable acceleration; the observable leads us to formulate and test the equations of unobservable forces. In a similar way the concept of propensity “introduces a dispositional property of singular physical experimental arrangements – that is to say, of singular physical events – in order to explain observable frequencies”⁴⁸³. The probability laws of science have propensities as their basis, as dispositions to behave or act in a certain way. Popper considers his theory of propensities as useful for explaining scientific theory, because it allows such theory to be “concerned with the properties of an unobservable physical reality”. Since we can only observe reality’s more superficial aspects, those aspects are what then allows us to test the propensities that underlie such observable aspects. Popper’s theory of propensities is an attempt to justify science’s theories as explaining the observable in terms of the unobservable propensities.

Against those who would read into his propensities anything like Aristotle’s accidents, faculties or essences, Popper draws the distinction between inherent and relational properties. Aristotle’s faculties are held to be properties of things themselves, as more or less inherent to their essence. Popper’s propensities are related to frequency theories, and so only regard *relations*: In order for a frequency theory to work, the conditions must be held constant. It is only in this *relationship* of a given situation and a set of determined factors that the frequency can be studied, as leading to the discovery of the underlying propensities. For example, to determine the frequency of heads or tails when flipping a coin, the propensity of either result is not inherent to the coin itself, but rather to the given *factors* in the experiment. Popper again draws a parallel with the concept of force, to stress how propensities are relational and not essential: “Newtonian force is not a property of a thing but a relational property of at least two things; and the actual resulting forces in a physical system are always a property of the whole physical

⁴⁸² Cf. Ibid.

⁴⁸³ Ibid., 351.

system. Force, like propensity, is a relational concept⁴⁸⁴. Similar to Kant's consideration of substance in terms of force, Popper considers propensities as properties related more with systems than with individual objects. Popper avoids asserting any metaphysical judgment about things in themselves, but merely speaks about relationships between things in an overall system. Our theories can only go as far as relational systems; things themselves are beyond our knowing.

In comparing forces and propensities to the primary and secondary qualities of the essentialists, Popper sees force as another layer of reality, beyond or beneath the observable phenomenon or secondary qualities. These "layers of reality" are attempts to explain other, more immediate layers; it is the power of explanation that motivates science to search for ever deeper layers of reality. Popper considers the concept of forces and fields of forces as an explanatory layer of reality beyond the primary qualities, such as extension and shape. Those primary qualities are held in their turn to be the explanatory cause of the secondary qualities. Just as the primary and the secondary qualities are held to be "equally real – that is, conjectured to be real; and so [we conjecture as real] forces, and fields of forces, in spite of their undoubted hypothetical or conjectural character"⁴⁸⁵. Forces and propensities can be considered hypothetical, theoretical layers of reality, in that they allow for explanation of primary and secondary qualities.

Popper's theory of propensities can be considered as his "metaphysical theory", alongside his "epistemological theory" of falsifiability in empirical science. Propensities allow us to understand certain dispositions that we observe in frequency laws. Those dispositions are layers of unobservable reality that can be determined through observable tests. Thus propensities gain explanatory power of observable phenomena. However Popper is adamant in avoiding anything like Aristotelian essentialism, by attributing such propensities to things in themselves; they are only ever relational, as the factors in the given circumstances of an experiment that lead to the frequency of results. Popper's metaphysical theory of propensity is thus similar to Kant's Third Analogy of interaction, which allows knowledge of a given object or event within the overall system. Propensities are of systems and not things. And, as we saw at the conclusion of the section regarding Popper's theory of falsifiability, theories and systems are only ours, and can only hope to get closer and closer to reality, before clashing with observed phenomena. As such, theories are only ever of our minds, and do not regard properties of things outside of us.

⁴⁸⁴ Ibid., 359.

⁴⁸⁵ Ibid., CR, 116.

5. Scientific theory and reality: Popper's concept of truth

How far can scientific theory reach in explaining reality? And what role do metaphysical views hold in the scientist's search for explanation? True to form, Popper explains his own position by juxtaposing it with other positions. One example of explanatory scientific theory is Newton's theory; by attributing physical phenomena to things' nature, Newton adopts an essentialist view of reality. Popper attributes science's stunted growth until the late 19th century as due to Newton's essentialist outlook of reality. Since Newton's theory is a mathematical explanation of the nature of matter, he successfully explains matter's behavior. But when Newton seeks essential explanation, as properties inhering to things' essences, he can only justify his theory by supposing "that God endowed matter with these essential properties"⁴⁸⁶. Popper regards this essentialist explanation as a hindrance to subsequent science, because "it prevent[s] fruitful questions from being raised, such as, 'What is the cause of gravity?'"⁴⁸⁷. Popper sees essentialists' explanation of empirical phenomenon through "occult" qualities as inhibitive of scientific progress. Popper cannot allow science to hold any such "extra-scientific belief" like essentialism.

Popper sees philosophy's proper role as providing science with problems to solve. Philosophy itself is irrefutable, because like Freud's and Marx's theories philosophy does not allow any falsifiability. However philosophy does provide science with "a problem-situation and its underlying assumptions", along with the possible ways of solving it⁴⁸⁸. Popper is not an adversary to metaphysical thought, like the positivists or instrumentalists. He sees metaphysical concepts as key in leading to subsequent scientific discoveries. By way of example, Popper cites such metaphysical ideas as "atomism; the idea of a single physical 'principle' or ultimate element (from which the others derive); the theory of terrestrial motion [...]; the age-old corpuscular theory of light; the fluid-theory of electricity"⁴⁸⁹. Such metaphysical ideas allow scientists and philosophers to seek causal relationships between things, leading them to fruitful discoveries (besides many failed hypotheses). Those ideas become true science only once they are formulated "in falsifiable form; that is to say, only when it has become possible to decide empirically between [them] and some rival theory"⁴⁹⁰. The motivation behind empirical theory is often a metaphysical idea, as trying to solve a certain problem.

⁴⁸⁶ Ibid., 106.

⁴⁸⁷ Ibid.

⁴⁸⁸ Ibid., 200.

⁴⁸⁹ Ibid., LSD, 277-278.

⁴⁹⁰ Ibid., 278.

This task of solving problems arises from philosophy and reaches satisfactory, empirical solution in science. Science is based on the metaphysical belief in causality, and the law of causality appears to be extremely fertile, as a stimulation for scientists to search for constant laws. Such a belief in causality is metaphysical, and Popper sees it as “a typical metaphysical hypostatization of a well justified methodological rule – the scientist’s decision never to abandon his search for laws”⁴⁹¹. However, by calling causality a “hypostatization” of a methodological rule, Popper relegates it completely to the subjective realm of theory-searching. As knowing subjects we impose regularity on the world around us, while there is no grounding for such regularity in reality itself. There can be no pure experience or observation, but only observation from a theory-laden mind⁴⁹². The mind’s role is thus primordial in formulating scientific theory and subsequently testing that theory in observable experiments.

Scientific theory is our attempt to explain change through unchanging, universal laws. As we saw in the section regarding universals and particulars, there is no logical way to arrive at universal laws through induction from particular facts. The “truth” value of any given theory does not lay in its absolute validity; “there simply is *no* reason to believe in the *truth* (or the probability) of any particular set of conjectures which we call a physical theory”⁴⁹³. Popper does not allow for any truth-value in our scientific knowledge. Since we cannot know things as they are, the furthest our physical laws and theories may reach is “a better *approximation to the truth*”⁴⁹⁴. Popper describes this “approximation to the truth” in scientific theory:

A certain theory appears to be the best available (that is to say, the best so far submitted to examination and discussion), that it appears to solve much of the problem it was designed to solve, and that it has survived the severest tests that we were able to devise. But this does not, of course, establish the theory as true (that is to say, as corresponding to the facts, or as an adequate description of reality) – although we may say that what such a positive verdict amounts to is that, in the light of our critical discussion, the theory appears to be the best approximation to the truth so far attained. In fact, the idea of “better approximation to the truth” is at once the main standard of our critical discussion and an aim we hope to attain as a result of that discussion⁴⁹⁵.

The most a theory can attain is an approximation that has withstood tests of falsification and has shown itself to pass attempts to falsify it. Other secondary criteria for accepting a theory are its explanatory power and its simplicity. The approximation to the

⁴⁹¹ Ibid., 245.

⁴⁹² Cf. Ibid., MF, 75.

⁴⁹³ Ibid., RAS, 67.

⁴⁹⁴ Ibid.

⁴⁹⁵ Ibid., MF, 104.

truth does not rely on basic empirical observational statements, like the positivists hold. There are no such “basic statements” that support the entire edifice of empirical theory; we can always demand a further, more basic statement. If we do stop at certain (*not* absolute) statements, it is because we choose to accept them without further question for now. Such a stopping point is reached by a consensus among members of the scientific, critical community, as relatively basic and clear⁴⁹⁶. However, those stopping points cannot be held as *absolutely* basic. This chain of basic statements, one founding another, is certainly infinite in its regression. “But this kind of ‘*infinite regress*’ is also innocuous since in our theory there is no question of trying to prove any statements by means of it”⁴⁹⁷. The furthest we may know is whether or not a given theory has been falsified in empirical experiments. A statement is “basic” to the extent that it is generally agreed upon as sufficiently clear; it is never absolutely so, since it may always be grounded further.

An important coincidence between Kant and Popper appears in Popper’s description of science’s search for truth. Since we cannot know anything with certainty, we search for truth without any clear criterion. Truth, like reality, does indeed exist, and “we have no criterion of truth, but are nevertheless guided by the idea of truth as a *regulative principle* (as Kant or Peirce might have said); and that, though there are no general criteria by which we can recognize truth [...], there are criteria of progress towards the truth”⁴⁹⁸. A regulative principle for Kant provides a reference towards which we constantly tend, without possibly reaching it; his corresponding image is that of the horizon, as we saw above⁴⁹⁹. Popper uses a different image to explain truth as a *regulative principle*: someone climbing a mountain, whose peak is always hidden in the clouds. The climber cannot tell if he has reached the main peak, or simply a lower one; he admits that the peak exists but is unable to see it, just as the scientist knows that there exists a concrete and definitive reality described in scientific theory. The scientist can only discard theories as they are falsified; he can never assert a given theory as true, but only as an approximation, a “subsidiary peak” as it were. The main summit of truth remains always unknown. Truth as a regulative idea allows us to compare scientific theories with one another. By “comparing them, we try to find the one which we judge comes nearest to the (unknown) truth”⁵⁰⁰.

⁴⁹⁶ Cf. Ibid., LSD, 86.

⁴⁹⁷ Ibid., 87.

⁴⁹⁸ Ibid., CR, 226.

⁴⁹⁹ Cf. Kant on the proper use of reason, pages 98 to 100 above.

⁵⁰⁰ POPPER, MF, 161.

Popper does not allow for any absolute known truth, but does admit a regulative idea of truth, as allowing us to compare theories. Thus, he does not give up on the possibility of truth, but denies our certainty of knowing truth. Popper has set the bounds of reason similar to Kant's bounds. "Given the fallibility of reason [according to Popper] the search for truth should be understood as a process of trial and error, conjecture and refutation rather than an optimistic search for irrefutable foundations or first principles verifiable by an appeal to bare reason"⁵⁰¹. Popper's empiricism appears to provide us with more of an objective standard to test our theories and knowledge than in Kant's CPR; however, uncertainty in knowledge remains.

In conclusion of Popper's thought, both in epistemology and in metaphysics, we present his "third view", as he himself termed it. He places it as between the two opposing theories – already presented above – of essentialism (Descartes, Galileo and Newton) and instrumentalism or positivism (Berkeley, Mach and Carnap). In agreement with essentialism, "in science we always try to explain the known by the unknown, the observed (and observable) by the unobserved"⁵⁰². In contrast with essentialism, Popper's third view of science aims at true theories, while never being absolutely certain of its truth. Berkeley's position is much more similar to the third view than essentialism; Popper only laments that Berkeley failed to recognize all science as conjecture, even its laws. He provides the following quote from Berkeley, as an accurate summary of his third view: "It is one thing to arrive at general laws of nature from a contemplation of the phenomena; and another to frame an hypothesis, and from thence deduce the phenomena"⁵⁰³. Popper's third view follows the second option, as planting a hypothesis and deducing the phenomena. No amount of observing phenomena can lead us to universal laws, since induction from particulars to universals is impossible.

In this third view, Popper contrasts his goal of explanation with that of the essentialists: "Essentialism looks upon our ordinary world as mere appearances behind which it discovers the real world"⁵⁰⁴. This explanation of appearances through real, ultimate principles is impossible. Each theory does rely on a further, higher, more abstract theory, but there is no "essential or ultimate reality" providing ultimate explanation. The third view allows for scientific theories as descriptions of the further worlds that explain observable phenomena. The difference between this and essentialism is that each level

⁵⁰¹ PARVIN, «The rationalist tradition and the problem of induction: Karl Popper's rejection of epistemological optimism», 264.

⁵⁰² POPPER, CR, 174.

⁵⁰³ Cited by Popper as S, 228, in CR, 174.

⁵⁰⁴ Ibid., CR, 115.

of explanation, or “world” as Popper calls them, is equally real as layers of the real world⁵⁰⁵; we do not reach ultimate explanation.

6. Conclusions on Popper

Karl Popper’s philosophy of science can be seen as the 20th-century consequence of Kant’s transcendental philosophy, adapted to science’s different approach towards reality. While Kant’s philosophy is based on Newton’s physics as true, Popper adapts science’s aims to new theories of the physical world, exemplified in Einstein’s or Heisenberg’s theories. Popper continues Kant’s position of subjective, mental categories as determining our perception of the world, and so makes theory relative and adapting constantly to observation of reality. Kant’s categories are set, unchanging determinations, in line with Newton’s unchanging, universal laws. Popper’s theories are nets that are cast out upon reality, as attempts to capture as much of reality as possible⁵⁰⁶. Since scientific theories have lost the dogmatic, truth-character that they held in Kant’s time, our knowledge through theories also adapts. Popper’s philosophy is an attempt to give post-Newtonian science a proper philosophical basis.

Kant does not allow for knowledge of things in themselves, but only of appearances in us. His Copernican revolution means that the mind’s categories are what determine objects and how they can possibly appear in us as objects. Popper’s view of all observation as “theory-laden” follows suit, insofar as our observation of empirical facts is filtered through our theories, similar to Kant’s categories. Scientific theories cannot be induced from particular observations to universal laws, because such induction is impossible to realize. Since scientific laws do in fact purport to be universal, Popper sees such universality as for us and from us, not real. Causality is simply a characteristic of how our mind thinks, a methodical rule for how we view the world, as us “needing” constancy and structure. Such constancy is not to be found in reality as it is; it is the knowing subject’s categories that produce such constancy and causality. We are the ones who seek to know explanation beyond empirical facts.

The one bridge for Popper between universal, scientific theory and laws and empirical reality is the possibility of collision in falsification. Only when we can deduce certain falsifying experiments from a given law, can we say that the law is empirical; and

⁵⁰⁵ Cf. Ibid.

⁵⁰⁶ Cf. Ibid., LSD, 37-38.

we must submit laws to as many falsifying experiments as possible. With each test that it passes, a theory or law is corroborated and solidified. Thus it becomes a closer approximation to the truth, without ever pretending to be *true*. Such certain knowledge of truth is impossible, since we cannot know things as they are. Our theories and knowledge itself are simply attempts to explain reality as best we can. For all his importance among the empirical sciences, Popper repeatedly argues against our drawing in information from reality, in observation; such observation of particulars can never reach universal theory. And so he must start from the universal level itself, within the mind, in Kantian fashion. He keeps an element of empiricism in testing theories with experiments and falsification; however his starting point is only ever our minds. Things remain beyond the nets of our theories, as we deal with appearances.

CHAPTER 4: A PROBLEM OF TWO DIFFERENT WORLDS?

As we conclude this part on Kant's theory of knowledge, we wish to draw together the key proposals and problems that have risen throughout the previous chapters. I adopt Kant's statement of the problem as the guiding question throughout this thesis: "What is the ground of the relation of that in us which we call 'representation' to the object?"⁵⁰⁷ Given Kant's subsequent influence on science and theories of knowledge even today, we focus on his attempts to solve this question.

Important thinkers influence how Kant views the interaction between our knowing and things. John Locke's empiricist studies of the Ideas and their correspondence with reality are clearly predecessors to Kant's theory. While primary qualities in bodies produce Ideas in us without fail, Locke does not see any further justification for the correspondence between our images and reality, other than God himself: "Simple Ideas, which since the Mind, as has been shewed, can by no means make to it self, must necessarily be the product of Things operating on the Mind in a natural way, and producing therein those Perceptions which by the Wisdom and Will of our Maker they are ordained and adapted to"⁵⁰⁸. Even less certain are secondary qualities, which are somehow based on the primary ones but only ever exist in us; Locke's justification for this position is God's ordinance. However, a certain amount of subjectivity is present in sensed knowledge in Locke; in the CPR Kant will use the phrase "in us" and "for us" much to his advantage.

Already before Locke, 14th-century scholastics considered our mental images ("species" in the Latin) as somehow evoked in our minds by God. William of Ockham considered that God's absolute omnipotence could evoke a representation in our minds without any corresponding object in reality outside of us. This possibility affects to a radical degree how certain we may be regarding our knowledge through representations. For Locke, as well as for Descartes, God's good-will towards us is enough to conclude on an object corresponding to our mental image or species. We can be sure that where our mental image sees an object, God guarantees its truth-value or correspondence in reality. Kant himself accepted such divine intervention at the start of his career; however, he decidedly shifted away from any such divine intervention in how we know, and sought to

⁵⁰⁷ KANT, I., Letter to M. Herz, X:130. "*Ich frug mich nemlich selbst: auf welchem Grunde beruhet die Beziehung desienigen, was man in uns Vorstellung nennt, auf den Gegenstand?*"

⁵⁰⁸ LOCKE, EHU, Bk. 4, Ch. 4, §4.

found knowing from within ourselves⁵⁰⁹. Nevertheless, even after having placed God as a Transcendent Idea as of 1781, Kant still appeals to our divine maker in his 1789 letter to Herz, in order to justify the pre-established harmony between the two alien sources of knowledge: sensed intuition and the understanding⁵¹⁰. We find God being invoked to fill in for Kant's gratuitous assertions, much like previous philosophers.

David Hume approaches the problem of knowing ambiguously. His Copy Theory of impressions would have us perceiving things exactly as they are. However, the imagination also plays an important role in our perception: By the imagination's habits we weave all particular, isolated perceptions into an ordered whole.

As all simple ideas may be separated by the imagination, and may be united again in what form it pleases, nothing would be more unaccountable than the operations of that faculty, were it not guided by some universal principles, which render it, in some measure, uniform with itself in all times and places. Were ideas entirely loose and unconnected, chance alone would join them; and 'tis impossible the same simple ideas should fall regularly into complex ones (as they commonly do) without some bond of union among them, some associating quality, by which one idea naturally introduces another⁵¹¹.

Hume's problem of induction regarding how we go from particulars to general thought receives a basis in the imagination. While we only ever perceive determinate particulars in perception, Hume realizes that some ideas – equality and existence – must be due to the imagination's power. Westphal draws out this important anomaly to Hume's overall thesis of empiricism:

Hume's account of our ideas of space and time have long been regarded as anomalies in, if not exceptions to, Hume's theory of ideas and his account of the generality of thought. I argue that these ideas are not anomalous, but rather are typical of Hume's account of the generality of thought in terms of "general ideas," which account ultimately undermines Hume's official empiricist commitment to the sufficiency of the Copy Theory, Concept Empiricism and the three official laws of psychological association⁵¹².

⁵⁰⁹ For the relationship between scholastics Dun Scotus and William of Ockham, and Kant, see DE MURALT, A., «Kant, le dernier occamien. Une nouvelle définition de la philosophie modern», in *Revue de métaphysique et de morale*, 80 (1975) 1, 32-53.

⁵¹⁰ Cf. KANT, AA 11:52, as cited by VILLINGER, R., «Recovering the 'True Meaning' of the Pre-Established Harmony: On a Neglected Key to Kant's Theory of Intuition», in *Kant-Studien*, 108 (2017) 3, 364. "I have [...] strongly convinced myself that Leibniz with his pre-established harmony [...] had in view not the harmony of two different beings, namely sensible and intelligible beings, but of two different capacities of the very same being, in whom sensibility and understanding harmonize to give rise to an empirical cognition, of whose source [viz, the harmony], if we wanted to judge it, even though such investigation lies completely beyond the bounds of human reason, we could give no further ground than our divine creator, though since it is indeed given we can completely explain the justification of a priori judgment by means of it (i. e. the quid juris)".

⁵¹¹ HUME, THN, 1.1.4.1.

⁵¹² WESTPHAL, K., «Hume, Empiricism and the Generality of Thought», 237.

4.1. Kant's world of the mind: conceptual possibility over actual existence

Hume's theory of the imagination gives an important precedent for Kant, since it holds much of our knowledge to be a product of the mind's operations. What determines the object is not things themselves; it is the mind that determines its object. As proof of this ubiquitous determining, Kant uses the example of bodies as extended. Since they are always presented as extended, such extension is necessarily a part of bodies' presentation in us. That necessity can only come from the apperception, because nothing in reality is sufficient ground for necessity. Thus, the ground of the object's determinations – such as extension and solidity – lies completely in the apperception⁵¹³.

Along with Locke and Hume's dual sources of knowledge, Kant follows their example of neglecting to address the interplay between our senses and the understanding⁵¹⁴. As we have seen, Maimon and Schelling criticize Kant for assuming the interaction of senses and the mind in knowledge, without addressing how this could possibly be so. Kant must simply accept the interplay of two such heterogeneous sources, as disposed by the will of the divine maker.

Kant allows for the mind's concepts to be used legitimately, when applied to empirical intuition; he thus avoids absolute idealism in the mind's determining reality. Yet, what is gained from sensed intuition according to Kant? Very little: Intensity in perception is the guarantee of reality existing outside of us⁵¹⁵. Nothing more comes from sensed intuition beyond intensity: Intuition's form – space and time – are in us. Kant gradually comes to consider the mind as all-determining of the object, with the senses' stimulation simply providing the occasion for the understanding's spontaneous application of its categories to the otherwise amorphous object⁵¹⁶.

A key element for Kant is the possibility of knowing a priori. In order for cognition to reach full status as certain knowledge, it must be a priori to all empirical experience. This a priori character of knowing is what proves that we can never know things themselves: "[M]y understanding would have to conform to them; they would therefore have to be given to me in advance so that these determinations could be drawn from

⁵¹³ Cf. KANT, CPR, A106.

⁵¹⁴ Cf. YOLTON, «The Concept of Experience in Locke and Hume», 70-71.

⁵¹⁵ Cf. Ibid., A170/B212.

⁵¹⁶ Cf. PRIETO LÓPEZ, «El Opus postumum de Kant: la resolución de la física en filosofía trascendental», 457.

them, but then they would not be cognized *a priori*⁵¹⁷. Such reliance or dependence on things would obstruct cognition *a priori*. If *a priori* knowledge is kept independent from sensed intuition of particular, how do we justify our applying universal concepts to particulars?

If senses only regard particulars, where do the universals in our thought come from? How do we arrive at universal concepts? What justifies us to speak of things in universal terms? Locke sees universals as bundles for easier reference to things in classes, rather than the cumbersome reference to particulars only⁵¹⁸. Hume views all connections and groupings of sensed perceptions as wholly the mind's doing; he asserted that there can be no induction from particulars to universals. Popper follows suit in his *The Logic of Scientific Discovery*⁵¹⁹. Thus universals clearly have their basis in our minds, and not in things themselves. Kant holds that all law-governedness observed in nature is completely based in our minds, and never things themselves:

I suppose it sounds quite preposterous and strange that nature should conform to our subjective basis, apperception—indeed, that nature should in regard to its law-governedness depend on this basis. But we must bear in mind that this nature is intrinsically nothing but a sum of appearances, and hence is not a thing in itself but is merely a multitude of the mind's presentations. If we bear this in mind, then we shall not be surprised that we see nature in its unity merely in the root power for all our cognition, viz., in transcendental apperception⁵²⁰.

Thus knowledge only come from the mind. Experience in sensed intuition plays a secondary role for Kant, since the mind's spontaneity and concepts contribute all that is valuable in cognition. After all, "experience teaches me what there is and how it is, but never that it necessarily must be so and not otherwise. Therefore [experience] can never teach me the nature of things in themselves"⁵²¹. Certain knowledge for Kant has to do with the necessary, and so mere experience is of little interest or value. While Locke holds the senses as guaranteeing all clear Ideas, Kant places true knowledge firmly within the mind.

⁵¹⁷ KANT, *Prolegomena*, 46 [4:294]. "Mein Verstand müßte sich nach ihnen richten; sie [die Dinge] müßten also mir vorher gegeben sein, um diese Bestimmungen von ihnen abzunehmen; alsdann aber wären sie nicht *a priori* erkannt".

⁵¹⁸ Cf. LOCKE, *EHU*, Bk. 2, Ch. 32, §6.

⁵¹⁹ Cf. POPPER, *LSD*, 76.

⁵²⁰ KANT, *CPR*, A114. "Daß die Natur sich nach unserm subjectiven Grunde der Apperception richten, ja gar davon in Ansehung ihrer Gesetzmäßigkeit abhängen solle, lautet wohl sehr widersinnisch und befremdlich. Bedenkt man aber, daß diese Natur an sich nichts als ein Inbegriff von Erscheinungen, mithin kein Ding an sich, sondern blos eine Menge von Vorstellungen des Gemüths sei, so wird man sich nicht wundern, sie blos in dem Radicalvermögen aller unsrer Erkenntniß, nämlich der transscendentalen Apperception, in derjenigen Einheit zu sehen, um deren willen allein sie Object aller möglichen Erfahrung, d.i. Natur, heißen kann".

⁵²¹ *Ibid.*, *Prolegomena*, 46-47 [4:294]. "Nun lehrt mich die Erfahrung zwar, was dasei, und wie es sei, niemals aber, daß es nothwendiger Weise so und nicht anders sein müsse. Also kann sie die Natur der Dinge an sich selbst niemals lehren".

Here he follows suit with Leibniz's rationalism. According to Kant, experience only tells us of existence, which plays a minor role in scientific knowledge of what is necessary.

Since things in themselves have no clear relation with the sensed qualities aroused in the senses, Kant focuses solely on the mind's determining role in what the object of experience is. Things themselves give us no further matter for knowledge than a mere stimulus for the senses; the apperception takes over from there. In his piece *On a discovery* against Eberhard, we have a strikingly clear summary of Kant's entire theory of how we know. As one of Kant's clearest expressions of his transcendental philosophy, I quote it at length:

I am instructed by the *Critique* to omit all that is empirical or sensibly real in space and time, and thus to abolish all things in their empirical representation, and I then find that space and time remain over, like single beings, whose intuition precedes all concepts of them and of the things in them; and that given such a constitution for these ordinary modes of representation, I am nevermore to think of them as anything but merely subjective (though positive) forms of my sensibility (not merely as a lack of clarity in the representations obtained through them), not as forms of *things-in-themselves*, but only as forms of the objects of all sensory intuition, and hence of mere appearances. From this it now becomes clear to me, not only how synthetic cognitions *a priori* may be possible in both mathematics and natural science, in that these *a priori* intuitions make this extension possible, and the synthetic unity which the understanding must in each case give to the manifold in order to think an object thereof makes it actual; but I must also realize that, since the understanding for its part cannot intuit, these synthetic propositions *a priori* cannot be extended beyond the limits of sensory intuition⁵²².

The mind's role in knowing becomes decisive in Kant, to the point that its synthesis makes the object actual, or real in a certain respect. Outside of the mind's concepts the object has not entity, reality or properties as pertaining to itself; it receives all from the mind's determining concepts and forms. Physical reality has a minimum status, as consisting in stimulating the senses. All the rest of knowledge is attributed to our minds.

Knowledge in the mind takes precedence over experience in sensed intuition. Thus, Kant's study becomes focused on studying the concepts of the mind: "The question regarding the being of the thing and regarding the reality of that which is turns into the

⁵²² Ibid., 327-328 [8:240]. "Jetzt werde ich durch die Kritik angewiesen, alles Empirische oder Wirklich-Empfindbare im Raum und der Zeit wegzulassen, mithin alle | Dinge ihrer empirischen Vorstellung nach zu vernichten, und so finde ich, daß Raum und Zeit gleich als einzelne Wesen übrig bleiben, von denen die Anschauung vor allen Begriffen von ihnen und der Dinge in ihnen vorhergeht, bei welcher Beschaffenheit dieser ursprünglichen Vorstellungsarten ich sie mir nimmermehr anders, als bloße subjective (aber positive) Formen meiner Sinnlichkeit (nicht blos als Mangel der Deutlichkeit der Vorstellungen durch dieselbe), nicht als Formen der Dinge an sich selbst, also nur der Objecte aller sinnlichen Anschauung, mithin bloßer Erscheinungen denken müsse. Hiedurch wird mir nun klar, nicht allein wie synthetische Erkenntnisse *a priori* sowohl in der Mathematik als Naturwissenschaft möglich seien, indem jene Anschauungen *a priori* diese Erweiterung möglich und die synthetische Einheit, welche der Verstand allemal dem Mannigfaltigen derselben geben muß, um ein Object derselben zu denken, sie wirklich machen; sondern muß auch zugleich inne werden, daß, da der Verstand seinerseits nicht auch anschauen kann, jene synthetische Sätze *a priori* über die Grenzen der sinnlichen Anschauung hinaus nicht getrieben werden können".

question regarding the being and reality of the concept (*Begriff*), which in turn becomes the question about the possibility of the synthesis of determinations, produced in the concept"⁵²³. The concepts of the mind become all-determining in knowledge. And Kant argues that the concepts alone are the a priori conditions for knowledge in experience; if such knowledge comes about – as clearly it does –, then Kant's conditions for such knowledge are proven to be true. One wonders why these are the only possible conditions for how we know, and if other means of experience might lead to a more convincing explanation of how we know, without relying solely on our minds. Kant has nonetheless decided upon the concepts of the mind as the fundamental condition.

Regarding the conditions for knowing, Kant reduces all experience to our possibility of knowing. "The possibility of experience means nothing else for Kant but the possibility of knowing 'whether any object at all can be subsumed by the concept, as that in which we can see that a possibility of this sort exists' (B412)"⁵²⁴. While such concepts must refer to intuition regarding the object's existence, such existence is a secondary mode of being; the concepts are what grant knowledge its universal and necessary character. The mind's concepts are the determining factor.

If the mind's concepts play the determining role, what is reality's – specifically physical reality's – role in knowing? Reality regards extra-mental existence, as being. Yet "being" is not a predicate for Kant⁵²⁵. By saying that something is, nothing is added to our concept of the object. "Being does not add any new predicate to the concept, which concept expresses pure possibility. Rather, being puts 'the object itself into relation with my concept' (A599/B627), as that which is thought in the concept"⁵²⁶. Being is simply the object's being placed, as it is thought in relationship to the concept. The mind's use for such being is the matter to which the mind to apply its concepts; reality and being provide nothing more for knowledge. Already from his 1763 work regarding the only proof for the

⁵²³ HONNEFELDER, L., *Scientia Transcendens: Die formale Bestimmung der Seiendheit und Realität in der Metaphysik des Mittelalters und der Neuzeit (Duns Scotus – Suárez – Wolff – Kant – Peirce)*, Felix Meiner, Hamburg 1990, 444. Future reference to this work as ST. "Die Frage nach der Seiendheit des Seienden und nach der Realität des Realen zur Frage nach der Seiendheit und Realität des Begriffs und diese wiederum zur Frage nach der Möglichkeit der im Begriff erfaßten Einheit der Bestimmungen wird". All translations of this work are the author's.

⁵²⁴ Ibid., 451. "Möglichkeit der Erfahrung für Kant nichts anderes bedeutet als Möglichkeit des Wissens, «ob (dem Begriff) überall ein Gegenstand zukommen könne, indem man die Möglichkeit einer solchen Art zu existieren einsieht»".

⁵²⁵ Cf. KANT, CPR, A598/B626. "Being is obviously not a real predicate, i.e., it is not a concept of anything that can be added to the concept of a thing". "Sein ist offenbar kein reales Prädicat, d.i. ein Begriff von irgend etwas, was zu dem Begriffe eines Dinges hinzukommen könne".

⁵²⁶ HONNEFELDER, ST, 469. "Sie setzt zum Begriff, der die bloße Möglichkeit ausdrückt, kein neues Prädikat hinzu, sondern setzt «den Gegenstand selbst in Beziehung auf meinen Begriff» (A599/B627; auch A639/B667), d. h. als den, der im Begriff gedacht wird".

existence of God, Kant sees existence as adding nothing to the concept of a thing; it is a mere “positing”. “Instead of a predicate, Kant argues that existence is ‘the absolute positing of a thing’ (2:73: CE 119). As he clarifies, the claim that ‘X exists’ does not express a relation between a subject (X) and a predicate (existence) but the (modal) position of a complete set of predicates included in the subject”⁵²⁷. Conceptual possibility takes precedence over reality and existence for Kant, as a step further in granting priority to the understanding over the senses in knowledge.

4.2. Kant’s world of bodies: forces over substance

If experience in sensed intuition plays a secondary role in knowing, how are we supposed to know events in the physical world around us? What status do bodies play in how we know? Leibniz affirms that all events are pre-established, in such a way that all dynamic monads move completely of their own accord, and in perception they adjust to their surroundings as previously programmed to do. Kant adapts Leibniz’s theory to allow for things to interact physically in *influxus physicus*. Kant’s view of bodies and things remains ambiguous in that regard. In his MFNS, Kant addresses the much-debated problem of the continuum, and whether bodies in space are infinitely divisible. Kant argues that Leibniz’s monads and the physical world move on two different levels, as do our senses and our intellect. In Remark 2 to Proposition 4 in the chapter of Dynamics, Kant provides Leibniz’s meaning of monadology. Kant rids monadology of interpretations that would refer to the physical world:

[Monadology] has nothing at all to do with the explanation of natural appearances, but is rather an intrinsically correct *platonian* concept of the world devised by *Leibniz*, insofar as it is considered, not at all as object of the senses, but as thing in itself, and is merely an object of the understanding, which, however, does indeed underlie the appearances of the senses⁵²⁸.

Di Bella remarks: “Emphasis is laid, above all, on the neat division of the two plans: monads on one hand and phenomena on the other. Leibniz would have essentially endorsed this distinction, and the related irreducibility of space to the underlying metaphysical framework of simple substances”⁵²⁹. Kant adapts the Leibnizian view – at

⁵²⁷ NACHTOMY, O., «Leibniz and Kant on Possibility and Existence», in *British Journal of the History of Philosophy*, 20 (2012) 5, 963.

⁵²⁸ Ibid., MFNS, 219 [4:507]. “*Der Grund dieser Verirrung liegt in einer übelverstandenen Monadologie, die gar nicht zur Erklärung der Naturscheinungen gehört, sondern ein von Leibnizen ausgeführter, an sich richtiger platonischer Begriff von der Welt ist, so fern sie gar nicht als Gegenstand der Sinne, sondern als Ding an sich selbst betrachtet, blos ein Gegenstand des Verstandes ist, der aber doch den Erscheinungen der Sinne zum Grunde liegt*”.

⁵²⁹ DI BELLA, S., «Kant’s Reevaluation of Monadology: A Historical - Philosophical Puzzle», in *Estudos Kantianos*, 4 (2016) 2, 55.

least, Kant's rendition of Leibniz's view: whether this is historically accurate is highly questionable – as distinguishing the consideration of metaphysics regarding the monads and simple substances, from the consideration of physics and space, as irreducible to things themselves. When physics speaks of bodies interacting in space, it only goes as far as our appearances, and never reaches things. Space is the realm of physics, and “space, together with the matter of which it is the form, does not contain the world of things in themselves, but only their appearance, and is itself only the form of our outer sensible intuition”⁵³⁰. Thus there appears to be a clear separation in Kant's theory between the intelligible level of monads, and the sensible level of space. No bridge between these two worlds seems to be possible in Kant's system.

Whatever Leibniz actually thought regarding the two worlds of bodies and our knowledge, Kant clearly interprets Leibniz in light of his own position, using Leibniz's terms to clarify his own. Di Bella cites the following quote from Kant's *Reflexionen*, texts and drafts written in the 1770s:

It is simply required that the connection of the soul with bodies is different not objectively, but only according to the form of its knowledge, from its connection with simple substances in general [...] Space, however, is the formal element in phenomena; if, instead, it is taken as the true way of conceiving the connection among substances, then it must be said to be an intellectual phenomenon, and in this case it is put beyond the scope of sense knowledge. If sense knowledge, while not changing its species, is extended to infinity, it remains sensitive; accordingly, we can never find empirically that bodies are built up simple elements; therefore monads are useless in physics, and also in metaphysics their usage is only negative, in order to avoid that, by taking phenomena for the true of objects, the axioms of sense knowledge become, as it were, intellectual⁵³¹.

Kant presents two clearly separate ways of considering things: intellectually or sensibly. Sensible bodies are phenomena, and space only regards such outer appearance. To make statements regarding bodies themselves is to venture with the senses into a field that only corresponds to the intellect. Any substratum to sensed appearance is completely unknowable, according to Kant. How then does the intellect come to consider monads and things themselves at all? A serious gap between the intellect and reality becomes apparent, and Kant must cross the gap in some way or

⁵³⁰ KANT, MFNS, 219 [4:508]. “*Der Raum sammt der Materie, davon er die Form ist, nicht die Welt von Dingen an sich selbst, sondern nur die Erscheinung derselben enthalte und selbst nur die Form unserer äußern sinnlichen Anschauung sei*”.

⁵³¹ DI BELLA, «Kant's Reevaluation of Monadology: A Historical - Philosophical Puzzle», 58 [17:574-575, Reflexion 4500]. “*Verum tantum indigitat, nexum animae cum corporibus non esse obiective, sed tantum secundum formam cognoscitivam diversum a nexu animae cum substantiis simplicibus generatim. [...] Spatium autem est phaenomenorum formale; quod si habeatur pro ipsa reali conceptione nexus substantiarum, dicitur phaenomenon intellectuum, si nempe ulterius quam ad modum cognoscendi sensitivum extenditur. Si cognitio sensitiva extendatur in sua specie in infinitum, tamen manet sensitiva, et corpora nunquam deprehendentur empirice constare simplicibus; ergo monades in physica nullius sunt vsus, et in metaphysica sunt usus negativi, ut caveatur, ne habendo phaenomena pro reali constitutione obiectorum axiomata sensitiva fiant quasi intellectualia*”.

another. Previous philosophers, notably Leibniz in this case, could attribute the perfect coinciding between appearances and the intellect's monads to God's providential harmony of the two worlds. Having written God off as an Ideal of pure reason, Kant must come up with another way of making the world of monads – the proper object of the intellect – coincide with the world of appearances in physics – the proper object of empirical intuition. Kant's epistemological problem in his logic forces his cosmological problem in physics into a fundamental opposition.

The gap between the two levels or worlds becomes clearer as Kant progresses in his transcendental philosophy. The MFNS views the universal plenum or continuum as derived from an empirical concept, namely force. This 1786 work clearly contradicts the CPR; transcendental philosophy prohibits drawing information from empirical intuition, and only allows for the apperception's concepts to grant cognition. The MFNS's plenum however is clearly a material condition of experience, along the lines of matter everywhere in the CPR's Third Analogy of Experience.

Although this presupposition does undermine the entire basis for the distinction between the transcendental part of the metaphysics of nature and the foundational principles and laws of physics, Kant is in fact constrained to accept it. Otherwise, his transcendental theory cannot deliver an account of substance as appearances that offers a viable alternative to the Leibnizian monadological theory of substance⁵³².

Leibniz's theory allowed for metaphysics and physics to coincide through God's pre-established harmony. Kant's attempts to explain the physical world in terms of the a priori categories of the transcendental apperception do not attain his objective, since he must posit forces and the ether as supreme *material* conditions a priori for experience.

The CPR's solution to how we formulate synthetic judgments a priori was by placing them in reference only to appearances, and not things themselves. A necessary condition is that space be fully subjective, as an inner form that conditions all empirical intuition and makes it possible. Space in us also plays a key role in the MFNS's solution of the problem of the divisibility of bodies infinitely. Such an important aspect as space must come to terms with another basic concept, force.

Kant has yet to answer, however, the question whether these transcendently ideal, subjective formal systems are necessarily related to a third formal system: remembering the Kantian triad of the 1770's – space, time, and force – we might call that third system "force". Moreover, he must also demonstrate how this relation can be shown. Kant is understandably convinced that it can be shown, but again, *how* is the problem⁵³³.

⁵³² EDWARDS, SFPK, 6.

⁵³³ TUSCHLING, AE, 201.

The OP may be seen as an attempt to reconcile those two basic concepts of space and force. If he can achieve that, Kant will have bridged the gap between the intellect, the senses and physical reality. How are we to understand force according to Kant? Is it another basic form of appearance, and so another logical concept? Or is it an extra-mental entity? Following the lines laid out at the end of the chapter on Dynamics in MFNS⁵³⁴, in the OP Kant understands force as material. The ether takes on such a dominating role that it absorbs space itself: space “cannot exist save as a part of a greater whole. The whole must be given first in order that the manifold be thought in it as a part”⁵³⁵. But this goes clearly against Kant’s transcendental logic, since space is only supposed to be in us. In the OP, the gap between the intellect and things has been crossed, thanks to the ether providing all conditions for experience such as space and motion. In the *Selbstsetzungslehre*, Kant then goes on to view the ether itself as posited by the original apperception. He thus arrives at absolute idealism: We no longer need to join the two worlds of the mind and things themselves, because they are the same reality in idealism.

Karl Popper allows us to understand 20th-century attempts at solving the problem of mind-reality interaction. Similar to Kant’s belief in things existing outside of us, Popper is a self-professed realist. In his attempts to cross the gap between mind and things, Popper starts from the mind, along Kantian lines. Since induction from particular experience to universal concepts is impossible, Popper sees our mind as elaborating ever more complex theories, which it then contrasts and test in real experience, by falsifiability. If our theories pass the test, then we hold them as approximative truth, but never certain truth. The world as it is can never be known; our theories, both on an ordinary level as well as on a more complex, scientific level, can only explain real experience to an ever-greater degree. Popper’s theory of truth is clearly mind-based.

The mind’s dominating and determining role in Popper is clearly a Kantian way of understanding our interaction with reality. Kant has no problem allowing for physical bodies and matter as important for our experience:

[The *Critique*] posits this ground of the matter of sensory representations not once again in things, as objects of the senses, but in something super-sensible, which *grounds* the latter, and of which we can have no cognition. It says that the objects as things-in-themselves *give* the matter to empirical intuitions (they contain the ground by which to determine the faculty of representation in accordance with its sensibility), but they *are* not the matter thereof⁵³⁶.

⁵³⁴ Cf. KANT, MFNS, 242-244 [4:533-535].

⁵³⁵ Ibid., OP, 21:221 [71]. “*Da es aber ungereimt ist daß da Theile nothwendig Gründe der Möglichkeit eines Ganzen sind ein Ding an sich blos als Theil existiren könne denn das Ganze muß zuerst gegeben seyn damit das Mannigfaltige in ihm als Theil gedacht werde*”.

⁵³⁶ Ibid., OD, 306-307 [8:215]. “*Nur daß sie diesen Grund des Stoffes sinnlicher Vorstellungen nicht selbst wiederum in Dingen, als Gegenständen der Sinne, sondern in etwas Übersinnlichem setzt, was*

Given Kant's final attempts at salvaging transcendental philosophy in the OP, how are we to understand his physics? The two worlds of the mind and things would seem to have been permanently separated in the CPR. The OP joins them to such a degree that the self or original apperception absorbs reality and the ether into its own conditions. Physics and science can hardly be said to be empirical for Kant in the OP; physics has lost its own standing. Popper proclaims himself a realist by setting reality and experience as the deciding test for our theories. And yet his inherent nominalism cannot allow for true knowledge; along with Hume, Popper cannot allow for the certainty of the sun arising tomorrow. So as we cast our nets of theory out into reality, there is simply no guarantee that the sea of reality will provide constants. Here we see that Popper also separates the two worlds of mind and reality to such a degree that he is left optimistically groping and searching for explanation, driven by our natural desire for structure and explanation. We can never reach any rational basis for theories, as drawn from reality. Theory can only ever approach reality; truth is something we tend towards, without having a clear idea of what it is. Such an arbitrary nature of knowing seems contrary to our everyday certainty of knowing things around us, understanding them properly, and putting physical reality to good use. Popper's modifications in Kant's theory leaves us still only knowing our own theories, never reality.

4.3. The independence of mind and reality, related in real interaction

As a conclusion on Kant's transcendental philosophy, I propose as my thesis a closer consideration of our sensed perception. The empiricists Locke and Hume give much importance to the senses as the deciding factor in how we form Ideas, without examining sufficiently the transition from sensation to reflection. If the senses provide such an important source of information in perception, this transition merits closer study. The rationalists Leibniz, Kant and arguably Popper do not consider sensed perception as providing any valuable information of things outside of us. I see this oversight of the senses as explaining why the gap between our mind and reality became so wide, practically without any possibility of being bridged. The two-world system of mind and bodies, proposed by Leibniz and elaborated by Kant, cannot account for our knowledge of physical reality. I propose a closer examination of our sensed perception, as our contact

jenen zum Grunde liegt und wovon wir kein Erkenntniß haben können. Sie sagt: Die Gegenstände als Dinge an sich geben den Stoff zu empirischen Anschauungen (sie enthalten den Grund, das Vorstellungsvermögen seiner Sinnlichkeit gemäß zu bestimmen), aber sie sind nicht der Stoff derselben“.

point between exterior reality and the mind. Related to this study of our senses in perceiving things, the metaphysical question of the secondary qualities merits closer consideration as well. Since Descartes, Locke and Leibniz, such secondary qualities are seen as not of things themselves; this would seem to cut us off from the possibility of any knowledge. To deny any value to secondary qualities requires proper justification, beyond the mere possibility of our senses deceiving us regarding those qualities.

Given the dead-ends of transcendental philosophy, I propose returning to Aristotle and Aquinas's theories of knowledge. Well-aware of the important developments since the 13th century, I follow the 20th-century philosopher Cornelio Fabro in his presentation of their gnoseology. Fabro draws upon key elements from modern and contemporary experimentation; such observation of human perception is noticeably absent in the authors considered⁵³⁷. Whereas Locke, Leibniz, Kant and Popper write off basic elements of Aristotle and Aquinas's theories as metaphysics of "occult" properties, I find them both to obtain a more fitting explanation of how we know, compared to Kant's self-positing apperception. Nor does Aquinas draw God into his argumentation as much as Locke, Hume, Descartes and Leibniz⁵³⁸. I leave the reader to judge which of the two proposals explains better the ground of that relation in us which we call "the representation" of objects outside of us.

⁵³⁷ For Hume's lack of observation regarding our perception, see YOLTON, «The Concept of Experience in Locke and Hume», 61-70.

⁵³⁸ As we mentioned, in his 1789 letter to M. Herz Kant himself had to invoke God as the author of the pre-established harmony between our understanding and the senses. See AA 11: 52, as reported by VILLINGER, «Recovering the 'True Meaning' of the Pre-Established Harmony: On a Neglected Key to Kant's Theory of Intuition», 364.

PART II: THE INTENTIONAL ASPECT OF OUR KNOWLEDGE REGARDING MATERIAL BODIES

“What is the ground of the relation of that in us which we call ‘representation’ to the object?”⁵³⁹ The insurmountable impasse within Kant’s theory of knowledge can be seen as the incommunicability between sensed perception and the intellect. He ultimately finds our representations within ourselves, to the point that the self must posit both itself and the ether as its object. This conclusion of self-positing seems to have little to do with our everyday experience. I propose to answer Kant’s question by considering a different explanation of how the senses and the intellect interact.

Cornelio Fabro (1911-1995) was an Italian Roman Catholic priest who dedicated his philosophical career to correcting several aspects of the traditional interpretation of Thomas Aquinas’s philosophy⁵⁴⁰. Fabro argues that Aquinas’s philosophy provides satisfactory answers to several problems raised in modern and contemporary philosophy. Regarding our problem of the relationship of object and subject in knowing, Fabro dedicated two of his earlier works: *La Fenomenologia della Percezione*, and *Percezione e Pensiero*. The first is more technical, with a close survey of the results contributed by the Gestalt theory to the problem of perception. The second work is more philosophical, and answers Kant’s question to a degree that corresponds much more fully to our experience in knowing. While Fabro relies on Aristotelian-Thomistic thought for his own philosophy, he gleans important results from the experiments of the Gestalt school and from J. Piaget’s studies in children’s psychology. Whereas Aristotle and Aquinas rely on common experience in developing their theory of knowledge, Fabro convincingly uses modern experimentation to support the Aristotelian-Thomistic theory of perception. However, he does not simply defend ancient-medieval ideas over contemporary ones, but shows the former’s ability to hold where modern theories fail. Fabro thus shows how modern experimentation help to complete the Aristotelian-Thomistic position.

Fabro wrote his two works on epistemology (in Italian, *gnoseologia*) in the first half of the last century. I draw on his proposal, convinced that it responds to the problems raised by Popper and others in the 20th century. I also wish to create more awareness of

⁵³⁹ KANT, I., Letter to M. Herz, February 21, 1772, AA 10:130, as translated by TUSCHLING, AE, 201. “Auf welchem Grunde beruhet die Beziehung desienigen, was man in uns Vorstellung nennt, auf den Gegenstand?”

⁵⁴⁰ Cf. Ferraro, C., «La interpretación del esse en el “tomismo intensivo” de Cornelio Fabro (I)» in *Espíritu*, 66 (2017) 153, 13-28.

this important position within Thomistic thought. In the 80 years since their publication, Fabro's works have remained for the most part unknown or ignored in the English-speaking world of philosophy. This is perhaps due to the works being rather isolated from his later studies, which focus more on metaphysics, existentialism and anthropology. By presenting a summary of Fabro's thought, along with some of the problems still to be resolved by neuroscience and philosophy of the mind, I hope to contribute a coherent proposal to the on-going discussion regarding human knowledge. Since I regard many current theories to be Kantian-based, I juxtapose Fabro's position with Kant's, while also drawing into the debate the other philosophers presented in part I⁵⁴¹.

1. Methodology and preliminaries of the second part

Some notes regarding the method and structure of this second part are important to consider. In justifying any theory of knowledge, it would seem most appropriate to start from our common experience. For instance, if Kant's transcendental philosophy leads to the self as positing itself and all external reality along with it, this should be compared to our own experience in knowing. Such experience shows that we learn from the world outside of us, and spend our entire lives learning. If Kant argues that we are the ultimate source of reality, why would we need to spend our entire lives learning from reality? We must at least question Kant's point of departure in transcendental philosophy. Certainly, in speaking of "our" experience, I make certain presuppositions, based on beliefs that I take as the basis for our experience. Such beliefs include the unity of the self in knowing, as well as the substantial existence of objects outside of us. Whether such presuppositions are justifiable remain to be seen; however, an appeal to each one's experience in perception seems to be an important touchstone for any philosophical theory that purports to say something significant about our knowing.

⁵⁴¹ Other 20th-century authors also addressed Aquinas's theory of knowledge in comparison to modern philosophical theories. I will draw on some of those during this work. However, I believe Fabro's interpretation of Thomistic philosophy to be much closer to Thomas's original thought than other presentations, as well as better equipped to assimilate elements of modern philosophy. Some works that may help fill out certain points in Fabro – but which also seem to go against fundamental points in Aquinas's thought – are the following, in order of importance in the development of this thesis.

- GARCIA JARAMILLO, M.A., *La Cogitativa en Tomás de Aquino y sus fuentes*, Eunsa, Navarra 1997.

- KLUBERTANZ, G.P., *The Discursive Power. Sources and Doctrine of the vis cogitativa according to St. Thomas Aquinas*. The Modern Schoolman, St. Louis 1952.

- CANALS VIDAL, F., *Sobre la esencia del conocimiento*, Promociones y Publicaciones Universitarias, Barcelona 1987.

This part includes continual references to Kant and other philosophers' theories of perception. I realize that such constant references may interrupt the flow of my argumentation. However, I believe that the value of Fabro, Aquinas and Aristotle's theory is only appreciated when compared to others. In fact, we will see that all three develop their theories in response to opposing theories. Real problems involved in how we know are what drive philosophy to discover how perception takes place. As an example of opposing theories, I present briefly two extremes in resolving the problem of perception. In answering the question, "where does the structure we perceive in objects come from?", *associationism* is the philosophical and psychological position that holds the sensible elements to be the building blocks of the overall structure in perception. The other possible solution to the problem of structure in perception is *apriorism*: The subject spontaneously structures sensed qualities according to its own, predetermined criteria. These two extremes present the modern margins of Fabro's presentation of Aristotle's and Aquinas's theories of knowledge.

In this second part, I will present the faculties involved on three levels of perception: the sense faculty and the shape-size aspects of the object (chapter 5); the cogitative and perception of the concrete object's meaning (chapter 6); and the intellect and our universal knowledge of things (chapter 7). Each of these levels implies a corresponding faculty or capacity in the human knowing subject; despite their different traits and aspects, the three levels of knowing join together into a united whole. The unity of sensed perception and intellectual thought reveals a real continuity in the assimilative process of knowing. In chapter 8 I will consider this overall unity of the subject in knowing, as a participation or ordering of the several different faculties. Chapter 9 will consider the role that the "species" plays in intentional knowing. Modern and contemporary thinkers ridicule the "species" as a medieval, simplistic notion; however, I believe the intentional species is the key to bridging the gap between object and subject, as the ground of the relationship of our inner representations to outside objects. Thanks to the intentional species I hope to show the real interaction between our minds and reality. Fabro's presentation brings Aristotle and Aquinas into direct contact with 20th-century problems, as helpful explanations to understand the process of human knowing.

Given the limits of this thesis, I present Fabro's theory summarily, without drawing out many of the subtler points involved in his argument. However, I believe I present the key elements of his theory as clearly as possible. I choose not to enter into minute detail in his argumentation, in order to maintain the overall process of perceptual knowledge in view. Each chapter of this part provides sufficient material for an entire treatise; and such

treatises do exist in the Thomistic tradition (see note 541 above). My goal is to understand the overall unity, along with the role of each step within that process. I hope that the depth in presentation is sufficient to grasp the key elements in Fabro's thought, without losing sight of each step's place in the entire process. In that sense this thesis hopes to clarify somewhat Fabro's style, since authors such as Garcia are wary of Fabro's complex and intricate argumentation⁵⁴². Garcia follows Klubertanz to a major extent, in part because Klubertanz is a much simpler reading of Aquinas. While Fabro is more intricate than other Thomists, I believe he follows Aquinas more faithfully. I hope to do Fabro sufficient justice with this summary of his thought.

2. Overview of perception

Before I present the individual phases of intentional knowledge, an overview of perception is important to keep in mind as an overall guide or map. Fabro sees the Aristotelian theory on perception as involving two key factors: presence and the process of assimilation. Knowledge is the presence of the object to the subject, as our awareness of things somehow present to us. This "somehow present" is explained and made clear by the assimilation process: "[Human knowers] must carry out this presence [in knowing] by exercising the faculties and actions that are proper to them"⁵⁴³. While the relationship between object and subject in knowing is primarily presence, such knowledge involves a process of assimilation that includes several steps. Just how complex or simple this process is depends on the philosophy that tries to describe it.

Regarding the factors involved in assimilation, we recall the varying positions presented in the first part: Locke gives priority to sensed perceptions, with Ideas as traces

⁵⁴² Garcia openly admits his own difficulty in understanding Fabro's *La Fenomenologia della Percezione* and *Percezione e Pensiero*. If I manage to present said theory clearly and succinctly, I will consider this thesis as purposeful. See GARCIA JARAMILLO, M.A., *La Cogitativa en Tomás de Aquino y sus fuentes*, Eunsa, Navarra 1997, 21-22. "*Las primeras versiones de Fenomenologia della Percezione y Percezione e Pensiero de Cornelio Fabro que aparecen también en el 1941, muestran la clara simpatía por la naciente psicología de la forma. La lectura de dichas obras es, sin duda, en muchos aspectos verdaderamente aún insuperable, dada su agudeza, erudición y apertura a los nuevos descubrimientos de la nueva y naciente Gestalttheorie. Su entusiasmo por la obra de Th. V. Moore y los discípulos de Brentano se deja ver en sus páginas. Pero, al mismo tiempo, su conocimiento de los filósofos árabes y latinos le permiten llegar a una síntesis que en buena parte la hacen piedra de toque: la abstracción antigua y la experimentación moderna forman una unidad equilibrada en dicho estudio. En lo personal, he tenido que leer paciente y reiteradamente este trabajo, cuyos frutos aún estoy lejos de cosechar*".

⁵⁴³ FABRO, C., *Percezione e Pensiero*, Ferraro, C. (ed.), Edivi, Segni 2008, Opere Complete, vol. 6, 47. Future reference to this work as PP. All translations of Fabro's works are the author's, except for those articles whose original titles are in English. "*Il secondo momento si trova soltanto nei conoscenti, i quali hanno da realizzare questa presenza con l'esercizio di facoltà e di atti come è proprio degli enti finiti nei quali la propria natura è tale o tal'altra e non può essere specchio di tutta la realtà*".

of those perceptions left in the mind; Leibniz views perceptual knowing as pre-determined within monads; Hume only gives validity to current perception, without allowing objective knowledge in our imagination; Kant orders all knowledge as structured by the *Ich denke*'s conditions of space-time and the understanding's categories. Each of these theories have their kernel of truth; their widely varying and even opposing stances indicate just how multifaceted our process of knowing is.

As a starting point for his theory of knowledge, Fabro takes the everyday experience of looking out of the window at a tree in the yard. The tree presents several characteristics and layers: The most superficial layer is the color of its leaves and its trunk; it also has a certain shape and structure: leaves-branches-trunk. That shape can change, the tree can be trimmed or mutilated, and yet come springtime it blossoms again. Thus, beyond the visible traits of color and shape, the tree has a concrete identity that distinguishes it from other objects around it. All of this is part of my awareness in knowing through the senses. This leads us to distinguish different layers in the object:

The object of perception is therefore not entirely a quality, even if it is only ever given with a shell of quality; nor is the object a configuration, even if its configuration is an indispensable part of its appearance. The object is rather the concrete thing, regarded in its own sort of completeness understood in two aspects. One of those aspects, the more interior one, acts as the basis for the proper structure of the object, as such and such an object. This structure may be presented at first by color tones and exterior configuration, but then this structure comes to be seen as actually prior to those outer traits, since the structure is their reason or meaning of why those outer traits are and act the way they do⁵⁴⁴.

We therefore have perceptual experience of objects on three different levels: first, what is most external, such as colors, sound and tactile aspects of the object; second, the more basic, stable traits such as size, shape and location; finally the level of being a determined object, as explaining why it appears and acts in a certain way. Perception deals with each level as part of our experience, and yet these multiple layers in perception present a significant problem: The aspects that we sense by the five external senses – sight, hearing, smell, taste and touch –, what relation do those aspects that have with the next layer of shape and size? And the objective determinations that we attribute to the tree – such as its blooming or losing its leaves – how are those related to its shape? How

⁵⁴⁴ FABRO, C., *La Fenomenologia della Percezione*, Ferraro, C. (ed.), Edivi, Segni 2006, Opere Complete, vol. 5, 34. Future reference to this work as FP. "L'oggetto quindi della percezione non è tanto una qualità, benché non sia dato senza un corteggio di qualità; non è neppure la configurazione, benché anche questa sia indispensabile al suo apparire. Esso è piuttosto il concreto in una certa sua completezza caratteristica che va intesa sotto due aspetti. Uno, più interiore, che fa capo alla struttura propria dell'oggetto, come tale oggetto; e questa struttura, se, in un primo momento, è rivelata dai toni di colore e dalla configurazione esteriore, in un secondo momento è compresa esser anteriore ad essi ed anzi la ragione dei medesimi, così nel loro essere come nel loro variare".

do we come to know one, united object, on such differing levels? The interdependence yet clear distinction between these three levels must be addressed⁵⁴⁵.

The following three chapters will consider our perception on each one of these three levels. From the start, however, it is important that we maintain the unity of the object.

The heterogeneous nature of contents on the different levels does not mean that they are incompatible and absolutely foreign to each other. On the contrary, they are always given “together” in perception, in view of grasping a single object. In fact, there is no body that is not shaped in some way, nor is a shape able to appear without a color: By definition, it would be invisible. [...] The multiple and heterogenous levels require that the unity of the object be in fact a “unity of multiples”⁵⁴⁶.

It is clear that all material objects appear as both extended and colored; how extension and color go together must be considered. In the first part we distinguished the epistemological problem from the ontological one. This thesis will consider the unity of object in perception, along the lines of our epistemological problem. The ontological unity of the object is certainly the basis for our perceptual unity, but given the limits of this thesis, I focus more on our process of assimilation in perception, in its overall unity. Chapter 9 will include a brief presentation on the ontological aspect of objects’ unity.

An important factor to keep in mind is the subjective element in perceptual assimilation of the object. Aristotle opposes Democritus as oversimplifying our knowledge: We do not passively receive atoms from outside of us, as translated directly into images. To use a modern example, we are not merely photographic or video cameras, receiving images *sic et simpliciter*. In order to understand how we know things in perception, we must consider the subject’s involvement. As we will see, Fabro continually cites authors from the Gestalt school of psychology. Here he cites Musatti’s distinction between processes that are selectively integrating, and those which are associative⁵⁴⁷. While the selectively integrating processes work with actually sensed qualities, the associative processes go beyond those qualities in a number of ways. The subject in perception is seen as not simply passively receiving information, but as actually carrying out a “perceptual assimilation”. This assimilating process affects actual perceptions, such as

⁵⁴⁵ For Fabro’s example of perceiving the tree and the various levels involved, see FP, 34-36.

⁵⁴⁶ Ibid., 36-37. “*Ma l’eterogeneità di contenuto, nei piani, non significa una estraneità reale ed incompatibilità. Al contrario, nella percezione essi sono dati sempre «insieme» per la costituzione di un oggetto unico poiché non c’è corpo che non sia figurato in qualche modo; né è possibile l’apparire di una figura che non abbia colore: non sarebbe — per definizione — visibile. [...] La molteplicità ed eterogeneità dei piani esige che l’unità oggettiva sia appunto una «unità di molteplicità»*”.

⁵⁴⁷ Cf. Ibid., PP, 131. Fabro cites the work as MUSATTI, C. L., *Elementi di Psicologia della Forma*, Padua 1938 (for private use).

when children see cloud formations in the shape of certain animals. The child's previous experience in perception clearly comes into play in her current sensed perception of those clouds.

Another important aspect in perceptual knowledge is its gradual growth from general to specific: My knowledge of trees may vary from simple recognition – “it is a tree” – to identifying it as a pine, and ultimately to a botanist recognizing its specific species, its state of health and its properties. We start with a general notion of what surrounds us, and then gradually understand reality better and better. It is only by our further involvement and experience that we situate ourselves and grasp how we are to interact and use the array of surrounding objects. This involvement with our surroundings would imply that reality is already structured, since we are the ones who discover and grasp that structure more and more. The Gestalt theory will draw this out in more detail, in contrast to the associationist school of psychology. This school holds reality to be basically chaotic and unstructured, with the intellect structuring reality in a somewhat arbitrary fashion. Fabro attributes this “chaos theory” in perception to Hume, which then influenced posterior Continental philosophy to a large degree, including Kant⁵⁴⁸.

Between the two poles in perception – object and subject – the subject's role in assimilating is not decisive on its own. When we make judgments regarding the world around us, we purport to say *something*, that is, something with content. Where does that content come from? It is not merely subjective, as fancy or wishful thinking. If such statements and judgments are to have meaning and reference, it appears they draw their content from perception. This content must be given from the start, even if the assimilation process involves other elements that are subjective.

The “true” starting point [...] is the form of the whole, initially given to consciousness and in which our intellect can discover, as actually present or somehow hinted at, the contents and the actual forms of connection that will later be affirmed in judgment. [...] We perceive as originally given the global content as not completely amorphous, nor completely organized, but as sketched more or less vaguely⁵⁴⁹.

⁵⁴⁸ Cf. Ibid., FP, 277. “Questo preteso «caos» dell'esperienza sensoriale è un puro «mito», sorto nel secolo XVII, che Hume e la direzione ufficiale del pensiero inglese prima, e poi gran parte di rappresentanti delle scuole europee, Kant non escluso, hanno fatto gravare sullo sviluppo dei problemi speculativi”.

⁵⁴⁹ Ibid., 31-32. “Il «vero» punto di partenza di una psicologia, ed almeno fino ad un certo punto anche di una critica della conoscenza, è quella forma di «tutto» inizialmente dato alla coscienza nel quale l'intelletto possa trovare presenti od in qualche modo adombrati i contenuti ed anche le forme stesse di connessione che saranno poi affermate nel giudizio. [...] Le cose, almeno per i giudizi più fondamentali nell'ordine reale, stanno piuttosto in senso inverso: è dato originariamente un contenuto globale di ordine percettivo, non puramente amorfo, né completamente organizzato, ma delineato più o meno vagamente”.

It is the objective elements and structure that determine the content of our judgments, as giving them reference-value. The *given-ness* in sensed perception is a fundamental principle that appears from our example of the tree in the yard.

Perception may be defined as the interplay between the object and the subject. "Perception is about becoming aware of some concrete thing, insofar as it is immediately given as actually present"⁵⁵⁰. Just as the three layers or aspects of the object are perceived as a given unity, so too do we perceive the unity of the knowing subject as enduring throughout the multiple steps of perception. Both the unity of the object and the unity of the subject form part of perception. However, the several steps and elements involved in the process of perceptual assimilation become problematic, as we are faced with the difference between the single knower, and several steps in perceiving. We must look closely at each one of those functions and steps, while keeping in mind the unity of the person perceiving the tree in the yard.

⁵⁵⁰ Ibid., 43. "«Percepire è l'accorgersi di qualcosa in concreto, cioè in quanto è immediatamente dato nella sua presenzialità in atto»".

CHAPTER 5: THE GESTALT-FORM AND ITS PARTS: PRIMARY ORGANIZATION IN SENSING

In the *Critique of Pure Reason*, Kant treats sensed intuition as providing the matter in knowing, and the intellect as giving it its form. He then shows that all ordering and structure in the perceived object is derived from the subject, be it the object's position in space and time, be it the object's relations in judgment. By attributing all to the form, what role does the matter of sensed intuition play? Such a drastic separation between sensed intuition and the understanding leaves Kant attempting, to the end of his career, to join the two with little success. To attribute *all* order to the knowing subject's activity is to leave knowing as a somewhat arbitrary imposition, leading ultimately to skepticism⁵⁵¹. Kant gives little consideration to the value of sensed perception, in the rationalist spirit we see portrayed in Leibniz. This chapter proposes to consider Aristotle's teaching on the external senses and the common sense, as presented in his work *De Anima*. This closer study of the senses will allow us to appreciate their importance in knowing.

Kant's philosophy is based on the a priori schemas of the *I think*, and so forms the aprioristic school of perception; on the opposite extreme we have the associationist school. Regarding sensed perception, the associationists propose the bundle theory or hypothesis. Individual, concrete sensations form basic elements or pieces, which are subsequently bundled together somehow in perception. This bundling is our own association, that is, a purely mental construct without any clear criteria. Over time and based on past experience, we come to handle bundles more easily. There is nothing intrinsic to these mental groupings that would justify them; their association is not based on extra-mental reality. The perceived object's structure comes ultimately from the mind's habit of association⁵⁵².

Associationism is closely related to Hume's "beliefs", as gentle forces that lead us to associate two distinct aspects or realities to the point that they become what Mill calls "inseparably associated"⁵⁵³. Hume's belief in cause-effect is the relation of two objects (billiard balls) in motion that we come to associate so closely that we are led from the motion of one to that of the other. However, this association is our imagination's doing;

⁵⁵¹ Cf. FABRO, FP, 56.

⁵⁵² Ibid., 173.

⁵⁵³ Cf. MILL J., *Elements of Philosophy of Mind*, as cited by FABRO, FP, 96.

there are no clear criteria for association in our perceptual structuring of sensations⁵⁵⁴.

Fabro summarizes the associationist position:

Perceptions are reduced back to sensations by paths that are more or less transversal; and sensations themselves are considered to be the result of the synthesis of elements that are even more basic, a sort of psychic dust that floats in the subconscious and from which objects emerge in a sort of unity. This unity is thanks to the intervention of habit or the synthetic capacity that the subject has gained through the exercise of experience⁵⁵⁵.

In apriorism Kant attributes the structure in sensed intuition to the *Ich denke's* a priori conditions, as specified and clearly laid out. The associationist account does not seek to define the source of structure so strictly; the rules of association are left simply in the subconscious. Where does the structure in sensed perception come from? Is the mind the source of all such organization? Fabro proposes that Aristotle's and Aquinas's position agrees with our common experience more than either associationism or Kant's apriorism.

1. The External Senses

In order to address the main problem of where the object's perceived structure comes from, a first problem must be addressed, regarding the external senses themselves. Ever since Descartes, a suspicious distrust has become the habitual stance towards the senses, as open to error. A closer study of how our sense faculties work is needed, if we are to properly ground our perception of things outside of us.

How is that external physical-chemical stimuli bring about knowledge in the soul? How do we bridge the gap between the physical and the internal in knowledge? The Greek philosopher Democritus proposes a system involving atoms entering us through pores and translating directly into ideas. A related, modern version of this theory is isomorphism, a common theory among neuroscientists to explain how we perceive things. S. Pimental reads Thomas's theory of perception as based on physical impressions reaching the senses, which then translate them over isomorphically to an inverted map.

An isomorphism is a map for which there exists an inverse map, which produces an identity when the two are composed. For a map to possess an inverse, it must faithfully convey all information from the original object; only then will the inverse be able fully to recover that

⁵⁵⁴ We recall here Locke's theory of bundles of qualities in Ideas. For an in-depth presentation of modern theories of associationism, see FABRO, FP, 63-110. Besides Locke, Berkeley and Hume, Fabro also includes psychologists such as Wundt who propose theories of association.

⁵⁵⁵ Ibid., 97. "*Le percezioni saranno ricondotte, per vie più o meno trasverse, alle sensazioni, e le sensazioni stesse saranno considerate come il risultato di sintesi a partire da elementi ancor più ridotti: un pulviscolo psichico che ondeggia nella subcoscienza, dalla quale gli oggetti emergono in unità fattizie per l'intervento di abitudini o abilità sintetiche che il soggetto ha acquistato nell'esercizio dell'esperienza stessa*".

information. [...] In the case of sensory knowledge, the fundamental map is that of *impressing*, by which the form of an object is encoded to produce an intention. To establish formal identity, impressing must possess an inverse, *intending*, that maps the intention back to the object. When such an inverse exists, the map of impressing is an isomorphism, and the intention is formally identical to its object⁵⁵⁶.

Such a direct relationship between physical-chemical stimulus and the sensed image is problematic, and Aristotle develops his theory of sensed perception in opposition to such physicalist theories as Democritus's. "The nature of the sensorial stimulation, which is as we know an active receiving (παθητική ποιότης), could indeed remain the same in the subsequent process of the faculty and the soul's operation; that would mean a return to the materialism of the Natural philosophers that Aristotle was trying to avoid"⁵⁵⁷. Such direct transition from outer to inner reality misses several nuances of our perceptual knowledge. If Aristotle does not accept a purely physical transition from the exterior impulse to the inner perception, how can he keep any type of objectivity? How does Aristotle see the soul, which is immaterial, as affected and altered by external stimuli? How can he explain the relationship and correspondence between the two entities?

1.1. *The alteration of sensation*

Isomorphism and Democritus's atomic theory of perception do not grasp the nuanced change that sensation entails. The type of change that occurs when we sensibly perceive something is different than an ordinary, physical change. Thomas Aquinas distinguishes physical change from spiritual change. An example of a physical change is a body being heated by fire. Spiritual change takes place in a different manner: Only the form is received, not the matter. Aquinas gives the example of the eye "receiving" color. If sight were a physical change, the eye would change color, or accumulate color physically. This is clearly not the case; and so the sight faculty receives purely the form of color.

Spiritual immutation [change] takes place by the form of the immuter [object] being received, according to a spiritual mode of existence, into the thing immuted [subject], as the form of color is received into the pupil which does not thereby become colored. Now, for the operation of the senses, a spiritual immutation is required, whereby an intention of the sensible form is effected in the sensible organ⁵⁵⁸.

⁵⁵⁶ PIMENTAL, S., «Formal Identity as Isomorphism in Thomistic Philosophy of Mind», in *Proceedings of the American Catholic Philosophical Association*, 80 (2006), 121.

⁵⁵⁷ FABRO, PP, 53. "La natura dello stimolo sensoriale, che è come sappiamo una παθητική ποιότης resta intatta tale e quale anche nel secondo tempo quando attua la facoltà e l'anima, ed allora si ricade nel materialismo dei Naturali che il Filosofo voleva evitare".

⁵⁵⁸ AQUINAS, T., *Summa Theologiae*, pars I, quaestio 78, art. 3. As translated by the Fathers of the English Dominican Province, published at *The Collected Works of St. Thomas Aquinas, electronic edition*, at <http://pm.nlx.com>, IntelLex Corporation, Virginia 1989-2020. All translations of Thomas Aquinas are from this source, unless otherwise noted. Future reference to this work as STh, with the number ordered by

This immaterial or spiritual type of change is the basis and ground for all subsequent knowledge. Given its important in the overall process of knowing, we take a closer look at how this change takes place. All sensation takes place in a properly structured organ. Without the organ's proper structure and correct functioning – for instance, color blindness or sight impediments –, our sensible faculty does not perceive. Only specific organs can perceive: Our nervous system is structured along the periphery in order to allow for our sense of touch, for example. An inanimate object such as a rock lacks such a structure, and so cannot sense. There is a clear conjunction between body and the soul in the senses; Aristotle states, “It is necessary that the body be the ongrown medium of the touch-faculty and that the sensations (which are indeed many) take place *through* it”⁵⁵⁹. The organs themselves are structured by the soul for the purpose of passively receiving the sensible object from without⁵⁶⁰.

The sense organ is structured to be affected by the sensed object. Both organ and object share a fundamental quality in common. Fabro uses the example of a hot object placed on someone's skin: “The heat of the object acts upon the organ as it produces in it a change (ἀλλοίωσις) whereby the temperature of the organ rises or drops gradually towards the temperature of the object. This physics is the condition without which there can be no perception”⁵⁶¹. The sense organ is activated by the corresponding quality of the object. The sense organ is activated, or affected to use the traditional terminology, by the corresponding quality in the object.

While keeping the duality of object and subject, Aristotle shows that the two interact in a united manner through sensation. “The activity of the sense-object and that of the sense-organ are one and the same, but what it is for each to be is not the same”⁵⁶². The object must be capable of producing the sensation; for example, Aristotle calls

part, question, article, and where applicable, the reply number. “*Spiritualis autem, secundum quod forma immutantis recipitur in immutato secundum esse spirituale; ut forma coloris in pupilla, quae non fit per hoc colorata. Ad operationem autem sensus requiritur immutatio spiritualis, per quam intentio formae sensibilis fiat in organo sensus*”. All texts in the original Latin are taken from the *Corpus Thomisticum* website, ALARCON, E. (ed), Fundación Tomás de Aquino, Pamplona 2000-2019, <https://corpusthomicum.org>.

⁵⁵⁹ ARISTOTLE, *De Anima*, Lawson-Tancred, H. (ed.), Penguin Books, Great Britain 1986, Bk. 2, Ch. 11, 423a [Penguin, 184-185]. The number in brackets refers to the page number in the English translation. Future reference to this work as DA.

⁵⁶⁰ Cf. AQUINAS, STh, I, 78, 3.

⁵⁶¹ FABRO, PP, 49. “*Il caldo (τὸ θερμόν) dell'oggetto opera sopra l'organo producendovi una ἀλλοίωσις per la quale la temperatura dell'organo sale (o scende) gradualmente verso quella dell'oggetto. Questa fisica è la condizione sine qua non della percezione*”.

⁵⁶² ARISTOTLE, DA, Bk. 3, Ch. 2, 426a [Penguin, 193].

“sounding” the capacity of an object to activate our sensation of hearing⁵⁶³. A motionless rock does not produce any sound, and so we cannot hear it. Someone actually speaking is “sounding”, as in producing sound waves. The sense organ is what is affected, not the thing sounding. “For in just the way that both action and affection are in the thing that is affected not in that which acts, the activity of the sense-object and the sense faculty are in the sense faculty”⁵⁶⁴. The act of sounding and the act of hearing are one and the same, since our hearing relies completely on sounds produced, and hearing cannot be affected except by exterior sound. Such hearing occurs in the sense organ.

While the act of hearing and sounding is the same, there is a definite transition. The transition from the physical level – such as electromagnetic waves in vision, or soundwaves in hearing – to the physiological level occurs in the organ itself. While the act of hearing is the same as the act of sounding and depends on it, the act of hearing is different in nature than sound waves. Because the sense organ is purposely structured and animated by the soul, any alteration or change in the organ produces a change in the soul. This is not to say that we are constantly aware of all such sensations: Our attention selects which senses affect us more at a given moment. Objectivity in sensation is kept, thanks to our senses’ depending entirely on external stimuli for activation. A clear transition does in fact occur, as the knowing subject receives the form, image, or likeness of the object⁵⁶⁵. The sense faculties are adapted to receive the forms of objects around the subject, without physically taking those objects in. This is clearly a transition beyond the merely physical sort of change; were all sensations completely physical, the sense organs would wear down from constant physical change. “The natural existence of sensible forms seems to indicate that, e.g., a sound has a physical component insofar as it is transmitted through sound waves. Yet at the same time the sound transmits some sort of ‘information’ that points to relevant features of the physical object it stems from. Thus, when a person hears someone speak, those two aspects, the merely physical and the intentional, are involved”⁵⁶⁶. This difference between the physical and the intentional aspects, together with their relationship to each other, is the crux of external sensation in Aristotelian theory of perception.

⁵⁶³ Cf. Ibid.

⁵⁶⁴ Ibid.

⁵⁶⁵ I leave for chapter 9 the proper terminology and status of this “form”; for now I follow Aristotle’s terminology.

⁵⁶⁶ TELLKAMP, J.A., «Aquinas on Intentions in the Medium and in the Mind», in *Proceedings of the American Catholic Philosophical Quarterly*, 80 (2006), 279.

The amount of transition from the physical to the formal or intentional level varies from each of the five outer senses⁵⁶⁷. An initial level of perceptual knowledge is seen to take place in animals that merely feel and touch through physical contact with objects. A higher form of sensation exists in taste and smell, while they still depend on physical contact to a certain extent. Sound is higher still, yet it depends on the sounding object to make noise through physical motion (soundwaves). Sight is the most spiritual and least physical, because it only requires the conditions of light and air as the proper medium between the object and the subject. Higher animals with the faculty of sight can interact with their surroundings much more adequately, thanks to their capacity of receiving objects' forms intentionally in perception.

1.2. Receiving the sensible form

Through the sense organ's being affected, we come to receive the forms of exterior objects:

The reception and alteration that happens in the organ itself is no longer solely and completely physical; otherwise, the organ would be worn down, or grow or diminish. The change in the organ is noticed by the faculty, almost as if written into it, and this is what we call the form of the object, as present to the soul in knowledge. This form constitutes the origin of cognitive life. In the act of sensing, both object and subject increase a step up the ladder of ontological being⁵⁶⁸.

The start of our knowledge involves both a passive interaction with the world, as well as a subjective assimilation of external objects according to their form, without their matter. Through the sensed perception of objects we come to have their form within us, not as arbitrarily imagined or fantasized, but as received. How can the sense organs receive the forms of objects? It is because they are designed to receive stimuli and become, in a certain sense, the object: "The sense-faculty is potentially such as the sense-object is actually. It follows that, whilst at the start of the process of being acted upon the faculty is not like its object, at the term of the process it has this likeness"⁵⁶⁹. Here Aristotle's theory on sensed perception can be seen as a middle ground between two preceding Greek principles of knowledge: Like knows like, or opposite knows opposite.

⁵⁶⁷ Cf. AQUINAS, T., *Aristotle's De Anima in the Version of William of Moerbeke and the Commentary of St. Thomas Aquinas*, Foster, K. – Humphries, S. (eds.), Yale University Press, New Haven 1965, Bk. 3, Lectio 1, n. 583 [Yale, 356]. Future reference to this work as Comm DA.

⁵⁶⁸ FABRO, PP, 50. "La recezione ed alterazione, che già nello stesso organo non è più completamente fisica – altrimenti l'organo si corromperebbe, crescerebbe, diminuirebbe... – viene avvertita e come trascritta dalla facoltà ed è questa che è detta la forma dell'oggetto, presente nell'anima conoscente e che costituisce l'originalità della vita conoscitiva. Nell'atto del sentire salgono di un gradino nella scala ontologica tanto l'oggetto come il soggetto".

⁵⁶⁹ AQUINAS, Comm DA, Bk. 2, L. 12, n. 382 [Yale, 251]. "Quia sensitivum in potentia est tale quale est in actu sensibile. Et propter hoc sequitur, quod secundum quod patitur a principio, non est similis sensus sentienti; sed secundum quod iam est passum, est assimilatum sensibili, et est tale quale est illud".

Contrary to Empedocles, who had asserted the necessity of a physical symmetry between the organ and the object, between the porous and atoms, Aristotle proposed a formal symmetry, based on their contrariety; against Anaxagoras, who considered sensation a physical alteration, Aristotle proposed a merging towards the same point (ἐπίδοσις εἰς αὐτό)⁵⁷⁰.

It is the sense organ's structure that makes it both similar to the object (as receptive of stimuli) and dissimilar (as the bodily organ pertaining to and animated by the sense faculty of the soul).

In order to understand how the external senses are activated by stimuli, we consider more carefully the sense organ's structure, as presented in Aristotle's teaching of μεσότης⁵⁷¹. In order to explain how senses can validly receive the form without becoming the object itself, Aristotle uses the example of a ring or seal used to imprint its shape in wax:

The sense is the recipient of the perceived forms without their matter, as the wax takes the sign from the ring without the iron and gold — it takes, that is, the gold or bronze sign but not as gold or bronze. And in just the same way the sense is affected in each case by that which has colour or flavour or sound, but not as they are said to be each of these things, but as they are of a certain kind, and in accordance with the account of them⁵⁷².

The "account" or faithful image of the object is left in the soul through the sense faculty's being affected, just as the shape of the ring is left in the hot wax. The image is identical, but exists in two differing ways. So too the object determines the *species* or image that the souls has of it, while it is the soul's impressionable nature that allows for this change to take place within itself. Fabro comments on this famous passage: "[This] shows how from the bodily world forms can arrive to the soul without matter; and Aristotle is completely right to insist energetically that we may call this sensing a passivity and an alteration, but only if we take them as a very particular type of alteration, irreducible to physical change"⁵⁷³.

Organs' capacity to receive sensible forms implies their capacity to judge. The ability to judge is not reserved only to the mind, but is already present in the outer senses:

⁵⁷⁰ FABRO, PP, 49. "Contro Empedocle che aveva proclamato la necessità di una *συμμετρία* fisica fra l'organo e l'oggetto, fra le ἀπορροαί e i πόροι Aristotele sostituì una *simmetria formale*, fondata sulla contrarietà; contro Anassagora che considerava il sentire una *ἀλλοίωσις* fisica, Aristotele sostituisce una *ἐπίδοσις εἰς αὐτό*".

⁵⁷¹ This term may be rendered as "the mean", signifying the sense organ's openness to receiving a variety of impulses.

⁵⁷² ARISTOTLE, DA, Bk. 2, Ch. 12, 424a [Penguin, 187].

⁵⁷³ FABRO, PP, 59. "Il principio della *μεσότης* prende il suo significato teoretico qui, nel mostrare come dal mondo della corporeità possa arrivare all'anima la forma senza la materia; e quando Aristotele afferma energicamente che, se si vuol ritenere essere il sentire un patire ed un alterarsi, si tratta di un patire ed un alterarsi di natura speciale e irriducibile a quello fisico, era nel suo pieno diritto".

“Aristotle founded our common sense’s ability to judge on the ability to do so in the external sense. [...] He expresses this categorically in the *Topics*, when he affirms that ‘to perceive is to judge’⁵⁷⁴. In the second book of *De Anima*, Aristotle considers the sense organ as a neutral mean between two given extremes: “Sensation being as it were a kind of mean of the opposition in the sense-objects, and thus a judge of them. For it is the mean that judges, being the opposite to each of the two ends of the scale, and, just like that which is to perceive white and black, it must be neither in actuality but both in potentiality”⁵⁷⁵. In order to be affected by a given color, our eye must be different, in order to judge it properly. The organ is thus a “neutral receptacle”⁵⁷⁶, open to two extremes and capable of perceiving and differentiating all colors within those extremes. “The organ, moved by the faculty and the soul, can thus register sensations as variations between two thresholds, and ‘judge’ the nature of those variations”⁵⁷⁷. The mind can judge correctly regarding the exterior world, thanks to the senses’ disposition or μεσότης.

A fundamental point in Aristotle’s teaching on sensed perception is the assimilation of the sensible form as interior, but based on external impulses. It is the sense’s structure or μεσότης that ultimately guarantees this contact between the mind and reality. “Bodily objects can arrive somehow to the soul. [...] The principle of μεσότης was brought in to explain the fact that, while the external organ is physically affected by the stimulus, the faculty that operates the organ becomes altered, along with the soul itself”⁵⁷⁸. The mind comes to be affected by extra-mental objects, thanks to the senses. In defense of Aristotle’s starting point in the senses, Fabro argues that such a beginning is clearly each human being’s starting point; the senses’ inner functioning is certainly a difficult matter. But until now, Aristotle’s teaching, updated by Aquinas and Fabro among others, continues to be the most coherent description and explanation of how we come to know things through the senses.

⁵⁷⁴ GARCIA JARAMILLO, M.A., *La Cogitativa en Tomás de Aquino y sus fuentes*, Eunsa, Navarra 1997, 90. Future reference to this work as CTA. All translations of this work are the author’s. “*Aristóteles ha fundado precisamente la capacidad judicativa del sentido común en la del sentido externo. Con mayor tono categórico se expresa en Tóp. cuando afirma: ‘percibir es juzgar’ [Tópicas, II, 4, 11a, 16]”*.

⁵⁷⁵ ARISTOTLE, DA, Bk. 2, Ch. 11, 424a, [186].

⁵⁷⁶ Cf. FABRO, PP, 49. “*L’organo compie la sua funzione in quanto è ricettacolo neutrale e poi veicolo interno delle qualità che si trovano in un veicolo esterno (il medium)”*.

⁵⁷⁷ Ibid. “*L’organo, a questo modo, cioè la facoltà, e l’anima per esso, può registrare le sensazioni come variazioni fra le due soglie e «giudicare» della entità di tali variazioni”*.

⁵⁷⁸ FABRO, C., «Idealismo e realismo nella percezione sensoriale», in *Rivista di Filosofia Neo-Scolastica*, 31 (1939) 2, 128. Future reference to this article as IRPS. “*Gli oggetti corporei possano arrivare in qualche modo fino all’anima. [...] Il principio della μεσότης è stato introdotto per spiegare il fatto che, mentre l’organo esterno è immutato fisicamente dallo stimolo, la facoltà che attua l’organo e l’anima stessa vengono ad essere mutate”*.

Starting with his all-important philosophy of act and potency, Aristotle holds that we go from not sensing to sensing: "Sensation only occurs when a given external stimulus arrives at the organ in certain, particular conditions. So if the stimulus stops or changes, the sensation also stops or is changed. When an organ is absent, or its function goes awry, an entire cognitive sector goes missing and noticeably affects our cognition"⁵⁷⁹. Thus we clearly rely on external stimuli and objects in order to sense. While Aristotle must search for an explanation of *how* sensation comes about, he never loses sight of the initial and grounding *fact* of external sensation and inner perception. Aristotle's teaching on perception clarifies important factors, as he lays a clear road forward – or inward we might say – towards understanding the process of human knowing.

If we compare Aristotle's treatise on sensation with Kant's consideration of sensation in the CPR, we are struck by the in-depth study in *De Anima*, compared to a mere three pages at the very start of the Transcendental Aesthetic. There Kant agrees with the given-ness of sensation, as all knowledge must ultimately refer to sensation.

The capacity (a receptivity) to acquire presentations as a result of the way in which we are affected by objects is called **sensibility**. Hence by means of sensibility objects are *given* to us, and it alone supplies us with *intuitions*. Through understanding, on the other hand, objects are *thought*, and from it arise *concepts*. But all thought must, by means of certain characteristics, refer ultimately to intuitions, whether it does so straightforwardly (*directe*) or circuitously (*indirecte*); and hence it must, in us [human beings], refer ultimately to sensibility, because no object can be given to us in any other manner than through sensibility⁵⁸⁰.

Kant distinguishes between the matter and form of appearances. The matter is provided in sensation, as given a posteriori; the form is the a priori condition, and becomes Kant's main object of study. He immediately sets aside the matter in sensation as of little consequence in cognition, at least in comparison to the a priori and pure forms in intuition, space and time.

Now, that in which alone sensations can be ordered and put into a certain form cannot itself be sensation again. Therefore, although the matter of all appearance is given to us only a posteriori, the form of all appearance must altogether lie ready for the sensations a priori in the mind; and hence that form must be capable of being examined apart from all sensation⁵⁸¹.

⁵⁷⁹ Ibid., PP, 54. "Il sentire avviene sempre e solo quando un dato stimolo esterno arriva agli organi in certe particolari condizioni; che se lo stimolo viene a mancare o si muta, viene a mancare e si muta anche la sensazione; e che quando manca un organo, o viene alterata la funzione, viene a mancare e ad essere notevolmente alterato tutto un settore della nostra conoscenza".

⁵⁸⁰ KANT, CPR, A19/B33. "Die Fähigkeit (Receptivität), Vorstellungen durch die Art, wie wir von Gegenständen afficirt werden, zu bekommen, heißt Sinnlichkeit. Vermittelst der Sinnlichkeit also werden uns Gegenstände gegeben, und sie allein liefert uns Anschauungen; durch den Verstand aber werden sie gedacht, und von ihm entspringen Begriffe. Alles Denken aber muß sich, es sei geradezu (*directe*), oder im Umschweife (*indirecte*), mittelst gewisser Merkmale zuletzt auf Anschauungen, mithin bei uns auf Sinnlichkeit beziehen, weil uns auf andere Weise kein Gegenstand gegeben werden kann".

⁵⁸¹ Ibid., A20/B34. "Da das, worin sich die Empfindungen allein ordnen und in gewisse Form gestellt werden können, nicht selbst wiederum Empfindung sein kann, so ist uns zwar die Materie aller

Kant then turns to study the pure forms of intuition, without any further consideration of matter provided in that sensation. Aristotle would certainly agree with Kant that “all thought must, by means of certain characteristics, refer ultimately to [sensed] intuitions”⁵⁸². It is in consequence of that relationship that Aristotle takes up his detailed study of the senses. By such consideration he discovers the principle of μεσότης, that enables the senses to perceive sensible objects, in a sort of judging. Sensation provides us with content such as color, sound and hardness; sensation also provides us with the structure in sensed objects, as we will see in the next section. Any theory on human knowing would benefit enormously by a proper consideration of the external senses, since the senses are the reference point for all knowledge of the world around us.

2. The gathering inner sense: common sense

The five outer senses – sight, hearing, smell, taste and touch – are the most immediate elements in our experience. Colors are what first impress our vision, for example. However, beyond colors objects present other qualities to us that are not objects of any individual sense. Characteristics such as size, figure and motion are grasped through two or more senses, for instance sight and touch. While Aristotle himself only mentions the faculty one single time⁵⁸³, Scholastic philosophy makes much use of the *sensus communis*. “Saint Thomas teaches that the common sense is a certain power where all the activity of the senses end up, such that the shape, the size and the other common sensible traits are not perceived through a particular sense, but rather through the common sense”⁵⁸⁴.

The five external senses are clearly distinct from each other, since each has its proper object that only it can sense: sight–color, hearing–sound, etc. When we turn to consider the inner senses, it becomes less clear just how many there are, and why we should posit one inner sense, or two, or six. What specific role does the common sense play? It responds to the need to distinguish between what is properly sensed by the

Erscheinung nur a posteriori gegeben, die Form derselben aber muß zu ihnen insgesamt im Gemüthe a priori bereit liegen und daher abgesondert von aller Empfindung können betrachtet werden“.

⁵⁸² Ibid, A19/B33, cited in note 572.

⁵⁸³ Cf. ARISTOTLE, DA, Bk. 3, Ch. 1, 425° [Penguin, 190-191]; see FABRO, C., «Il problema della percezione sensoriale», in *Bollettino Filosofico*, 4 (1938) 1, 42.

⁵⁸⁴ FABRO, C., «Il problema della percezione sensoriale», in *Bollettino Filosofico*, 4 (1938) 1, 31. Future reference to this work, as PPS. “S. Tommaso insegna che il *sensus communis* è un certo potere nel quale termina l'attività di tutti i sensi e così la forma, la grandezza e gli altri sensibili comuni non sono percepiti mediante un senso particolare, bensì mediante il senso comune”.

individual senses and what is common to several senses: “How could we possibly distinguish color from size, if color were found always and only with size? But since size is perceived by other senses besides sight, which is not true for color, we end up distinguishing color from size, and the properly sensibles from the common ones”⁵⁸⁵. Size is clearly an important trait of the object, perceived both by sight and by touch. The common sense is what perceives such commonly sensed traits as size.

Aquinas gives an example of distinguishing the properly sensible⁵⁸⁶ from what is perceived together: sugar as both white and sweet. Sight and taste can only judge their proper, corresponding realm or object; how are they conjoined in perception of one single object in front of us? By the faculty of common sense.

Neither sight nor taste can discern white from sweet: because what discerns between two things must know both. Wherefore the discerning judgment must be assigned to the common sense; to which, as to a common term, all apprehensions of the senses must be referred: and by which, again, all the intentions of the senses are perceived; as when someone sees that he sees⁵⁸⁷.

The five senses refer their information back to one central faculty. The common sense plays a key role in gathering the multiple data into some type of unity.

The common sense gathers and unites, or to be more exact, the particular, current data of each sense are gathered and united in the common sense, as regarding the same object. After being fragmented in the particular apprehension of the individual senses, the object's unity is regained thanks to the fundamental unity of sensing: the common sense⁵⁸⁸.

The gathering of the distinct sensations into one is the common sense's role; it receives and perceives those common qualities present already to the senses, which the external senses do not perceive in a clear fashion. The external senses take in the colors and sounds, as structured in a certain way; the common sense's object is those commonly sensible, structuring traits such as shape and size.

⁵⁸⁵ Ibid., 38. “Come potremmo distinguere il colore dalla grandezza, se il colore si trovasse sempre e solo con la grandezza? Ma poichè la grandezza è percepita da altri sensi oltre che dalla vista, ciò che non succede invece per il colore, noi arriviamo a distinguere il colore dalla grandezza, i sensibili propri dai comuni”.

⁵⁸⁶ Here sensibles refers to the sensed objects, which the senses have as their object. Sensibles are the activating principles, sense organs are the place where the act of sensation takes place, while the sense faculty is what actually senses and receives the impression, thanks to its state of μεσότης.

⁵⁸⁷ AQUINAS, STh., I, 78, 4 ad 2. “Discernere album a dulci non potest neque visus neque gustus, quia oportet quod qui inter aliqua discernit, utrumque cognoscat. Unde oportet ad sensum communem pertinere discretionis iudicium, ad quem referantur, sicut ad communem terminum, omnes apprehensiones sensuum; a quo etiam percipiuntur intentiones sensuum, sicut cum aliquis videt se videre”.

⁵⁸⁸ FABRO, PPS, 47. “Il senso comune raccoglie, unifica, o per essere più esatti, nel senso comune vengono ad essere raccolti e unificati i dati attuali particolari di ciascun senso rispetto ad un particolare oggetto: l'unità dell'oggetto, frammentata dalle apprensioni particolari dei singoli sensi, si ricostituisce per l'unità fondamentale della sensibilità nel senso comune”.

Because the common sense gathers from all the senses, it can judge the object more fully than the outer senses. As we saw, Aristotle mentions only once the faculty of common sense; it was above all Arab philosophers like Avicenna who considered this faculty more closely. The Arab philosopher devises an ingenious (if somewhat dated) example of the common sense's relationship to the outer senses: The outer senses return back or refer to the common sense like slaves returning to their master with their tributes⁵⁸⁹. Thus it is the common sense that gathers and unites to a certain degree the external senses.

The union between the common sense and external senses is shown in the object or species produced: The two faculties do not produce separate, isolated objects, but one object, called the *species sensibilis impressa*:

The union between the proper sensible and the common sensible is so close that only one single species (*impressa*) is given regarding both elements. This species has two aspects: the real-formal aspect, and the real-modal aspect. The first aspect is due to the action of the proper sensible, while the second aspect is based on the common sensible⁵⁹⁰.

Thus the sensible species has properly sensed traits (color-hardness) as well as commonly sensed ones (size-motion-position), gathered in one determined image or species. The common traits are not added by the common sense; they are already present in the properly sensed, as lying beneath or within the more immediate external traits. The common sensibles act on several senses at once, and so the common sense draws them together and brings out or makes manifest those common traits. We will consider such common traits in the following section regarding the Gestalt.

The unity in the sensible form comes from the unity of the object perceived, and not from the subject's association. "The senses do not have incidental perception of each other's special objects, but only insofar as sensation is a unity. The simultaneous perception of the same object leads to the united sensible form"⁵⁹¹. Aristotle explains this sensed unity with example of bile: Sight sees the object as yellow; taste perceives it as bitter. The conjoining of those two involves a synthesis beyond each external sense. Here is where we may err: We may see a yellow liquid and conclude it to be bitter as bile. However this is supposing a taste-trait that it might not actually have. The common sense does not arbitrarily unite or associate traits, but passively gathers what is presented

⁵⁸⁹ Cf. Ibid., 46-47.

⁵⁹⁰ Ibid., 40. "È così intima l'unione fra sensibile proprio e sensibile comune, che di ambedue non si dà che una sola specie (*impressa*) la quale presenta due aspetti uno reale-formale, ed uno reale-modale; il primo è dovuto all'azione del sensibile proprio, il secondo a quella del sensibile comune".

⁵⁹¹ ARISTOTLE, DA, Bk. 3, Ch. 1, 425a [Penguin, 191].

by the external senses. We may test our judgment of the yellow liquid by tasting it: The senses' objectivity remains the ultimate criteria for our judgment in knowing.

Aquinas contributes another example: Besides each sense's proper object – such as color – “the senses have also their indirect objects, and with regard to these they can be deceived. What seems to be white is indeed white as the sense reports; but whether the white thing is this or that thing, is snow, e.g., or flour, is a question often answered badly by the senses, especially at a distance”⁵⁹². Rather than our senses themselves being deceived (our senses see what is actually white), it is our perceptual-intellectual judgment that can mistakenly identify something for another.

The common sense's object is what is sensed by multiple external senses; the properly sensible is what is sensed only by a single sense, such as color or sound.

I call that sense object special [proper] that does not admit of being perceived by another sense and about which it is impossible to be deceived, as sight is connected with colour, hearing with sound and taste with flavour. [...] The common objects, on the other hand, are movement, rest, number, shape and size, such being not special to any one sense but common to all. For of course a movement will be perceptible to both touch and sight⁵⁹³.

The fact that several senses are involved in perceiving movement and size shows that the common sense's object comes through what is sensed properly or individually by the external senses. Fabro follows Aquinas when he adamantly and repeatedly argues that the common sense does not have an object besides the five proper ones, as if there were a sixth sensed object, not perceived by the outer senses. “The common sensibles, together with the proper sensibles, end up in the common sense, which is the central meeting point of the external senses. That is why it is called ‘common’, and *not because the common sense's proper object is the common sensibles*”⁵⁹⁴. How does the common sense perceive something not specifically perceived in the external senses? Important studies from the Gestalt theory will corroborate Aristotle's initial exposition on sensed perception; we turn to present the Gestalt theory.

⁵⁹² AQUINAS, Comm DA, Bk. 3, L. 6, n. 662 [Yale, 397]. “*Secundo autem sensus est circa sensibilia per accidens; et hic iam decipitur sensus. Quod enim album sit quod videtur, non mentitur sensus; sed si album sit hoc aut illud, puta vel nix, vel farina vel aliquid huiusmodi, hic iam contingit mentiri sensum, et maxime a remotis*”.

⁵⁹³ ARISTOTLE, DA, Bk. 2, Ch. 6, 418a [Penguin, 172].

⁵⁹⁴ FABRO, PP, 84-85. “*Si può dire adunque che anche i sensibili comuni, come i sensibili propri vanno alla fine a terminare nel senso comune, che è il centro nel quale confluiscono i sensi esterni, ed è per questo che si chiama comune, e non perché ha per oggetto proprio i sensibili comuni*”. Italics in the original.

3. The Gestalt theory

If color and surface extension are perceived in different ways and by different faculties, what justifies their union? Does the common sense arbitrarily join colors, sounds and tactile qualities, in order to produce an extended, three-dimensional image situated in space? The associationist school holds that the elemental building blocks of sensations are what we construct and bundle together by the common sense into various groupings. For an example of an associationist theory, Locke holds that sensations are assembled into any sort of Ideas by the understanding⁵⁹⁵. Does extension arise from such association?

De Haan refers to the common sense as the “gestalt sense”, in the sense that the object of the common sense is the gestalt of the object in sensation⁵⁹⁶. Fabro spends a considerable amount of time presenting the conclusions of the Gestalt school regarding our problem of perception and how sensations come to be structured in a particular way. I present here a summary of Fabro’s study, while realizing that the Gestalt theory has developed since 1941. However, enough evidence had been gathered by Fabro’s time to answer convincingly the problem of sensorial organization and structure. Ultimately the theory shows that rather than the sensed structure being a construct of the mind (association into bundles, as if by “mental chemistry”⁵⁹⁷), our perception of the overall structure or form actually precedes and prevails over the individual parts.

⁵⁹⁵ Cf. LOCKE, EHU, Bk. 2, Ch. 2, §2. “These simple *Ideas*, the Materials of all our Knowledge, are suggested and furnished to the Mind, only by those two ways above mentioned, *viz. Sensation and Reflection*. When the Understanding is once stored with these simple *Ideas*, it has the Power to repeat, compare and unite them even to an almost infinite Variety, and so can make at Pleasure new complex *Ideas*. But it has not in the Power of the most exalted Wit, or enlarged Understanding, by any quickness or variety of Thought, to *invent or frame one new simple Idea* in the mind, not taken in by the ways before mentioned”.

⁵⁹⁶ Cf. DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», in *American Catholic Philosophical Quarterly*, 88 (2014) 3, 403-404.

⁵⁹⁷ Fabro attributes this term “mental chemistry” to James Mill, as a key element in associationism. “*In questa descrizione va rilevata l'introduzione — come ipotesi ausiliare — del principio che gli storici indicano con il termine di mental chemistry, il quale, a considerarlo bene, è già un ripudio, od almeno un inizio di ripudio dell'associazione rigida e meccanica quale forse si aveva in Hume e quale si presenterà in modo esplicito nell'associazionismo sperimentale. Per la ripresa che fece il Mill del problema percettivo da un punto anteriore a quello considerato da Hume — che lasciò il problema dell'oggetto per attaccarsi a quello dell'esistenza — e per i principi nuovi introdotti, può ben dirsi che l'associazionismo, non solo è sfuggito ad una morte davvero precoce, ma ha preso gli inizi con passo franco per una interpretazione della percezione che non conoscerà più alcun arresto. Essa segnerà la dissoluzione ultima dell'oggetto anche sotto l'aspetto — di cui Hume non s'era direttamente occupato — dell'unità dal punto di vista formale, e non puramente esistenziale dei suoi contenuti. Le percezioni saranno ricondotte, per vie più o meno trasverse, alle sensazioni, e le sensazioni stesse saranno considerate come il risultato di sintesi a partire da elementi ancor più ridotti: un pulviscolo psichico che ondeggia nella subcoscienza, dalla quale gli oggetti emergono in unità fattizie per l'intervento di abitudini o abilità sintetiche che il soggetto ha acquistato nell'esercizio dell'esperienza stessa. È questo il periodo aureo dell'Associazionismo*”. FP, 97.

While Fabro draws heavily on the Gestalt theory for his theory of perception, he accepts only the theory's description, while rejecting elements of the Gestalt school's explanation of perception. The Gestalt school's main contribution is its experimentation on a psychological level of how we perceive things; this comes as experimental proof or justification of the essential elements of Aristotle's and Aquinas's theory of knowledge. It should be made clear that Fabro is not a member of the Gestalt school, since he expresses severe criticism of certain aspects of the theory. An exhaustive presentation of the Gestalt theory is far beyond the scope of this thesis; what does Fabro glean from the Gestalt theory? How does he understand the term "Gestalt"?⁵⁹⁸

We take "Gestalt" to mean above all the way in which objects "appear" in perception. The "Gestalt" is that which stands out on its own in perception, as a primary element constituting the central aspect and essence of the fact of perceiving. [...] "Gestalt" is what stands out in a clear, defined way, by which a given content can be singled out on its own and not confused or exchanged with other contents⁵⁹⁹.

The immediacy of the form over the parts will be justified further on; for now, suffice this initial understanding of Gestalt as being what perception draws out of the field of perception first and foremost.

3.1. *The Gestalt beyond the mere sum of the parts*

Carl von Ehrenfels is the first to develop the idea of Gestalt in psychology, calling it a "form quality" (*Formsqualität* or *Gestaltqualität*). He gives two basic principles or attributes of this *Formsqualität*: "a) The 'form' is something else, or better, something more than the sum of its parts"⁶⁰⁰. Von Ehrenfels finds that a person may be presented with all the distinct parts of a picture or object, but only when he grasps the "law" of its organization does the picture come together and "jumps out" at him, as it were. The second principle of the Gestalt quality is its ability to be transposed (*Transponierbarkeit*): "b) The entire set of elements can be switched out, without thereby altering the basic unity of the 'whole'"⁶⁰¹. Both principles lead von Ehrenfels to conclude that the Gestalt quality is the system of

⁵⁹⁸ The fact that the psychological school has kept the original German word in its name shows to what extent the term "Gestalt" is difficult to translate. An ongoing description will lead us to understand it better. For an initial translation, while risking to reduce its full meaning, Gestalt means "form-figure-structure-whole".

⁵⁹⁹ FABRO, PPS, 6. "Per «Gestalt» si intende anzitutto il modo proprio di «apparire» degli oggetti nella percezione: la «Gestalt» è ciò che nella percezione s'impone di per sé e per primo e costituisce il momento centrale e l'essenza del fatto percettivo. [...] la «Gestalt» è ciò che s'impone in modo definito, per cui un dato contenuto può essere individuato in sé e non può essere confuso o scambiato con altri".

⁶⁰⁰ Ibid., FP, 153. "a) La «forma» è altra cosa, o meglio, qualcosa di più della somma delle sue parti".

⁶⁰¹ Ibid. "b) Si può cambiare tutto il complesso degli elementi, senz'alterare per ciò l'unità primitiva del «tutto»".

representations necessary in order to perceive formal qualities: “We may call [the Gestalt qualities] the foundation of the formal qualities”⁶⁰². Formal qualities here signify the properly sensibles, such as color.

Members of the Gestalt school are avid opponents to the associationist principle of the whole as simply the sum of the parts. The Gestalt theory shows that this atomist approach does not in fact correspond to experimentation: Only rarely can a person see without perceiving some overall whole. We naturally tend to regard a given object as an integrated whole. The bundle theory’s pieces are only noticed in a second moment; first the whole is perceived.

In real life, what is given (*das Gegebene*) is presented always as structured (*gestaltet*), even if to varying degrees. Thus what is given immediately presents an air of totality, more or less defined, as it presents total processes with total properties, total tendencies, total characteristics and determinations of its parts. The so-called “pieces” appear almost always as “parts” of complete processes, which are given immediately in the content, previous to the parts⁶⁰³.

The concepts of pieces and parts come secondary to the concept of the whole. In order to understand better the importance of the Gestalt as more basic than the individual parts, we consider Wertheimer’s description as presented by Fabro: “We find wholes (*Zusammenfassungen*) and complexes that we cannot explain based on the individual fragments’ traits. Rather, in most cases it is the wholes that explain what happens in each of their parts, by way of laws that govern their internal structure”⁶⁰⁴. Above all the Gestalt’s role is to *explain* the order of the parts, by setting the laws of their actual conglomeration and structure. This primacy of the whole over the parts in perception is a key step in solving the problem of sensorial structuring and organization. “In our perception, the elements and parts do not ‘emerge’ first, as if steering the direction of behavior, but rather it is the ‘total structures’ that do so, and are called precisely ‘Gestalt’ or ‘forms’”⁶⁰⁵.

⁶⁰² Ibid., 154. “*Quei complessi di rappresentazione che sono necessari per la presenza delle qualità formali noi li chiameremo il fondamento delle qualità formali*”. Fabro cites directly from EHRENFELS, C., *Ueber Gestaltqualitäten*, «Vierteljahrsschrift f. Wiss. Philosophie», XIV (1890), 262-263.

⁶⁰³ Ibid., 174. “*Di solito, nella vita reale, il dato (das Gegebene), si presenta sempre, sia pur in gradi varî, come strutturale (gestaltet); esso ha immediatamente il carattere di totalità, più o meno definito, e presenta processi totali con proprietà totali, tendenze totali, caratteristiche e determinazioni totali delle parti. I cosiddetti «PEZZI» appaiono, quasi sempre, come «PARTI» di processi totali, i quali sono dati immediatamente nel proprio contenuto, e anteriormente alle parti nella loro origine*”.

⁶⁰⁴ Ibid., PPS, 9. “*Esistono degli insiemi (Zusammenfassungen), dei complessi, i quali non sono suscettibili di venire spiegati dal modo di essere e di comporsi dei singoli frammenti, bensì, al contrario, nei casi più tipici, che sono essi, in quanto costituenti un tutto che spiegano ciò che avviene in ciascuna delle loro parti, grazie alle leggi che presiedono alla loro struttura interna*” [Wertheimer, *Ueber Gestalttheorie*, 1925, 6-7].

⁶⁰⁵ Ibid., 7. “*Nella vita percettiva non sono gli elementi e le parti ad «emergere» per primi e a prendere il timone della condotta, ma delle «strutture totali» che sono dette appunto «Gestalten» o «Forme»*”.

3.2. Stumpf on perception of the form as “in und mit”

Carl Stumpf is a particularly significant member of the Gestalt theory school, whom Fabro relies on extensively. Regarding our problem of how the commonly sensitive aspects are based on the properly sensed ones, Stumpf distinguishes between our perception of absolute, pure content and our perception of relations. Whereas the properly sensed aspects act as pure content, we perceive such colors and sounds only by grasping the relations inherent to them. Our development in perception regards precisely drawing out those relations more and more. “Our grasp of a relation between the parts of a whole, or the multiple relations within a complex unit, is what defines perception as clear cognition, useful for life and for science. This network of relations in matter is what constitutes the Gestalt”⁶⁰⁶. While art and science reach much higher, abstract levels of relation in concepts, our sensed perception already regards the basic relations of the Gestalt. This initial level of relations is clearly immediate to perception, since the content is only perceived as already and immediately related.

There are some categories of relations that are immediately perceived, along with the content to which they belong; the Gestalt is the “immediate relational whole” (*ein unmittelbar Verhältnissganz*). Since such relations are immanent and within the data, they are not derived from the data, as soon as they are isolated (as what occurs instead with the attributes). Rather, these relations come about inasmuch as the contents are found together⁶⁰⁷.

Since relations are grasped at the same time as content, Stumpf calls our perception of such relations “com-perception” (*Mitwahrnehmung*): “Let us call it com-perception (*Mitwahrnehmung*), so as to avoid any suspicion of the phenomenon following upon the contents. This means that the Gestalts are perceived within and in (*in und mit*) the absolute content”⁶⁰⁸. The prepositions “in” and “with” are key to understanding the properly and commonly sensed objects’ relationship to each other, as content and structure-relation perceived together.

Stumpf argues against other currents within the Gestalt school, in favor of an Aristotelian understanding of sensed perception. All Gestalt members agree that

⁶⁰⁶ Ibid., PP, 105. “È l'apprensione di una relazione fra le parti di un tutto o di molteplici relazioni in un complesso ciò che costituisce propriamente la percezione al suo stadio di conoscenza distinta, utile cioè ai fini della vita e della scienza. Questo complesso di relazioni del materiale è ciò che costituisce la Gestalt”.

⁶⁰⁷ Ibid. “Vi sono alcune categorie di relazioni che sono percepite immediatamente, come i contenuti a cui appartengono, e la Gestalt è il «tutto relazionale immediato» (*ein unmittelbar Verhältnissganz*). Tali relazioni, perché immanenti ai dati, non derivano ad essi in quanto sono isolati — com'è il caso, invece, degli attributi — ma in quanto tali contenuti si trovano insieme”.

⁶⁰⁸ Ibid. “Diciamola, per togliere ogni sospetto di posterità fenomenale rispetto ai contenuti, *Mitwahrnehmung con-percezione*. Si vuol dire che le «Gestalten» sono percepite assieme e nei (*in und mit*) contenuti assoluti”.

individual sensations are very rarely perceived on their own and separate from some sort of structured whole. “The sensed content forms the elements of the organized whole as the object, while relation is the structuring bond”⁶⁰⁹. How we perceive that structuring relation is where the Gestalt theory members differ. Stumpf argues that the structure emerges from the content of sensation: “It is given in and with the data content”. There is an intrinsic unity between the sensible content – for example, color – and the Gestalt, as the content’s structure and relation. The unity between the two aspects is guaranteed by the unity of consciousness: We are aware of both levels and can properly distinguish them. The fact that a figure may change color and still be perceived as the same figure shows that our consciousness can distinguish between the two, while realizing that they are always present together: *in und mit*, to use Stumpf’s prepositional phrase. Fabro concludes by explicitly equating these “*Formsqualitäten*” with Aristotle’s commonly sensed objects⁶¹⁰.

Thomas Aquinas relates the properly sensed and the commonly sensed with Aristotle’s categories of quality and quantity, respectively. The properly sensed are qualities that cause an alteration in the external sense⁶¹¹. Aspects such as size, shape and motion are sensed through several senses; all of these are types of quantity. If we take the Latin sense of subject as “lying beneath”, then we can say that the quantitative aspects – shape, size, motion and all the commonly sensibles – are the “subject” of the qualitative aspects, like color and hardness. Aquinas uses the example of color and surface, as color’s subject or basis: “The common sensibles do not move the senses first and of their own nature, but by reason of the sensible quality; as the surface by reason of color”⁶¹². This is precisely what Stumpf argues that we perceive “in und mit” properly sensibles. To show that the two aspects go together, Thomas states: “Sense is immuted differently by a large and by a small surface: since whiteness itself is said to be great or small, and therefore it is divided according to its proper subject”⁶¹³. The properly sensed color white is only ever perceived as quantified on a surface. Our perception of the surface relies on the color but in a certain sense goes beyond it, since surface has its own peculiarities different than color.

⁶⁰⁹ Ibid., 102. “*I contenuti sensoriali sono gli «elementi» di quel tutto organizzato che è l'oggetto, la relazione è il vincolo di struttura*”.

⁶¹⁰ Cf. Ibid.

⁶¹¹ Cf. AQUINAS, STh, I, 78, 3 ad 2.

⁶¹² Ibid. “*Sensibilia communia non movent sensum primo et per se, sed ratione sensibilis qualitatis; ut superficies ratione coloris*”.

⁶¹³ Ibid. “*Alio enim modo immutatur sensus a magna superficie, et a parva, quia etiam ipsa albedo dicitur magna vel parva, et ideo dividitur secundum proprium subiectum*”.

As a further explanation for the commonly sensed aspects as the underlying basis for any sensed perception, Aquinas points to the fact that there is a bare minimum size for us to perceive a given object. Molecular structures certainly exist, but the senses do not register them, because the energy-stimulus from them is too small in intensity. The fact that size and intensity (a type of quantity) are what allow for sensation points to the distinction and interdependence between properly sensed objects and commonly sensed ones. If there is a minimum and maximum of intensity required for sensation, then the sensed qualities rely on quantity⁶¹⁴.

3.3. *The Gestalt's founding and its subjective elements in perception*

Where does the Gestalt come from? Is it psychologically added, as in the common sense structuring sensation in a certain, constant way? Some founding members of the Gestalt theory like von Ehrenfels argue against the Gestalt being "found" in sensation, as already given. Von Ehrenfels recognizes the primordial role of the Gestalt in perception, while attributing such structure and relations as based only on psychological and subjective processes, in agreement with the associationist school. The Gestalt certainly exists, but how does it arise?

The number of external senses necessarily implies a fragmentation in perception. The common sense plays an important role in uniting such fragmented information into an integrated whole. Its criteria for such unity is not purely subjective and psychological: The properly sensed qualities are sensed as already structured and determined by the object, insofar as the commonly sensed quantity of surface or size is always conjointly perceived in and with its qualities. Rather than the subject actively organizing the parts, the common sense simply gathers together the properly sensed into a whole, based on the qualities and quantity already present in external sense.

Since the subject considers all the actual data of the senses in respect to the same object, this object gains its own value in the common sense, where it is defined as a real object. It can then undergo a certain amount of integration and correction, even regarding the common sensibles. Thus the Gestalt, present from the beginning, becomes ever clearer and full of meaning⁶¹⁵.

⁶¹⁴ Cf. FABRO, PP, 138, and Fabro's reference to AQUINAS, *In De sensu et sensato*, L. 15, n. 221.

⁶¹⁵ Ibid., 93. "*Nel senso comune, per la con-presenza al soggetto di tutti i dati attuali dei sensi, rispetto allo stesso oggetto, quest'oggetto acquista anzitutto un valore proprio, definito come oggetto reale, e poi può avere una certa integrazione e correzione, anche rispetto ai sensibili comuni, per la quale la Gestalt, presente fin dall'inizio, si fa più nitida e pregnante*".

The human mind certainly plays an active role in perception, since we may create, imagine or fantasize all sorts of objects. However, such fantasizing comes from a different faculty than the common sense. Just as the sense organs rely completely on external stimuli for their activation in sensation, the common sense relies only on the structured organization and basic relations that it receives from the object. Fabro compares the faculty of the common sense to a single, Cyclops-like inner eye, as it "is turned towards all the senses, their acts and objects"⁶¹⁶. This is similar to the image reported earlier of slaves returning to their master. The common sense is not responsible for creating new forms, like the imagination; the common sense seeks "to grasp with a single gaze the 'actual form', which the particular senses see 'here and now' from different angles"⁶¹⁷. The common sense is ultimately a passive reception and organization based on current sensations.

In order to understand human perception, we must always keep in mind both members of the relation: the object and the subject. While the structure perceived by the common sense is determined by the object and based on structures received from the object, we must also recognize the subjective elements involved in perception. The common sense is an inner sense, assigned the task of uniting various sensations into a whole. This uniting process has two types of factors: what Stumpf distinguishes as non-founded Gestalts and founded ones. All Gestalts are ultimately based on sensation and its content; the difference between the founded and non-founded ones is how directly they relate to sensed content (founded), or include more of the subject's involvement (non-founded)⁶¹⁸. To distinguish the two types, Fabro uses the example of the sketch of a cat: In order for a person to grasp the form of the cat, they must already have seen a real cat, or at least an image of one. Perceiving the Gestalt depends on subjective elements: in this case, previous experiences of cats. Such elements are non-founded Gestalt, in that they are subjective.

Some Gestalts are already clear in the "sensed whole" (*Empfindungskomplex*) of the sensorial presentation [founded Gestalt]. There are other Gestalts that arise only thanks to the intervention of subjective factors [non-founded]. We can speak then of "forms" as either given or made, aroused or free, natural or artistic, objective or subjective⁶¹⁹.

⁶¹⁶ Ibid., 94. "Il senso comune è come l'occhio ciclopico dell'anima senziente, volto a tutti i sensi ed ai loro atti ed oggetti".

⁶¹⁷ Ibid. "Quando il senso comune giudica degli oggetti dei sensi, unificando o diversificando, non lo fa per arrivare a «Forme nuove», ma solo per afferrare con un solo sguardo una «Forma attuale», che i sensi particolari vedono «hic et nunc» da vari lati".

⁶¹⁸ "Non-founded" should not be confused with "unfounded". Unfounded emphasizes the purely unreal, as not based in reality. Stumpf's non-founded Gestalt has a different sense, as subjective elements related to sensed objects.

⁶¹⁹ FABRO, PP, 108. "Si danno cioè delle Gn che sono già delineate nell'«Empfindungskomplex» della presentazione sensoriale; mentre altre, invece, sorgono soltanto per l'intervento di fattori soggettivi. Si

The subjective elements in perception are present from the start as real factors in perception. This aspect of subjective elements leads Stumpf to identify two basic elements in human perception: *Erscheinungen*, and psychic functions (*psychische Funktionen*). *Erscheinungen* can be translated into English as “phenomenal appearances”, or presentations. The *Erscheinungen* are the given material or “data”, in the Latin sense of “given”; such appearances can be present both in current perception, as well as present in our memory. They are given by the external object and not produced by psychic processes. The psychic functions on the other hand are those circumstances and experiences that go along with the content-giving *Erscheinungen* or appearance; the psychic functions develop those *Erscheinungen* by drawing out their inner and external relationships, especially how they affect the subject emotionally.

Our grasp of reality depends on the intimate relationship, within the act of knowing, between the psychic function and the “*Erscheinung*”. The “*Erscheinungen*” are real, insofar as they are the content of the functions. The functions are real insofar as they are made manifest in the “*Erscheinung*”. Functions and phenomenal presentations are mutually objective, because they are “immediately given” in the comprehensive act of perceiving⁶²⁰.

It is the interplay between content and the psychic development of content that explains the basic development of our perceptual knowledge. Both elements have their proper role, which must be ascertained properly. As we saw, color and surface extension go together in the phenomenal appearance, as basic structures received in perception. Extension is one of those properties immersed in sensation, and so it is given. Aristotle includes space and time among his commonly sensibles, in that they are already somewhat present in sensation⁶²¹. Thanks to the Gestalt theory’s experimentation, we discover that our perception regards overall structure before individual parts. Stumpf calls the more complete, global perceptions *Empfindungskomplex*, or sensation complexes⁶²². Our original, basic perception regards these complexes, as we grasp their content and

può parlare perciò di «forme» date e di forme fatte, eccitate e libere, naturali ed artistiche, oggettive e soggettive”.

⁶²⁰ Ibid., 103. “L'apprensione del reale è condizionata dalla compenetrazione intima, nell'atto conoscitivo, fra funzione psichica e la «*Erscheinung*». Le «*Erscheinungen*» sono reali come «contenuti», in quanto si riferiscono alle funzioni; le funzioni sono reali in quanto si manifestano nelle «*Erscheinungen*». Le funzioni e le presentazioni fenomenali si oggettivano le une per le altre in quanto sono «immediatamente date» nell'atto comprensivo del percepire”.

⁶²¹ Cf. Ibid. «The connection between color and extension is not the result of habit or association, rather they are intrinsic to the optic sensorial qualities. A certain, more or less basic extension belongs to all sensorial content and representation as something intrinsic. In this sense Aristotle listed Space and Time among the commonly sensed, as among those contents that are perceived by all the senses». “La connessione fra colore ed estensione non è frutto di abitudine o d'associazione, ma è intrinseca alle qualità sensoriali ottiche, cosicché una certa estensione, più o meno rudimentaria, appartiene come proprietà immanente (als immanente Eigenschaft) a tutti i contenuti sensoriali e rappresentativi. In questo senso Aristotele annoverò Spazio e Tempo tra i κοινὰ αἰσθητά cioè fra quei contenuti che sono percepiti generalmente da tutti i sensi”.

⁶²² Cf. Ibid., 108.

basic relations. The *Empfindungskomplex* form the “raw material” with which our knowledge in art and science goes on to develop such things as geometrical Euclidean space and timed music. These further developments work with the raw material of sensed perception, like stone blocks drawn from a quarry and used in many elaborate structures, but always as their founding basis⁶²³. What must be recognized – and here the Gestalt theory provides a clear experimental basis for Aristotelian principles – is that at the basis of all knowledge we have *given*, unanalyzed wholes: “What is immediately given in both external and internal experience, is only ever ‘unanalyzed wholes’ (*unanalysierte Ganzen*) of sensorial qualities, as an overall psychic situation”⁶²⁴. Thus we discover a fruitful interplay between the object and the subject in perception: The object provides the data and inherent relations, while the subject interiorly works draws out or makes explicit the relationships given in perception. The fact that the relations are already present in sensation, and only eventually made explicit by psychic functions, should not lead us to believe that the subject invents such relations. Stumpf holds such relations as initially unnoticed, only to be made explicit subsequently in perception⁶²⁵.

The Gestalt theory shows the importance of the structure of sensed content, as present “in and with” the properly sensible elements. The common sense helps explain how the multiplicity of sensible aspects come together. The criteria for such grouping and organization is already found in initial sensation, that is, it is given. Nevertheless, since this is human perception and not merely the automatic sensing of a motion detector, we can distinguish the *Erscheinungen* along with subjective factors, such as previous experience and emotional reactions. Stumpf emphasizes the distinction by calling the purely sensed contents “*Begriff*” (concept), and the subjective awareness and elements surrounding it, “*Inbegriff*” (conceived in)⁶²⁶.

We begin to distinguish the content in sensed perception (*Erscheinungen*) from the functions that go along with that content. In our process of knowing the objective and subjective elements go together. To what degree are such aspects as shape and motion part of the phenomenal appearance, and to what degree are they based on subjective functions, as we “handle” the contents of sensation interiorly? The Gestalt theory provides us with important experimental data that show that the Gestalt-figure is an integral part in

⁶²³ Cf. *Ibid.*, 103-104.

⁶²⁴ *Ibid.*, 104. “*Ciò che è immediatamente dato, tanto nell'esperienza esterna, come in quella interna, sono sempre e solo dei «tutti non analizzati» (unanalysierte Ganzen) di qualità sensoriali, una situazione psichica globale. La priorità, affermata in Aristotele, del tutto sulle parti ha un'applicazione piena anche in Fenomenologia*”.

⁶²⁵ Cf. *Ibid.*, 111.

⁶²⁶ Cf. *Ibid.* 105.

the *Erscheinung*; it is in fact the whole of the parts. To attribute the structure of colored objects to vague principles of association alone does not correspond to the way we perceive objects.

4. Conclusions regarding the initial organization in our sensed perception

How does our sensed perception come to be organized? Is the organization immediately subsumed by the mind, like taking a photograph capturing all the elements? Or is the organization a construct of the sensed elements into a mosaic that could just as well be arranged differently? The school of associationism proposes a theory of inference to explain this organization. The theory states that what we immediately perceive is only the proper object of each sense; all further organization is determined and referred by intellectual elements. The associationists' argument against the perceived structure as immediately given is that perception contains a certain possibility of error.

Were our [sensorial] knowledge immediate, it would not present anything but the pure and simple datum, as that which is and not at all subject to error or illusion. The fact that we err means that perception is made of many different processes, which can be combined and converge on a single end-product according to a more or less certain probability. That is why we find perceptions that are true or inadequate, or downright false⁶²⁷.

Such possibility of error rules out the elements as being given, within the associationist theory of inferring. They argue that what is given is beyond error. The structure we find in our sensorial organization is therefore a construct from the subject. Associationism leaves us with a vast amount of particular sensations, to be conglomerated together. The criteria for such piecing together would be past experience, i.e. mosaics pieced together in the past. However, such criteria lead to an infinite regression in past perceptions based on previous ones, *ad infinitum*⁶²⁸. The theory of inference is in the end a non-explanation, and simply based on habits similar to Hume's.

Cognition is primarily a vital act; if it involves a synthesis, it has no value in itself, except inasmuch as it is incorporated into a unity of higher value. But since the associationists broke up the unity of the apprehensive act and the indivisibility of the object, by introducing their principle that impression is the first element in knowing, they found themselves in the difficult

⁶²⁷ Ibid., 333. "*Se fosse una conoscenza immediata, non presenterebbe che il dato puro e semplice, ed il «dato» è quello che è, e non va soggetto ad errore od illusione. Il fatto dell'errore indica che la percezione comporta processi molteplici e vari, i quali si possono combinare e convergere ad un risultato secondo una probabilità più o meno estesa: per questo si hanno, nella percezione, apprensioni vere e inadeguate, od anche al tutto false*".

⁶²⁸ Cf. JAMES, W., as cited by FABRO, PP, 335.

position of having on their hands content of irrelative and inert materials, which in no way correspond to the richness and creativity of real knowledge⁶²⁹.

The criterion of past experience fails to explain human perception as we experience it. Associationism is left with the task of justifying how we constantly come up with the same structures. The Gestalt theory shows the given nature of sensorial organization already present in sensation, while also involving a subjective element in structuring. The common sense is essentially passive, as it receives and specifies the structure already perceived in the sense.

The mind is certainly at work in all aspects of human perception; the mind draws out relations that are implicit in sensed perception. Fabro concludes that all experience involves what is initially given in perception, as further specified and understood by the intellect:

The structure in experience is recognized as immanent to that very experience, under the guise of "given"; that is to say, the sensorial content is presented from the start with a "certain" amount of organization, and the content cannot exist without such organization. A perfect level of organization is clearly due to our mental functions, but those mental functions do nothing but make explicit and develop what has already been "presented" in experience, in forms that are still basic. Those forms are "intuited" in the qualitative data of perception; not that they arise as the effect of the consciousness's spontaneity as it turns to the contents of experience, but rather because reality itself is reflected that way and in those primitive forms within the soul, thanks to sensible experience⁶³⁰.

Thus we see perception as the interface between the object and the human subject: The object provides us the data, while the mind's psychic and intellectual functions develops what is given. We compare the findings of Gestalt theory with Kant's theory of apriorism, and they stand in stark contrast. Whereas Kant's matter in knowledge is sensed intuition, all order and structure come from the *Ich denke* applying space and time to it first, then the categories and judgment, in transcendental schematism. The Gestalt theory draws its conclusion from experiments and perception: "It is simply false that the senses always present us with dispersed elements, pure masses of impressions lacking order and connection. Our field of vision presents itself to us from the start as

⁶²⁹ FABRO, C., «Knowledge and Perception in Aristotelic-Thomistic Psychology», *The New Scholasticism*, 12 (1938) 4, 337. Future reference to this work as KP. It is originally published in English.

⁶³⁰ Ibid., FP, 56-57. "*L'ordine dell'esperienza va riconosciuto immanente alla esperienza stessa sotto forma di «dato»: cioè i contenuti sensoriali si presentano fin dall'inizio con un «certo» grado di organizzazione e non possono essere senza tale organizzazione. L'organizzazione allo stato perfetto compete certamente alle funzioni mentali, ma queste stesse funzioni mentali d'altronde altro non fanno che esplicitare e far progredire quanto è stato già «presentato» nell'esperienza secondo forme di ordine ancor rudimentario. Queste forme sono «intuite» nei dati qualitativi di percezione, non perché sgorgano quale effetto della spontaneità della coscienza quando s'applica ai contenuti di esperienza, ma perché è la realtà stessa che si riflette a quel modo e secondo quelle forme primitive di ordine nella coscienza a traverso la esperienza sensibile*".

organized, and it is up to us to single out the parts and discover its intrinsic ordering”⁶³¹. Thus Kant’s a priori forms in sensed knowledge fail to consider properly human sensation and perception, as already presenting us with a structured, ordered world. Granted, the Gestalt theory came 100 years after Kant, while he worked with the atomistic, mechanistic and associationist theories prevalent in the 18th century. Such associationism is common among empiricists like Locke and Hume, as well as mechanical science prevalent in Kant’s time. The Gestalt theory provides us with a more adequate image of human perception, by overcoming the problems left by such associationism.

One important problem is still left unanswered, regarding the transition from the chemical-physical nature of external stimuli and the psychological nature of human sensation and perception. How can something physical determine something like the human soul, which transcends purely material, physical reality? Here Fabro openly admits our ignorance regarding the science behind such a physiological process as human sensation⁶³². Certainly scientific studies have gone beyond the knowledge and theories held in 1941. For instance, our knowledge of the peripheral and central nervous system is much more detailed; however the transition from the physical-chemical-biological level to the level of perception, awareness and thought is one that goes beyond science. The physiological process clearly does affect the human soul; how it does so is the question we leave for further consideration. Here I simply draw attention to the small yet essentially significant transition from the physical and physiological order to the psychic, mental order.

Pimental’s proposal of isomorphism referred to at the beginning of this section is a reductive approach to sensation that does not properly allow for a real difference between the physical level and the intentional level in sensation. They are certainly related, as we do receive information from the outside; nevertheless, the real difference in modes of being must be understood.

Since sense knowledge has two aspects, one physical and one cognitive, it should be clear that every cognitive event is co-occurrent with a physical event, and this means that there can be no sense knowledge if there is no bodily change. Although the reception of an accidental form, i.e., a quality, co-occurs with a certain physical change, this change does not by itself cause knowledge⁶³³.

⁶³¹ Ibid., PP, 412. “È semplicemente falso che i sensi ci presentino sempre «elementi dispersi», puri ammassi di impressioni senz’ordine e connessione. Lo stesso campo visivo si presenta fin dall’inizio come avente una organizzazione e non ci resta altro da fare che rilevarne le parti e constatare l’ordinamento intrinseco”.

⁶³² Cf. Ibid., 122-123.

⁶³³ TELLKAMP, J.A., «Aquinas on Intentions in the Medium and in the Mind», in *Proceedings of the American Catholic Philosophical Quarterly*, 80 (2006), 282.

Tellkamp goes on to argue that *formal* identity is maintained in sensation, not physical identity. Intentionality works on a different plane than physical reality; the sense faculty is able to receive the sensible form from physical impulses, in a manner that is proper to itself as a human sense faculty. “In opposition to natural processes in which one form succeeds another (e.g., the form of heat in water replaces the form of coldness), the cognition of a sensible form does not entail that it ‘takes over’ the form of the cognitive power, because the cognitive power already exceeds the limitations imposed by matter”⁶³⁴. It is our ability to sensibly perceive things that allows for a real transition from the physical to the intentional level, while conserving in the sensible form the information-content received from outside ourselves.

Our outer senses, gathered in the common sense, provide a structured, qualified image or species of objects. The Gestalt theory allows us to overcome the several types of associationist theories: The basic unity of content and structure provides us with a firmly objective basis and point of reference in perception. For all its worth, the Gestalt theory alone is unable to found the Gestalt in an overall process of assimilation. Only if we integrate the theory into a larger scheme can we appreciate more fully its role. We turn now to the next step in perceptual assimilation and knowing.

⁶³⁴ Ibid., 283.

CHAPTER 6: KNOWLEDGE OF THE CONCRETE OBJECT, IN LIGHT OF ITS MEANING

As important as sensorial organization is for our perception of the world outside of ourselves, it is hardly sufficient to explain our perception as it happens in everyday experience. The common sense implies a transition to a higher, more interior level, as it comes to grasp the object more fully and beyond pure sensation; however, the common sense still only regards our current, actual sensations of objects. Sensations are not the only factor in perception: Our past experiences, our emotional states and our vital needs all come into play in perception as well. With the basis of the primary sensorial organization in the Gestalt, we turn to consider a further development in perception, as the second moment of organization and greater apprehension of objects. Just as the common sense allows us to situate the properly sensibles within a Gestalt-structure, problems such as perceiving space and motion arise beyond mere forms. How do we perceive things such as continual motion and space?

Since space is a key element in Kant's theory of perception, the Gestalt theory contributes an important factor regarding our perception of space. While color and extended surface are clearly objective content in perception, space involves both objective, commonly sensible elements, as well as subjective elements. Here the fact of *human* perception comes to the fore, since our perception of being in immediate relation with our surroundings plays an important role. We see three dimensions as an objective element in space, while many subjective elements also factor into our notion of space. Such subjective elements do not make space arbitrary: They are based on sensed perception. Space involves founded and non-founded elements, to use Stumpf's terminology. The non-founded elements involved in perceiving space must include some capacity or faculty beyond the common sense.

Another important factor besides space is our perception of objects in continuous motion. If all we had were current, immediate sensations, it would be impossible to justify a continual whole in motion. Hume's critique of sensed perception of identity would hold true. What in our perception allows for perceiving motion over time as a continuum that is a unified whole? The Gestalt school itself becomes divided regarding this problem of continual motion. Witasek and others propose that the gestalt or integral whole of continual motion is attributed by the mind as a completely psychic factor in perception. This factor is actively the mind's doing, without which our experience would be precisely

Hume's patchwork of individual sensations⁶³⁵. Others within the Gestalt school think that this goes against the facts of the gestalt as basically given in perception. The problem of how we perceive continual motion involves time a key element in perception; the common sense's limitation to purely present sensation cannot take into consideration duration over time. Perception of motion involves a further organization, based on some other faculty beyond the common sense.

Further gestalt studies point out a key element in perception, beyond the pure form or gestalt. It is simply not enough to have all the parts properly structured, with a clearly perceived form. One thing is to see an object, quite another thing is to grasp or understand it. "A form can be perceived with its traits of internal structure, without the subject knowing what it is, that is, without the form reaching its complete, full meaning"⁶³⁶. Fabro reports Michotte's important principle of perception as a "*prise de signification*": a grasp of meaning or significance. "The comprehension of meaning' of an organized form is a separate fact from the 'presence' of a thing, of its organized form"⁶³⁷. Often, until we grasp the meaning of a thing, its structured form is not fully grasped. Thus some further perceptual organization is required, to grasp the meaning of the thing beyond its form.

What exactly allows for this further development that both grasps a continued, united motion, as well as arrives at the meaning of the object? Is it completely subjective, as a sort of mental chemistry whereby we assemble the forms according to our arbitrary decision? These questions will be answered in this chapter; what is clear is that the Gestalt theory alone is not sufficient to explain our perception. Human perception involves important factors beyond perceiving neutral, basic forms: Objects are perceived with their respective "place in the real world, and that implies a complex appreciation of value"⁶³⁸. Objects are only fully perceived insofar as their worth or meaning has been recognized; the process of that recognition is what the secondary organization regards. Our perception does indeed start with sensation of the whole in and with its parts, but then it continues on to comprehending objects' meaning: These are the main phases which we can observe in a perceptual act⁶³⁹. After considering the steps involved in grasping the form-gestalt, we turn to examine how we grasp meaning, as recognizing or identifying the object.

⁶³⁵ Cf. FABRO, FP, 163.

⁶³⁶ Ibid., PPS, 16. "*Una forma può essere percepita coi suoi caratteri di struttura interna senza che il soggetto sappia «ciò che essa è», senza che essa abbia il suo completo significato*".

⁶³⁷ Ibid. "*«La comprensione del significato» di una forma organizzata è un fatto distinto dalla «presenza» di una cosa, di una forma organizzata*".

⁶³⁸ Ibid., PP, 135. "[Il contenuto] degli oggetti invece è l'indice della posizione che essi occupano nel mondo della realtà ed implica dei complessi apprezzamenti di valore".

⁶³⁹ Cf. Ibid., FP, 342. "*Presenza delle «parti», presenza del «tutto» — come noto ma non ancora compreso — apparizione della «forma», la «presa del significato», la denominazione dell'oggetto: sono*

When it comes to analyzing our faculties involved in perceiving, one might be tempted to apply Ockham's razor to the inner workings of human perception. Rather than attributing the different steps in this process to different faculties or capacities, might we not attribute it all to the intellect? Or might not the perception of the form by common sense be sufficient for human perception? Fabro responds to Morris's argument to this effect by showing that both Aquinas⁶⁴⁰ and modern experimentation reveal a richer, more complex process than objects sensed with a certain form. The clear role of our past experience in current perception points to the fact that there is more to our perception than the five outer senses and the common sense. Many theories of knowledge including Kant's fail to consider the psychological development of our perception. Jean Piaget's study of children's development in perception shows the rich complexity of perception⁶⁴¹. As adults we unconsciously perceive objects fully, without appreciating that this is the hard-won, long-wrought fruit of years of experience and development. Piaget's findings show the importance of Stumpf's psychic functions, active in perception. Since such functions and faculties do not have separate organs like the outer senses, it is indeed harder to identify them. However 20th-century experiments show just how accurate Aristotle, the Arabic philosophers and Aquinas describe the process of perception, as several steps that require different faculties in order to arrive at a proper perception.

In this chapter I first situate perception within the context of human knowing, as the human subject seeks to survive in his surroundings. I then present summarily the Arabic and Thomistic description of the internal senses. Afterwards I dedicate a considerable amount of time to Fabro's "schema" in perception, as adapting a key element

queste le «fasi» principali che si possono osservare in un atto percettivo che giunga a completa maturazione".

⁶⁴⁰ Cf. AQUINAS, STh, I, 7, 4.

⁶⁴¹ Jean Piaget (1896-1980) was a Swiss psychologist who studied the development of children's interaction as they grow, from birth until 15 years of age. It is significant that Fabro should draw on his studies, since Piaget was distant from Thomism and metaphysics. Nonetheless, Piaget's experimentation in children's perception provides clear support for Thomas's perception theory; he helps to overcome the associationist-atomist approach to perception, by discovering the importance of objects' independence from the subject.

For Piaget's main works on this topic, see: *La naissance de l'Intelligence chez l'enfant*, Neuchâtel, Paris 1936; *La construction du Réel chez l'enfant*, Neuchâtel, Paris 1937; *La psychologie de l'intelligence*, Colin, Paris 1947.

Echavarría sees Piaget's developmental theory as Kantian in the end: It becomes the assimilation of things outside of us, in a way much like digesting. As a biologist, Piaget tends to reduce the mind to an evolutionary mechanism of survival, without a proper basis for human intellection. Fabro does not seem to see any opposition between Piaget's studies and his own theory of knowledge; he seems to adapt Piaget's empirical conclusions to Thomistic epistemology and anthropology. See ECHAVARRÍA, M.F., «Influencias de la psicología contemporánea en las corrientes pedagógicas», in Martínez, E. (ed.), *Actas del Congreso Internacional ¿Una sociedad despersonalizada?*, Balmes, Barcelona 2012, 58-70. Echavarría cites CATURELLI, A., *Reflexiones para una filosofía cristiana de la educación*, Universidad Nacional de Córdoba, Córdoba (Argentina) 1981, 218.

in Kant's *Critique of Pure Reason* to Aristotelian perception theory. With a clear idea of the importance of perceptual schemas, I then present Aquinas's teaching on the cogitative faculty as the most important function between our senses and our intellect. It is thanks to the cogitative that we have significant knowledge of particular objects around us, as well as knowledge that approaches intellectual, universal cognition. The cogitative is in some respect the missing link for Kant's synthetic judgments a priori to senses. By means of the cogitative's schema, our perception achieves an enormous amount of knowledge of things. While the next chapter will deal with the intellect as the height of human knowing, Aristotle and Aquinas show clearly that it is only through sensed perception and the cogitative's grasp of meaning that we arrive at intellectual, universal knowledge.

1. Perception and vital needs

In his book *La Cogitativa en Tomas de Aquino y sus fuentes*, Miguel Angel Garcia Jaramillo presents a detailed study of Aquinas's teaching regarding the inner faculties, especially the cogitative faculty. Garcia uses the example of non-human animals⁶⁴² as helpful to understand the cogitative; while human beings have intellectual knowledge, both we and higher animals have knowledge of things to a somewhat comparable degree. By studying how animals perceive their surroundings and objects, we can distinguish better what is due to capacities below the level of our intellect. Parallels in animals help us to distinguish what is proper to the internal senses, distinct from the intellect. Regarding perception of meaning beyond mere forms, Garcia gives the example of a predator animal. As a tiger is feeding on a recently caught victim, it sees another predator approaching, and several factors come into play as to how our predator will react. First, the tiger must consider the size and potential threat of the rival; it also considers its own hunger. Whether it flees or fights the enemy is also decided by if our tiger must provide its young with food. All of these considerations are sparked by sighting the rival animal⁶⁴³.

This example is a development on a much earlier example, cited by Garcia himself and prevalent throughout medieval philosophy. Avicenna was the first to develop the doctrine of "intentiones", something not found in Aristotle's *De Anima*. Similar to gestalt, *intentio* contains several nuances that will only become clear as we become familiar with its use. A possible translation of this technical term may be "significance"; but in order not to confuse "intentio" with meaning, I use both the Latin term and "value". Here we could

⁶⁴² All future reference to "animals" implies non-human ones.

⁶⁴³ Cf. GARCIA, CTA, 159-160.

use the term “intentional”, but that has another meaning in theories of knowledge, as regarding the assimilation of an object’s form in sensed perception. Such are the limits of the English language in philosophy.

Avicenna addresses part of our problem by distinguishing explicitly between form and *intentiones*.

A form is that which the exterior and interior sense apprehend together; but the exterior sense apprehends it first and then gives it the interior sense, as when a sheep apprehends the form of a wolf, that is, its shape, and its affection and color. But the exterior sense of the sheep first apprehends this, and then the interior sense. An intention is that which the soul apprehends about a sensible thing, although the exterior sense does not first apprehend it; as the sheep apprehends the intention which it has about the wolf, that is, that it must fear the wolf and run from it, although the exterior sense does not apprehend this in any way⁶⁴⁴.

Avicenna’s example of a sheep spotting an approaching wolf became a classic example of *intentio* among subsequent medieval philosophers. What is important to understand is whose *intentio*-value is apprehended. When we say in English, “once I apprehended his intention, I had him figured out”, we attribute intention to the other person, as his motive or objective. In Avicenna’s example, it is not so much that the sheep grasps what the wolf is after, that is, the wolf’s intention; rather the sheep grasps the danger that the wolf itself implies for the sheep⁶⁴⁵. The basic distinction between form and *intentio* is the neutrality of the form and the clear significance of the *intentio*. Aquinas expounds on the difference in the *Summa Theologiae* I, 78, 4. It is not strictly speaking the smell of the wolf, or its shape or size, that strikes terror in the sheep. “The animal needs to seek or avoid certain things, not only because they are pleasing or otherwise to the senses, but also on account of other advantages or uses, or disadvantages; just as when the sheep runs away when it sees a wolf, not on account of its color or shape but has a natural enemy”⁶⁴⁶. Thus there are two elements at play: the form and the *intentio* that the form arouses in the subject.

The importance of *intentio* in perception involves considering our overall vital needs as we interact with the world around us: “The source of meaning is intrinsically connected to the teleological structure of life: Objects become determined as such for us,

⁶⁴⁴ AVICENNA, *De Anima*, part I, c. 5, 5ra-b, as cited and translated in KLUBERTANZ, G., *The Discursive Power*, 94. Future reference to this work as DP.

⁶⁴⁵ Klubertanz translates *intentio* variably, but most commonly as “suitable/unsuitable”. He also relies heavily on Aristotle’s *Nicomachean Ethics*, and this rendering of *intentio* can easily be misconstrued with the useful in the Aristotelian sense. Hence I prefer to translate it as “value”. See DP, 280.

⁶⁴⁶ “Necessarium est animali ut quaerat aliqua vel fugiat, non solum quia sunt convenientia vel non convenientia ad sentiendum, sed etiam propter aliquas alias commoditates et utilitates, sive nocumenta, sicut ovis videns lupum venientem fugit, non propter indecentiam coloris vel figurae, sed quasi inimicum naturae”.

not abstractly, but in relation to our living needs, impulses and tendencies”⁶⁴⁷. Whereas human beings can become more detached and disinterested in our consideration of the world thanks to our intellect, we clearly see animals directing their entire perception-attention towards satisfying their biological needs, as guaranteeing their basic survival. And while animals instinctively apprehend the *intentio* of a given object, human beings must go through experience, including education, in order to grasp the *intentio* of an object. Fabro sees *intentio* playing the important role of grasping the “practical value” of the things we perceive. And it is this practical value that drives and sustains the entire process of perception. “The base root of unity in perception is neither sense-based nor purely physiological, but it is of an affective and utilitarian nature. What gives a certain conglomeration its characteristic trait of ‘object’ and ‘thing’ is the direct or indirect satisfaction or lack thereof they provide for our affective drives”⁶⁴⁸. Our basic needs move our perceptual faculties to know the world around us, and those basic needs “make sense” of sensed objects by grasping their usefulness for our needs.

If our vital needs are an essential part in grasping the value of perceived objects, then such value cannot be drawn solely from the form of the object. Value-*intentio* is a subjective element in perception. Garcia argues that no gathering of more and more sensitive forms can make up an *intentio*; nor for that matter can an *intentio* give rise to a form⁶⁴⁹. They are clearly two distinct elements, with the subjective *intentio* depending on outer reality presented by the common sense. The two different aspects – form and *intentio* – are irreducible to each other, and so each must have its corresponding faculty that grasps it.

A further distinction between form and *intentio* becomes apparent when we consider the fact that animals act towards a certain goals that are not currently present. For example, it is the future nest that drives the swallow to gather bits of straw; the vital need drives and directs the actions and structuring of the nest under construction. The form of the nest is not currently present, only the bit of straw in front of the bird. However, the *intentio* grasped by the bird regarding this particular piece of straw is its usefulness in the nest project currently underway.

⁶⁴⁷ FABRO, PPS, 16. “L’origine del significato è legata intrinsecamente alla struttura teleologica della vita; gli oggetti per noi si vengono a determinare non in astratto, ma in relazione ai bisogni, agli impulsi alle tendenze della vita”.

⁶⁴⁸ Ibid., 17. “La radice dell’unità percettiva, non è di natura sensoriale, e tanto meno fisiologica, immediata, ma è di natura affettiva ed utilitaristica. E’ il soddisfacimento o il contrariamento, diretto o indiretto, di date nostre tendenze affettive, da parte di questo o quel gruppo di elementi sensoriali, ciò che dà a questo gruppo il carattere di unità e la «fisionomia» di «oggetto» e di «cosa»”.

⁶⁴⁹ Cf. GARCIA, CTA, 402-403.

[A] bird gathers together straws, not because they are pleasant to the sense, but because they are useful for building its nest. Animals, therefore, need to perceive such intentions, which the exterior sense does not perceive. And some distinct principle is necessary for this; since the perception of sensible forms comes by an immutation caused by the sensible, which is not the case with the perception of those intentions⁶⁵⁰.

Our vital needs regard our appetites and our will, which form a separate faculty or dimension than our intellect. De Haan warns against separating the two faculties, a fault commonly committed among Thomistic scholars. De Haan sees the will as providing the efficient, moving cause for our activity, while the reason provides the final cause or purpose⁶⁵¹. Both faculties act in unison, since they belong to the same person who knows and desires. The unity between intellect and will becomes clear in the *intentio* perceived in objects, as we come to place the object in relationship with ourselves. Following this distinction between the cognitive and willing faculties, De Haan adds the third aspect in Thomistic anthropology of our affections or emotions. With these three faculties of the human person, the *intentiones* can be classified regarding each faculty: aspectual percepts as regarding cognition, actional percepts regarding our will, and affectional percepts regarding our emotions⁶⁵². De Haan sees all three coming together in how we view and value objects, but these distinct types of *intentiones* show the richness of our perceptions.

If the *intentiones* are a subjective element, to what point are they innate? They are undoubtedly innate, as much as our vital needs of survival and hunger are innate. It is the forms that are not innate: They depend on external sensed perception in passive reception. The *intentio* added to or “coloring” so to speak the perceived form is clearly subjective, as regarding innate needs. “The *intentio* is not abstracted from the form; the form is judged as good or bad based on the intention: The intention is applied to the form. And according to this judgment the wolf is recognized as a natural enemy. [...] All sensitive knowledge with meaning involves recognition”⁶⁵³. Animals grasp all *intentiones* by instinct, as they recognize an enemy naturally and instinctively. Human persons learn *intentiones* by experience and reasoning, as we will see. The vital needs that dress forms in *intentiones* are part of human nature.

⁶⁵⁰ AQUINAS, STh, I, 78, 4. “*Avis colligit paleam, non quia delectet sensum, sed quia est utilis ad nidificandum. Necessarium est ergo animali quod percipiat huiusmodi intentiones, quas non percipit sensus exterior. Et huius perceptionis oportet esse aliquod aliud principium, cum perceptio formarum sensibilium sit ex immutatione sensibilis, non autem perceptio intentionum praedictarum*”.

⁶⁵¹ Cf. DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 409-410.

⁶⁵² Cf. *Ibid.*, 412.

⁶⁵³ GARCIA, CTA, 402. “*La intención no es abstraída de la forma; la forma es juzgada como buena o mala a partir de la intención, es decir, la intención es aplicada a la forma. Y según este juicio el lobo es reconocido como enemigo natural, [...] Todo conocimiento sensitivo con significado es reconocimiento*”.

In order to judge the value of objects, memory plays an important role in our perceptual recognition of objects. If an object is to have meaning for us, it clearly matters whether we have had meaningful experience of this type of objects before. Memory plays a key role in the scale of vital capacities, as what sets higher animals apart from lower ones. Aquinas follows Aristotle's teaching on a distinct faculty in higher animals, related to keeping sensed impressions even after the stimulus has ceased. One thing is to receive the image or to be impressed by the external object; another thing is to store that image⁶⁵⁴. In our perception of objects' value, our memory faculty factors in greatly.

We arrive at a broad picture of the second level of organization and structuring, beyond the first organization of color and surface. "The 'form' regards the external traits of the object; *intentio* regards its value in concrete content"⁶⁵⁵. It is the cogitative's function to grasp such *intentio* and recognize the meaning of the object. While this implies a subjective additive to perception, the cogitative seeks to grasp the objective *intentio*, based on the forms received. It does not help the animal or the human to attribute value to something that in fact has none such value. So value goes together with, and is based on, the content objectively given. Aquinas calls the faculty of apprehending *intentiones* differently for animals than for humans. He calls it the *aestimativa* for animals, as naturally given to them by instinct. It is the cogitative for humans, since we require gathering experience of objects little by little, in order to learn their meaning⁶⁵⁶. It is experience and gradual growth in knowledge over time that is memory's contribution to our perceived knowledge. Memory and experience lead us to the *experimentum*-schema, a key function in human perception that we will consider shortly.

Our vital needs are what drives us to grasp and comprehend a given object. Beyond the object's external qualities and quantitative structure, we also perceive its usefulness, possible danger, or pleasure for us. Thus Michotte distinguishes between the object's presence and its being comprehended. The object's presence is certainly the basic starting point, but on the subject's part a certain process of elaboration and

⁶⁵⁴ Cf. AQUINAS, T., *Commentary on the Posterior Analytics of Aristotle*, Larcher, F.R. (translation), Magi Books, New York 1970, Bk. 2, L. 20, n. 9, [Magi, 237], as published at *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by InteLex Corporation. Future reference to this work as Comm PA, and the number in brackets refers to the page number of the Magi edition, provided at the website.

⁶⁵⁵ FABRO, PP, 174. "La «forma» infatti riguarda i caratteri esteriori dell'oggetto; la «intentio» riguarda il suo valore e contenuto concreto".

⁶⁵⁶ Cf. *Ibid.*, 175.

assimilation must reach a further stage of comprehending the object. This comprehension entails grasping the meaning of the object, on a subjective level.

The thing perceived and recognized from the moment it presents itself, becomes much clearer once meaning is attributed to it; through meaning the thing is found to be much more fully delineated and consciously determined. The thing becomes “personal”, as it becomes connected and situated within its environment⁶⁵⁷.

Clarity in perception comes about once we recognize the object within the world in which we move and thrive. As experimental proof for this aspect of meaning, Fabro reports the studies performed on patients with visual agnosia: The sickness involves their outer perceptive organs functioning properly, and yet they cannot identify or recognize objects properly⁶⁵⁸. They perceive colors and shapes sufficiently clearly, but they cannot perceive *objects*. “Meaning, inasmuch as it is a principle of structuring, has a more basic value. [...] The factors of meaning are predominant over the factors of immediate sensed aspects”⁶⁵⁹.

If objects are to have meaning and importance in perception, such meaning must have its basis in the knowing subject and our vital interests. Certainly basic interests such as survival are important factors, but we also are interested in knowing simply for the sake of knowing⁶⁶⁰. The purely objective meaning of things is the intellect’s aim; before we reach a fully objective grasp of reality however, we have a vested interest in objects around us. A human baby “knows” her world strictly in terms of its being oriented towards her own interests. Thus *intentiones* play a key part in perceiving the meaning of objects. In contrast to animals’ instinctive *aestimativa*, humans must experience objects over and over again, in order to grasp their overall meaning. This drawn out experience requires memory, so as to relate present, actual perception with past experience. Thus, the second level of perceptual organization regards finding the meaning of perceived objects. Meaning arises from the subject’s vital needs and her dependence on surrounding objects to fulfill those needs. Such “discovery” of meaning involves several important

⁶⁵⁷ Ibid., FP, 337. “*La cosa percepita e riconosciuta fin dallo stadio di presenza, diventa — per l'intervento del significato — essa stessa più precisa; con esso si trova delimitata coscientemente in una maniera molto più completa; essa diventa «personale», prende punti di attacco e viene ad appartenere ad un ambito più o meno vasto*”.

⁶⁵⁸ Cf. Ibid., PP, 121.

⁶⁵⁹ Ibid. “*Il significato, come principio di strutturazione, ha valore più fondamentale, come si osserva chiaramente nelle agnosie o dissoluzioni psichiche quando il soggetto, che pur conserva la sensibilità intatta, non percepisce alcun oggetto perché ne ha perso il significato. I fattori del significato sono dominanti sopra quelli sensoriali immediati e tutto il capitolo della costanza percettiva ne è prova lampante*”.

⁶⁶⁰ Cf. the opening lines of Aristotle’s *Metaphysics*, 980a, translated by Ross, W.D., Clarendon Press, Great Britain 1972. “All men by nature desire to know. An indication of this is the delight we take in our senses; for even apart from their usefulness they are loved for themselves”.

developments; we now consider each of the inner senses, and their proper function in achieving this perception of meaning comprehending the concrete object.

2. The different inner senses and their functions in perceiving objects' meaning

Garcia reports a Scholastic debate that took place between two important Thomistic scholars regarding the exact number of inner faculties. Francisco Suarez was in favor of Ockham's razor, arguing that there is only one inner faculty: the intellect. This intellect has several functions, all of which contribute to such judgments as "This wolf is dangerous". Suarez argues against dividing up the inner faculties, and simply regards all of perception as the result of the intellect's operations. In response, John of St. Thomas goes to the opposite extreme of compartmentalizing the inner faculties to the point that they do not communicate between each other⁶⁶¹. How are we to distinguish the faculties that function on an internal, imperceptible level?

Garcia draws out two important principles to bear in mind as we consider the perception of objects on a higher, more internal level. He points out that Suarez mistakes the *continuatio* of the faculties for their perfect identity. *Continuatio* is a Scholastic rendering of the Greek term of μέθεξις, or participation: Faculties interrelate with each other, and even interdepend on each other, in a continual process consisting of clearly distinct steps. Suarez mistakes the overall whole as being so united that the steps are lost. Rather, we should understand each step as a "synergy" – to use Garcia's term⁶⁶² – with the previous step moving towards the next one. John of St. Thomas separates the faculties to such a point that one faculty cannot communicate and draw benefits from the previous faculty. The continual, synergetic nature of the overall process allows us to maintain the value and function of each step in the process. Chapter 8 will consider the unity of these faculties more closely.

Aquinas himself addresses our problem of how to identify the number and nature of these inner faculties in perception. Since nature provides us with the faculties or capacities that we need for our survival and perfection, different types of actions involved in living point to their underlying faculties. "If any of these actions cannot be reduced to

⁶⁶¹ Cf. GARCÍA, CTA, 114-115.

⁶⁶² Cf. Ibid., 115.

the same one principle, they must be assigned to diverse powers”⁶⁶³. Once again, it is helpful to consider the hierarchy of perceptual capacities in animals. Aquinas differentiates between lower animals as only perceiving currently present objects, and higher animals as able to retain the images of what they perceive or what they pursue. Besides this distinction between receiving forms and retaining them, *intentiones* come into play in perception, beyond the sensible forms. Aquinas considers the distinct faculties of perception in accordance with these two principles, reception/retention and forms/value, as he distinguishes four inner faculties of perception:

Thus, therefore, for the reception of sensible forms, the “proper sense” and the “common sense” are appointed [...]. But for the retention and preservation of these forms, the “fantasy” or “imagination” is appointed; which are the same, for fantasy or imagination is as it were a storehouse of forms received through the senses. Furthermore, for the apprehension of intentions which are not received through the senses, the “estimative” power is appointed: and for the preservation thereof, the “memorative” power, which is a storehouse of such-like intentions. A sign of which we have in the fact that the principle of memory in animals is found in some such intention, for instance, that something is harmful or otherwise. And the very formality of the past, which memory observes, is to be reckoned among these intentions⁶⁶⁴.

We now consider each of these faculties in turn. We considered the common sense in chapter 5, and so we will consider the faculties of the imagination or fantasy, the estimative/cogitative faculty and the memory.

2.1. *The imagination or fantasy*

Aristotle gives multiple reasons for distinguishing the imagination from the common sense⁶⁶⁵. Among them is the fact that we dream with images while we sleep. Since sleep is the absence of external perception and the common sense, there must be some other faculty responsible for calling up and presenting images. That faculty is the imagination or fantasy⁶⁶⁶. Another indication of the distinct faculties of common sense and imagination is the fact that our senses are veridical, while the imagination is prone to error.

⁶⁶³ AQUINAS, STh, I, 78, 4. “*Quaecumque harum actionum non possunt reduci in unum principium, requirunt diversas potentias, cum potentia animae nihil aliud sit quam proximum principium operationis animae*”.

⁶⁶⁴ AQUINAS, STh, I, 78, 4. “*Sic ergo ad receptionem formarum sensibilium ordinatur sensus proprius et communis [...]. Ad harum autem formarum retentionem aut conservationem ordinatur phantasia, sive imaginatio, quae idem sunt, est enim phantasia sive imaginatio quasi thesaurus quidam formarum per sensum acceptarum. Ad apprehendendum autem intentiones quae per sensum non accipiuntur, ordinatur vis aestimativa. Ad conservandum autem eas, vis memorativa, quae est thesaurus quidam huiusmodi intentionum. Cuius signum est, quod principium memorandi fit in animalibus ex aliqua huiusmodi intentione, puta quod est nocivum vel conveniens. Et ipsa ratio praeteriti, quam attendit memoria, inter huiusmodi intentiones computatur*”.

⁶⁶⁵ Cf. ARISTOTLE, DA, Bk. 3, Ch. 3, 427b-428a [Penguin, 198-199].

⁶⁶⁶ See also ARISTOTLE, *The Complete Works of Aristotle. The Revised Oxford Translation*, BARNES, J. (ed.), Princeton University Press, Princeton 1984, *On Dreams*, 3, 461b-462a [732-734], and Garcia's comments, CTA, 171-173.

Actual sensed reception is passive and dependent on the object; the imagination's distance from actual experience leads it to possibly err.

The fantasy or imagination is closely related to the common sense, and plays an active role in the perception of currently present objects. Stumpf uses the term "primary memory" to refer to the imagination as a basic, sensorial memory that helps fill out or complete the current form perceived in the common sense. Fabro elaborates:

Our primary memory makes endurance possible, since what is physically already gone by remains present to a certain degree. This presence allows the disjointed parts in time to assume on a phenomenal level a continual form of motion. [...] Subjective time is a prerequisite condition for us to grasp other, posterior forms; such subjective time arises properly speaking only from the automatic time displacement that impressions and representations display in primary memory⁶⁶⁷.

The fantasy's retention of sensed forms is not merely passive: It is dynamically and actively involved in the common sense's current perception. Fabro sees Aquinas's *Commentary on memory and recollection*⁶⁶⁸ as joining the common sense and fantasy to the point of considering the same image or phantasm⁶⁶⁹. "We are led to think that the phantasm currently sensed (*in actu exercito*) of primary organization is given by the current organization of the stimuli and by the contents drawn upon by the fantasy. We should not distinguish two phantasms, as if one were of the common sense, the other of the fantasy"⁶⁷⁰. The imagination's role is not simply regarding recalling absent objects; its intimate relation with the common sense and actual sensation means fantasy complements actual, current perception.

It is the imagination or fantasy's capacity to retain images, as "traces" of the sensed phantasms, that allows us to perceive the continual motion of objects over time. Were current stimuli the only criterion in perception, we would rely purely on the here and now, and we could not rise above the chaotic flow of stimulations. The imagination

⁶⁶⁷ FABRO, PP, 112. "La memoria primaria rende possibile il persistere, con un certo grado di presenzialità, di ciò che dovrebbe — fisicamente — considerarsi già passato. Questa presenzialità fa sì che le parti disgiunte nel tempo assumano fenomenicamente una stessa forma continua di movimento. [...] Il tempo soggettivo, in quanto è condizione prerequisita all'apprensione delle altre forme successive, sorge unicamente e propriamente dall'automatico spostamento temporale che hanno le impressioni e le rappresentazioni nella memoria primaria".

⁶⁶⁸ Cf. AQUINAS, *On Memory and Recollection*. Burchill, J. (translation), Lectio 2, 318-319 [11-12]. As published at *The Collected Works of St. Thomas Aquinas. Electronic Edition*, at <http://pm.nlx.com> by IntelLex Corporation.

⁶⁶⁹ "Phantasm", like "species", is a typical Scholastic term that has acquired a derogative sense in modern philosophy. We can translate it as "appearance" or "image", but the preciseness of Scholastic terminology is then lost. The reader must judge which modern prejudices are well-founded, and which are irrational and so lead to a loss in precise expression in philosophy.

⁶⁷⁰ FABRO, PP, 145. "Viene da pensare allora che il fantasma «in actu exercito» della organizzazione primaria è dato dalla organizzazione attuale degli stimoli e dai contenuti elaborati nella fantasia. Non sono perciò da distinguere due fantasmi, uno del senso comune, l'altro della fantasia".

provides a first, inner “contraction” of phenomenal appearance, as Fabro calls it: “Such ‘traces’ free the soul somewhat from the tyranny of time and space (contraction of the continuous); at the same time however they also render the soul prone to error”⁶⁷¹. It is by retaining the immediately preceding sensation, along with previous images made constants, that we manage to perceive the whole motion of a given object through space. Fabro sees this basis for perception of the continuum as clearly psycho-physiological; he does not see any way of giving a further, more thorough grounding or basis⁶⁷². The fact of our perceiving continual motion is clear, and the Aristotelian-Thomistic theory of the imagination appears to answer sufficiently Hume’s empiricist skepticism regarding how motion is perceived.

The imagination’s relation to motion can be seen as perception in real life: The common sense captures what is actually present, while the imagination puts that present in continuity with the immediate past and future. The sense faculty captures the motion in the external world, while the imagination manages to retain that motion in an overall whole. “The movement that the stimulus provokes in the organ reproduces the movement that existed in the external world; the phantasm is the tendency, traced in the soul, to repeat the movement internally”⁶⁷³. While this still does not reach the level of the object’s full meaning, the imagination plays an important role in uniting the object over time and in motion, towards a greater grasp of the object.

2.2. *The cogitative faculty*

The cogitative faculty plays such an essential part in how we come to know things around us that the following section of this chapter will be dedicated wholly to understanding better its role and functions. Here we simply note its part within the process of secondary organization in perception.

⁶⁷¹ Ibid., 149. “Tale «traccia» libera in qualche modo l’anima conoscitiva dalla tirannia del tempo e dello spazio (contrazione del continuo); insieme però la rende molto soggetta ad errore”.

⁶⁷² Cf., Ibid, 312. “La fantasia, o memoria primaria dello Stumpf, conserva le tracce dell’esperienza passata non come materiali (inerti, ma come unità dinamiche, come virtualità di «movimento rappresentativo». La discontinuità degli stimoli fisici, e soprattutto quella fra gli elementi nervosi degli organi, suggerisce qui una teoria della fantasia come facoltà di apprensione del continuo spaziale e temporale per via di una specie di «contrazione fenomenale» il cui fondamento è certamente di natura psicofisica, ma che per ora, e forse per sempre, resta avvolto nell’oscurità. Qui occorre ampliare l’Aristotelismo, ma non credo si debba uscire dai suoi principi”.

⁶⁷³ Ibid., 148. “Il movimento che lo stimolo provoca nell’organo riproduce il movimento che esisteva nel mondo esterno, ed il fantasma è la tendenza lasciata nell’anima a ripetere interiormente tale movimento”.

The cogitative is responsible for apprehending the “*intentio*” of the perceived object, as based on the form but also as involving other elements beyond the pure form or appearance. In order to place the object properly in relationship with the subject, along with its surroundings, the knower must apprehend its value. Fabro gives the following definition of *intentio* in knowledge: It is “the concrete meaning that objects have for animals and for humans”⁶⁷⁴. Value or meaning for the subject is the specific object of the cogitative. Since perceiving or apprehending the form is one level of organization, while apprehending the *intentio* is clearly a higher level of organization, then there must be two different faculties responsible for such apprehending. To apprehend the object more fully, we must place it within its proper surroundings, as related to other facts, objects and persons, including the subject. “It is from such placing that we find the practical interest that the object has here and now for the subject. Such placing is a comparative examen, a “*collatio*”, as a secondary organization [of the object in perception]”⁶⁷⁵. The cogitative has the capacity of placing the object according its proper role by grasping its proper meaning.

While the cogitative (or the estimative in animals) has a clear object – the *intentio* of the object –, this faculty should not be isolated from the preceding steps of external sensation, common sense and imagination. In chapter 8 we will consider the overall unity in sensed perception and intellectual knowledge. However, it is important to clarify Aquinas’s view of the inner senses, as juxtaposed to the associationist approach. Garcia shows how it is impossible to reach an overall synthesis in perception, if there is not already a unity between the individual faculties involved in perception. The order of perceptive faculties starts with the outer, more immediate ones, and works inwards. But this is only how we observe and experience our perception unfolding: What is actually primordial and decisive in perceiving is the higher, more internal faculty. Garcia uses the example of a dog sniffing and handling with its paw a particular object of interest. Such attention and use of the perceptual faculties presupposes that they are directed by its higher faculty, the estimative⁶⁷⁶. The estimative is what directs and unites the preceding, lower faculties; in a certain sense, it is the higher faculty that decides and determines how the lower senses function. It is the estimative in animals that aims at objective knowledge

⁶⁷⁴ Ibid., 159. “La «*intentio*» in senso gnoseologico rigoroso sta per il significato concreto che hanno gli oggetti per l’animale e per l’uomo”.

⁶⁷⁵ Ibid. “L’organizzazione di cui si parla non consiste nell’ordinamento spazio-temporale soltanto, ma nella collocazione di un fatto, di un oggetto, di una persona nell’ambiente proprio che ad essi compete di altri fatti, oggetti, persone..., dalla quale collocazione essi traggono l’interesse pratico che *hic et nunc* hanno per il soggetto il quale fa questo esame comparativo o «*collatio*». E questa la organizzazione *secondaria*”.

⁶⁷⁶ Cf. GARCIA, CTA, 404.

for survival, and so it inspires and directs the lower faculties. “The action of the faculty that unites, judges and knows in the strict sense is prior to any action of the senses that are subordinate to it. After all, the unity of the whole is prior to the parts”⁶⁷⁷. Just like the associationist theory of bundles was insufficient to explain perceiving structures and forms, so too it is impossible to piece together the lower faculties into a higher sort of order. It is clearly the higher faculties that structure and give meaning and direction to the lower sense faculties. This unity will be the subject of Chapter 8; here we simply take note of it, in the proper ordering of the senses.

2.3. Memory

Just as the imagination, or “primary memory” as Stumpf calls it, is essentially related to the common sense in grasping the sensible form, so too is the memory essentially related to the cogitative faculty. Aquinas called the memory the “treasury” for storing *intentiones*; memory contributes important elements from the past, which our current, present sensations cannot provide on their own. In our overall effort of situating objects properly in the world around us, previous experience plays a key role. Since our vital needs look to objects to help resolve our necessities, we draw on previous experiences of usefulness or harm found in similar objects⁶⁷⁸. It would indeed be difficult to grasp the meaning of a given object, without past experience coming to the aid of our current sensorial experience.

What is memory’s specific object or end-result? It is what Aquinas calls the “*experimentum*”, translating Aristotle’s term ἐμπειρία, which we may translate as “experience”. However, this word in English has a broad sense of all knowledge and gathering over time. Aquinas and Aristotle’s respective terms refer more to experience and familiarity regarding a single object, or type of objects. It is experience of the same object or sort of objects over time that gives rise slowly to the *experimentum*. “From remembrance many times repeated in regard to the same item but in diverse singulars arises *experience*, because experience seems to be nothing else than to take something from many things retained in the memory”⁶⁷⁹. Our memory is what gives rise to the *experimentum*, as a certain familiarity with a given object. Memory allows this comparison

⁶⁷⁷ Ibid. “*El acto de la facultad que unifica, juzga y conoce en sentido estricto, es anterior a cualquier otro acto de los sentidos a ella subordinados. En efecto, la unidad o el todo es anterior a las partes*”.

⁶⁷⁸ Cf. FABRO, PP, 156.

⁶⁷⁹ AQUINAS, Comm PA, Bk. 2, L. 20, n. 11 [Magi, 237]. “*Ex memoria autem multoties facta circa eandem rem, in diversis tamen singularibus, fit experimentum; quia experimentum nihil aliud esse videtur quam accipere aliquid ex multis in memoria retentis*”.

and growing familiarity in recognition of the same thing (essence), instantiated in several distinct particulars. While the cogitative is faced with the task of recognizing the meaning of any given object, it is helped in this task by memory's ability to retain, store and recall past recognition of *intentiones*. Thus the cogitative builds off of past experience, so as to recognize all the more easily the object currently present. The *experimentum* is built up over time and slowly arises from the cogitative's recognition through many interactions with the same object. "*Ex multis una acceptio alicuius rei sumitur*"⁶⁸⁰. While the cogitative is the active apprehending of the object's *intentio* or utility, the memory allows for retaining such value in favor of an ever-easier recognition (*ad facile et recte operandum*)⁶⁸¹.

The factor of time is an essential element in Aristotle's theory of perception. Rather than an a priori condition as in Kant, Aristotle sees time as important in allowing the growth of familiarity and knowledge of the object, via experience.

[Time for Aristotle is] the real condition for experience to "mature" and "grow", inasmuch as the duration of both object and subject allows an experience to repeat itself. This allows for temporal reference as applying to different results, and selecting and integrating useful data, while discarding those of no interest⁶⁸².

Continuity in time regards objects perceived in the past as related to currently perceived objects. Garcia cites Riera Matute's distinction between animals' memory and ours. The uniqueness of our memory is its ability to recall the past in direct consideration, what for animals is simply held "unconsciously" in instinct⁶⁸³. Thus the two faculties of the cogitative and memory complement each other. The cogitative allows us to apprehend objects' *intentiones* and concrete meaning, as objects actually present; memory provides a rich amount of information gleaned previously and stored as so many "*experimenta*". We see in the memory's *experimentum* important contributions from the psychic functions, to use Stumpf's terminology. Our past experience factors actively into our perception of things immediately present around us. "We do not perceive things in the world without bringing the treasury of our past experiences to bear upon the realities displayed for us

⁶⁸⁰ Ibid., *Commentary on the Metaphysics of Aristotle*, Rowan, J. (translation), Henry Regnery, Chicago 1961, Bk. 1, L. 1, n. 17 [Regnery, 11]. Future reference to this work as Comm Mph. "From several memories of a single thing a man acquires experience about some matter, and by means of this experience he is able to act easily and correctly".

⁶⁸¹ Ibid.

⁶⁸² FABRO, PP, 144. "*La condizione reale della «maturazione» e «crescenza» della esperienza, in quanto il «durare», dell'oggetto come del soggetto, rendendo possibile il ripetersi dell'esperienza, attua il riferimento temporale ai vari risultati, l'integrazione selettiva dei dati utilizzabili e l'abbandono di quelli che non lo sono*".

⁶⁸³ Cf. GARCIA, CTA, 282.

here and now⁶⁸⁴. This growth in experience will provide a solid basis for knowledge of universals.

In summary of the multifaceted functioning of inner perception, we return to consider Suarez's attempt to reduce perception entirely to the intellect. What does the intellect have before itself, as far as what is directly sensed? Extension or surface that is sensed as qualified, such as through color and touch. How is the intellect to draw anything from that? Either it must impose its categories on the image, as in Kant's apriorism, or simply piece together haphazardly the individual bits of sensation into a coherent whole. Such a distance between the senses and the intellect cannot be coherently spanned, unless by the inner faculties or capacities of the soul. Aquinas's reason for the inner senses will become clearer when we consider the intellect's object per se. However, the intellect's object only arises from sensed perception, through both the primary organization of the common sense, and the further, secondary organization of the cogitative. It is through our growing experience of objects and their value that we gradually come to universal knowledge. Fabro argues that the Aristotelian theory of perception relies fundamentally on three key terms: αἴσθησις, μνήμη, ἐμπειρία (sense faculty-memory-experience)⁶⁸⁵. Our senses receive the first and basic information regarding our surroundings, while our memory enables us to compare current sensed content with past experience. It is the cogitative that directs and coordinates all of these interconnected stages, since the cogitative is focused on knowing concrete things according to their particular meaning. Thus memory is subservient to the cogitative, as in it provides past experience for evaluating the object currently in front of us. We conclude the proper unity and individual functioning of perception in the cogitative's perception, as supported by the external senses, common sense, fantasy and memory.

3. The cogitative, perceptual schemas and the concrete substance

In this chapter we are considering the secondary level of organization in perception, beyond the primary organization in the gestalt. The object's figure is not the only element involved in perceiving. Fabro presents convincing conclusions from psychological experimentation to the effect that "the main factor of subordination in

⁶⁸⁴ DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 415.

⁶⁸⁵ Cf. FABRO, KP, 364.

perceptual wholes does not regard the gestalt, but regards the ‘meaning’⁶⁸⁶. In this section we will consider more closely the cogitative faculty, as the faculty that specifically grasps the meaning of objects.

In the previous chapter we saw the difference between the properly and the commonly sensibles, as color and figure-shape; both proper and common sensibles are sensed *directly* by the sense faculties. Aristotle considers a third level of sensed objects, but as *indirectly* sensed by the outer sense faculties:

Now I call that sense-object special that does not admit of being perceived by another sense and about which it is impossible to be deceived, as sight is connected with colour, hearing with sound and taste with flavour. [...] Each sense then judges about the special objects and is not deceived as to their being a colour or sound, but only as to what the coloured or sounding thing is or where it is. It is, then, such objects as these that are called special to each sense. The common objects, on the other hand, are movement, rest, number, shape and size, such being not special to any one sense but common to all. For of course a movement will be perceptible to both touch and sight. Finally, those sense-objects are called incidental that are like the white thing’s being the son of Diaretes. For this we perceive incidentally, for it is incidental to the white thing we perceive⁶⁸⁷.

While each external sense has its proper object, and the common sense gathers them together in the common object, there are further elements in perception: the sensible *per accidens* or incidentally perceived. Such objects include the *intentio*, like the danger of the wolf that the sheep perceives. The senses do not detect anything besides the color and shape-size-motion; if the sheep apprehends the object “wolf” as a present danger, such a sensible object “danger” is only indirectly or incidentally sensed (*per accidens*). Beyond the primary organization in the gestalt, we perceive a further organization: “Objects’ elementary organization is followed by more complex structuring, which refers not only to what is currently present, but also to what is past. More than the primary organization this ‘secondary’ one is what directs our lives”⁶⁸⁸. The inner senses – fantasy or imagination, the cogitative and memory – are what contribute to this secondary organization of the sensible *per accidens*.

Fabro provides an example to distinguish properly the three levels of the sensible *per se* proper, common and sensible *per accidens*:

I see colored areas or stripes; but I do not see just color, but a colored extension that has boundaries and forms a figure. Extension and figure appear to me - under the proper conditions and when I am fully conscious - as belonging to an object, for instance a piece of cloth. I see a

⁶⁸⁶ Ibid, FP, 392. “Il fattore principale di subordinazione nei tutti percettivi non compete alla Gestalt, ma al «significato»”.

⁶⁸⁷ ARISTOTLE, De Anima, Bk. 2, Ch. 6, 418^a [Penguin, 172-173].

⁶⁸⁸ FABRO, PPS, 50. “Ad organizzazioni elementari degli oggetti succedono organizzazioni più complicate che si riferiscono non solo alle conoscenze attuali, ma anche a quelle passate, ed è da queste organizzazioni «secondarie», più che dalle primarie che è regolata la vita del soggetto”.

color, I see a colored rectangle, I see a piece of cloth of a certain color and figure. All of these are expressions that anyone can grasp their content and be convinced that they express conscious states that have a real, definite meaning⁶⁸⁹.

The sensibles per accidens are only drawn out by the inner senses, as based on sensibles per se. Besides the object's objective figure, the *intentio* and other incidentally sensible aspects arise from the subject itself. The subject attributes meaning to a given object in relation to the subject's own needs for survival. A child relates all objects to her own interests, and pays attention to whatever addresses her needs more or less directly. And in the constant bombardment of sensations from her surroundings, the child gradually comes up with certain phenomenal constants, that allow her to get her bearings more readily. It is the faculty of the cogitative that forms this mental map of her surroundings. The cogitative perceives the sensible per accidens, the *intentiones* that constantly appear and resurface; it gradually forms the *experimentum* of the vast array of objects she encounters. "It is the incidentally sensible that influence the consciousness's explicit solidifying of phenomenal content. It does so based on the objective content's relation and dependence on the subjective and biological phenomena [i.e. needs]"⁶⁹⁰. As the cogitative builds up its experience of objects, it notices certain constantly recurring aspects. Those aspects relate to its own subjective vital needs, and so the cogitative finds meaning in objects, as based on recurring experience in reference to the subject's needs. How do those constants and perception come together into an integral whole? Over time we experience an enormous amount of objects; how exactly does the cogitative and the memory come to make sense of so many objects? Here Fabro proposes the key element of the "perceptual schemas". The term is based on Kant's transcendental schematism, but Fabro shows how it may be used to understand Aristotelian-Thomistic perception theory.

3.1. *The schema in perception*

Kant proposes his transcendental schema as the faculty of the imagination joining the two heterogeneous extremes of sensed intuition and the understanding's categories.

⁶⁸⁹ Ibid., FP, 391-392. "Io vedo delle «zone o strisce colorate»: ma non vedo il solo colore, bensì un' estensione colorata la quale ha dei limiti e costituisce una figura; estensione e figura che mi si rivelano, nell'esercizio completo della coscienza ed in condizioni normali di esperienza, come appartenenti ad un oggetto, p. es. una pezza di stoffa. Io vedo un colore, vedo un rettangolo colorato, vedo una pezza di stoffa di tal colore e forma..., sono espressioni di cui ciascuno afferra il contenuto ed è persuaso che esprimono delle situazioni di coscienza che hanno un senso reale e definito".

⁶⁹⁰ FABRO, PP, 318. "I sensibili «per accidens» invece influiscono nella fissazione esplicita, da parte della coscienza, dei contenuti fenomenali stessi quali costanti fenomenali oggettive in relazione cioè dipendenza dalle costanti fenomenali soggettive ovvero biologiche".

Since they are two extremes, the imagination intervenes in sensed intuition by applying the understanding's categories according to schemas. Such schemas are supposed to be the joint result of both the senses and the categories. However, little importance is given to actual sensed intuition, which appears initially as an amorphous lump; any structure and information are attributed to the imagination and understanding. Cassirer sees Kant's transcendental schematism as his attempts to overcome Hume's skepticism. Hume holds the imagination as an arbitrary and completely subjective faculty of beliefs; Kant wishes to save the imagination as objective, and so bases it on the understanding's a priori categories. It is thanks to the overall system of experience that we know, because the universal laws of the understanding act as its fundamental rule or law⁶⁹¹.

If the perceptual schema in Kant's theory is to fulfill its function of mediating between the senses and the intellect, it must have elements in common with both sides. However Kant's schemas are "transcendental", in that they are independent of sensed experience; they are the "fruit of reason's spontaneity"⁶⁹². Thus, if the schemas are somehow connected to sensed intuition, it is only as external to them and as able to be applied to them. Thus both the intellect and its derived schema are autonomous of sensed experience, and it is unclear how such intellectual schema could ever reach reality, or even the phenomenon. "Not only does the intellect not manage to reach reality via the schemas, but neither is it clear whether we could logically say that the intellect reaches the phenomenon, as that content which is given in some manner, and not purely constructed by the subject"⁶⁹³.

Fabro's in-depth study of the perceptual schemas may be seen as an approach in the opposite direction of Kant's top-down theory. Rather than the understanding's categories determining the schema from above, Fabro proposes that we consider the schema as rising up little by little from the bases of our sensed experience. The schema is the cogitative's work, in conjunction with memory. In a certain sense Fabro adopts the Kantian term "schema" as a modern, updated version of Aristotle's ἐμπειρία and Aquinas's *experimentum*.

⁶⁹¹ Cf. CASSIRER, E., «Le concept de groupe et la théorie de la perception», in *Journal de Psychologie*, 35 (1938), 411, as cited by FABRO, PP, 197.

⁶⁹² FABRO, PP, 198. "Frutto della spontaneità della ragione".

⁶⁹³ Ibid. "Non solo l'intelletto non arriva neppure per lo schema a toccare la realtà, ma non si sa neppure se logicamente si possa dire che viene a toccare il fenomeno, intendendo per fenomeno un contenuto che è «dato» in qualche modo e non puramente costruito dal soggetto".

As grown adults, our sensed perception is structured to a considerable degree; this is thanks to our experience in properly developed mental schemas. Those schemas are not created simply from the intellect, but they are formed based on experience. Perception without these organizing, structuring schemas would be extremely chaotic and disjointed. Without schemas, our very concept of reality would be very different. In our experience as it is, we find a fair amount of perceptual structuredness. This structured nature of reality in perception does not arise at one given instant, but subsists or accompanies all our perceptual experience⁶⁹⁴. In our perception, we are able to select and focus on the main, essential elements of the object. For example, our ability to recognize a good friend instantaneously is thanks to our perceptual schema. Fabro provides an initial description of what he means by “perceptual schema”:

In a mature, developed consciousness, the act of perception consists in animating the perceptual schemas, and in “making present” the schema’s contents as the content of our current experience. Our perceptual experiences, like all vital actions, are certainly always original and basic, but they are never constructed *ex novo* or *ex nihilo*, starting from scratch over and over. Every act of perception should be considered more along the lines of the subject’s psychic growth and maturing. The specificity of this growth is decided by the degree of “purging” or “distilling” of perceptual schemas. This distilling can only be carried out by the cogitative, which thus becomes the core of our inner life⁶⁹⁵.

The perceptual schema allows for a continual, organic growth in knowledge, as well as an ever-clearer recognition of our current surroundings. The distilling that Fabro attributes to the schema is the ever-clearer comprehension of what aspects are basic and essential in a given object, and which ones can be ignored as secondary.

What exactly is the perceptual schema? How does it come about? Fabro specifies that the schema is not an object of perception; he calls it a “perceptual virtuality”, which requires actual sensed perception in order to function⁶⁹⁶. The schema arises from constants in objective and subjective perception: As we repeatedly experience the satisfaction of our needs and desires by means of a certain object, the value and meaning of that object becomes clearer and more distilled. The cogitative comes to form a certain

⁶⁹⁴ Cf. Ibid., 134. “È perciò legittimo considerare la «strutturalità» percettiva, intesa nell'ampio senso veduto, come un carattere intrinsecamente connesso alla natura stessa della percezione ed ammettere che anche nel processo ontogenetico e filogenetico della funzione percettiva, quel carattere non insorga ad un dato momento, ma sussista sempre per quella funzione, sia pur modificandosi lungo il suo processo di sviluppo, come ci accertano le osservazioni di psicologia infantile e animale.”

⁶⁹⁵ Ibid., 193. “L'atto di percezione di una coscienza matura consiste nell'«animazione» dello schema percettivo e nella «realizzazione» dei suoi contenuti come contenuto di esperienza attuale. Le attuazioni percettive, come ogni manifestazione vitale, benché siano sempre originali, non si costruiscono mai «ex novo» o «ex nihilo», ricominciando sempre da capo; ogni atto di percezione va piuttosto considerato in relazione alla crescita e alla maturità psichica raggiunta dal soggetto. L'entità di tale crescita è data dal grado di «epurazione» dello schema percettivo: la epurazione non può essere portata a termine che dalla cogitativa, la quale viene così a collocarsi, anche fenomenologicamente, al centro della vita interiore”.

⁶⁹⁶ Cf. Ibid., PP, 319.

“habit” – which is the schema – that readily identifies such an object with its proper *intentio*. “If we think of the perceptual schema as a ‘phenomenal virtuality’, it must be able to hold or found the emerging of both the objective and subjective types of contents in consciousness”⁶⁹⁷.

Perception regards discovering and understanding the relations present intrinsically in a given object. The common sense and imagination are able to grasp the immediate relationships present: shape, size and continual motion in space. Another set of relationships is grasped by the cogitative, thanks to its ability to formulate unified, synthetic schemas. This capacity of the cogitative allows us to establish relationships between presently perceived objects and past ones. Thus the object is grasped on a deeper level, as a continually existing being, with meaningful relationships enduring in time. It is this reference to the past that gives the object meaning and value for us⁶⁹⁸. The constants that recur over and over in our perception give rise to a mental, perceptual schema that allows us to identify readily a present object. The role of the schema is instrumental: It facilitates perception by gathering together the distilled, ever-clearer *intentiones*-objects in past experience, and relating the presently perceived object to such past experience. Fabro relates the schema developed in modern psychology with Aristotle’s ἐμπειρία, which we considered in the previous section on memory.

Drawing on James Gibson’s studies in perception, De Haan highlights the importance that the constants and invariants in perception play in how we actually perceive things. Beyond the cacophony of sensations in constant flux, we are able to make sense of things in perception. “A thing’s sensible features can vary widely from one moment to the next; tracking a dynamic individual thing would be impossible on the basis of *per se* sensibles alone, and *a fortiori* on the basis of the physical and chemical stimuli, which merely constitute the material causes of sensible forms being communicated through a medium”⁶⁹⁹. The fact that we can perceive objects from different perspectives and in different moments points to the fact that we recognize them as something beyond and more stable than mere sensible qualities. “It is within this dynamic kaleidoscope of sensible reality that the percipient also perceives a real underlying perceptible identity that

⁶⁹⁷ Ibid. “Lo schema percettivo concepito come «virtualità fenomenale» deve poter abbracciare, cioè fondare, l'emergenza nella coscienza di ambedue le costanti, tanto del contenuto formale come del valore pratico”.

⁶⁹⁸ Cf. PP, 326. “La cogitativa ordina questa molteplicità di apprensioni isolate mediante la costituzione di schemi sintetici unitari, in quanto essa ha un'apprensione delle relazioni che può ritenere nel presente anche il passato e può passare, in conseguenza, dall'apprensione esteriore di forma a quella di un oggetto di valore, individuato sotto ogni aspetto”.

⁶⁹⁹ DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 428.

is able to display itself according to a variety of contextually conditioned sensible qualities and aspectual perceptibles⁷⁰⁰. In order for this recognition to take place, our experience of objects must be present in this moment and provide us with a reference point that “fills out” the actually sensed information.

In order for the perceptual schemas to be useful in perception, they must be both flexible and constant. Our experience comes across a vast amount of objects, and it must be able to adapt and make room for possible novelties. However, we also require a certain amount of stability, in order to live life coherently. Thus perceptual schemas allow us to make sense consistently of external reality. Fabro cites examples of constant schemas that are provided by our social class or status, or our particular profession⁷⁰¹. For example, an astronomer’s experience of looking at the stars will be much richer than an inexperienced city dweller’s. The astronomer’s familiarity with the stars allows him to recognize and relate the stars; that familiarity is what gives rise to, or rather is expressed by, the perceptual schema.

Fabro cites Piaget’s genetic psychology to great length in both *La Fenomenologia della Percezione* and *Percezione e Pensiero*. Regarding our perceptual schemas Piaget speaks of our assimilative process in knowing, as mental schemas that allow for an ever greater grasp of reality. “Thanks to a certain affinity that is not always conscious or analyzable, the perceptual schema imposes itself [...] or penetrates the data currently perceived by other sensitive faculties; it makes a sketch of them, as a sort of interpreting the complex sensed object. By that interpretation the object takes on a deeper, more unified meaning⁷⁰². Thus the perceptual schema plays a virtual role of facilitating our comprehension of objects, by providing a referential framework from our experience. Fabro presents Piaget’s developmental-genetic theory of perceptual schemas as fundamentally agreeing with Aristotle and Aquinas’s teaching regarding the ἐμπειρία – *experimentum*.

Another important expert on schematism in psychology is P. Revoult d’Allones. Arguing against Kant’s top-down view of how we apply the understanding’s categories to sensed intuition, Revoult d’Allones shows that we gradually come to general, universal

⁷⁰⁰ Ibid.

⁷⁰¹ Cf. FABRO, PP, 205.

⁷⁰² Ibid, 204. “Per qualche affinità che presenta in modo non sempre cosciente od analizzabile, si sovrappone [...] penetra i dati attualmente percepiti appartenenti ad altra regione sensoriale, ne dà uno schizzo che è una interpretazione secondo la quale il complesso sensoriale attualmente percepito prende un significato più denso ed unitario ad un tempo”.

concepts by way of the schemas. He regards the schemas as a “‘condensing’ or ‘abbreviating’ on a psychic level, in that they produce a unified summary of past experience, open to future experience”⁷⁰³. The link between past experiences (the schemas), and actually present perception is so close that we have difficulty distinguishing what is due to sensed perception and what is contributed by the schema, at work simultaneously with the senses. The perceptual schema plays an essential role in knowing and recognizing things around us.

How exactly do we form the perceptual schema? Piaget’s studies in children’s developmental psychology provide us with a clear idea of the stages in our perceptual knowledge of the world around us. Whereas for adults it is hard to distinguish actual sensation from past experience present in the perceptual schema, infants are still developing those schemas, and so we can learn important aspects of the schema by looking closer at infants’ development in perception.

The different stages in a child’s perception are all linked together in a harmonious whole: One stage builds on the previous one, and develops slowly towards the following stage. This developing aspect stands in contrast to a purely objective and ever-present gestalt. The child grows by experience, as her system of schemas develops and accumulates more data and constants in phenomenal experience. For brevity’s sake, I do not present each step of Piaget’s theory; rather I compare the end results of the process, in the 18-month-old child, as compared to her very first perceptions after birth. At birth the child perceives all objects as related to herself, as simply extensions of herself and useful for her own needs. She does not view objects as somehow independent of herself. The end-stage of her development allows her to perceive the world much more differently than at birth.

The object is conceived as a permanent substance, independent of the activity of the soul; ultimately the self must submit to and accept the object’s conditions. The subject no longer occupies the center of the world, absorbing it into herself. Rather she broadens her view and places herself as an object among other objects, as an integral part of the world that she has slowly built in perception. The world has thus been freed from her own perspective⁷⁰⁴.

⁷⁰³ Ibid., 202. “*Il R. d’A. concepisce lo schema come una condensazione, un’abbreviazione psichica riassuntiva in modo unitario della esperienza passata e adattata alla recezione della esperienza futura*”.

⁷⁰⁴ Ibid., 417. “*L’oggetto è concepito come una sostanza permanente, indipendente dall’attività dell’io che deve anzi sottomettersi ed accettare le condizioni dell’oggetto; il soggetto non occupa più il centro del mondo assorbendolo; ma, allargando la prospettiva, pone se stesso come un oggetto fra gli oggetti, cioè come una parte integrante del mondo che egli ha percettivamente costruito man mano che si è venuto liberando dalla prospettiva propria*”.

It is through the child's experience in ongoing interaction and gradual growth that the child goes from perceiving objects as mere extensions of herself to perceiving them as separate and lasting. Through Piaget's study of developmental psychology and perception we may appreciate the growing, flexible and objectifying aspects of our perceptual schema.

What is the end-result of our perception of objects? What is the extra information provided by the perceptual schema that the previous stages of sensed perception and organization do not reach on their own? Beyond the external qualities and the size-shape-motion aspects of the object, we come to grasp the meaning of the object as independent and enduring. "We do not consider the particular in its mere existence and its naked reality [...] Rather we consider it according to the possibility of transformation that it has in itself"⁷⁰⁵. Unlike newborns that treat all objects as purely oriented towards themselves, as adults we see and grasp the meaning that objects have in themselves. We realize that objects are useful or harmful in and of themselves, as based on their own inherent structure. Perceptual schemas contribute toward this understanding of an object's meaning, by drawing on the wealth of past experience in order to facilitate our current perception. We can conclude that the schemas are for humans what instinct is for non-human animals: While they are born already with instinctive recognition of threats and benefits, we humans must gather slowly and gradually our experience. We form perceptual schemas that allow us to understand and recognize reality better. This "gathering" in experience is what gives the cogitative its name, and so we turn to the faculty that forms the schemas in perception.

3.2. *The cogitative faculty: its proper object and its continuatio with the intellect*

Fabro regards Aquinas's teaching on the cogitative faculty as the central link that allows for a proper, coherent development between the two extremes of the senses and the intellect. We already saw Fabro's critique of Kant's *Einbildungskraft* (imagination) as an inadequate intermediary between sensed intuition and the understanding. We now present in-depth the faculty of the cogitative as the proper intermediary between images and ideas⁷⁰⁶.

⁷⁰⁵ Ibid., PP, 215. "Noi consideriamo il particolare non nella sua semplice «esistenza», non in questa realtà «nuda» che subordinerebbe al dato di ogni eccitante particolare una sensazione particolare, ma noi lo consideriamo secondo la possibilità di trasformazione che esso porta in sé".

⁷⁰⁶ Cf. FABRO, C., «Il trascendentale moderno e il trascendentale tomistico», in *Angelicum*, 60 (1983) 4, 550. Future reference to this article as TMTT. "Si può dire allora che sul piano strettamente fenomenologico la cogitativa — e non la neutra *Einbildungskraft* — è l'autentica intermediaria fra la sfera

Aristotle himself does not specify a particular faculty such as Aquinas's cogitative. Garcia highlights several functions of Aristotle's διανοητική ψυχή presented in *De Anima*, Bk. 3, Ch. 7, 431a-b. Aristotle does not distinguish any faculty beyond the διανοητική ψυχή, while attributing both ideas and *intentiones* to this faculty⁷⁰⁷. Avicenna was the one to develop a theory of the cogitative as distinct from the intellect. Our Latin term *cogitative* has its source in Augustine of Hippo and his theory of knowing.

Garcia provides the etymology for *co-agitare* and *collatio* that Aquinas himself mentions⁷⁰⁸. Both verbs *co-agitare* and *conferre* (the verbal root of *collatio*) regard gathering together several things towards a single point⁷⁰⁹. Augustine considers thinking as a sort of gathering into a unified whole, signified in the verb *cogito*⁷¹⁰. Thus we see how Aquinas draws on the verb *cogitare* and the similar substantial *collatio*, to identify the faculty already individuated by the earlier Arab philosophers.

Averroes holds that there is only one, separate intellect, and that each individual human knower develops sensed information into phantasmata, in order for the one, universal intellect to know it. Against this position of one separate intellect, Aquinas argues for the cogitative as our own gathering of sensed information, together with past experience. The cogitative "sifts (*co-agitare*) the multiple contents of experience and values them *in concreto*, arriving at a higher level of sensorial synthesis: the phantasmata"⁷¹¹. It is this gathering that the cogitative provides; as we saw, the cogitative also apprehends the *intentio* of the object, beyond its mere form presented by the senses. Thus the gathering of the cogitative is based on the constants of past experience, as it recognizes the perceptual schema instantiated in our present perception. Such a gathering seeks the objective meaning of the object, verified through past experience⁷¹².

In distinguishing the different levels of organization in perception, we distinguish the sensed objects per se, both the proper ones and the common ones (color as proper, surface as common). We also distinguish those aspects that are sensed but only

sensitiva e quella superiore, fra le immagini e le idee, fra le pulsioni e inclinazioni e l'esercizio della libertà. Non sorprende allora che il suo contributo sia altrettanto decisivo anche sul piano ontologico metafisico del conoscere".

⁷⁰⁷ Cf. GARCIA, CTA, 256-257.

⁷⁰⁸ Cf. AQUINAS, STh, II-II, 2, 1; 180, 3.

⁷⁰⁹ Cf. GARCIA, CTA, 262.

⁷¹⁰ Cf. AUGUSTINE OF HIPPO, *Confessions*, X, Ch. 11, as cited by GARCIA, 266-267.

⁷¹¹ FABRO, PPS, 52. "La «cogitativa», come indica lo stesso termine ha il compito di vagliare (*co-agitare*) i contenuti molteplici dell'esperienza ed apprezzarli in concreto; per questo può arrivare alla formazione di nuove sintesi sensoriali di valore superiore che sono i «phantasmata»".

⁷¹² Cf. Ibid., PP, 165.

incidentally or *per accidens*. Such incidentally sensed objects are drawn from sensed perception, but are not sensed directly by the outer sense faculties. For instance, when I say, “I see the son of John”, I am referring to a sensed aspect that is incidentally sensed: What is directly sensed is the color and shape of the person, while his supposed identity is not directly sensed. The sensed objects “*per accidens*” are the object of the cogitative, as the *intentiones insensatae*, or the unsensed value of objects drawn out by the cogitative based on past experience. Those incidentally sensed aspects allow us to fill out, coordinate and integrate the sensed object as a whole. They also allow us to understand things on an intellectual level, as a mediation between the sensed aspects per se, and what is intelligible. Thus the cogitative’s development in perception regards specifically the sensed objects “*per accidens*”, which work on two fronts:

On one side [the sensed per accidens] are turned toward the sensed per se, upon which they are founded; on the other side they refer to the intelligible per se, which the incidentally sensed aspects found. [...] They act as a bridge between the senses and the intelligible, a natural connection between the two objective worlds of human knowledge⁷¹³.

Aquinas seeks to clarify more precisely the sensible objects *per accidens*. Not everything that is intelligible in sensed matter is classified as incidentally sensible; “only what is at once intellectually apprehended as soon as a sense of experience occurs”⁷¹⁴. What is intelligible can be taken on two levels: universal or particular. We can identify something as alive immediately upon seeing it move or talk; the category “alive” is incidentally sensed and a universal. If I immediately recognize a friend, this is incidentally sensible and a particular. Aquinas assigns the task of incidentally recognizing particulars to the faculty of the cogitative, “because it correlates individualized notions”⁷¹⁵. The cogitative’s role in sensed perception is to grasp the full meaning of the concrete object.

20th-century psychology provides an experimental basis for the classical Aristotelian-Thomistic theory of perception. Both Revoult d’Allones and Piaget provide convincing experimentation to support the theory of the *experimentum* in the cogitative. Since the cogitative apprehends the concrete, real worth of objects, it provides a proper schematism that is more coherently based than Kant’s transcendental theory. Rather than an a priori, top-down, intellectually-based schematism, the *experimentum* theory draws

⁷¹³ Ibid., PP, 290. “A questo modo i sensibili «per accidens» sono come bifronti: da una parte sono vòliti ai sensibili «per se», in cui si fondano; dall'altra si riferiscono agli intelligibili «per se», che invece fondano. Il tutto si risolve in una «mediazione» che essi esercitano fra il sensibile e l'intelligibile come ponte di connessione naturale fra i due mondi oggettivi della conoscenza umana”.

⁷¹⁴ AQUINAS, Comm DA, Bk. 2, Ch. 13, n. 396 [Yale, 258]. “Non tamen omne quod intellectu apprehendi potest in re sensibili, potest dici sensibile per accidens, sed statim quod ad occursum rei sensatae apprehenditur intellectu”.

⁷¹⁵ Ibid. “Quidem apprehensio in homine fit per vim cogitativam, quae dicitur etiam ratio particularis, eo quod est collativa intentionum individualium, sicut ratio universalis est collativa rationum universalium”.

from sensed experience in relation to the cogitative, towards perceptual schemas that facilitate our grasp of the meaning of concrete objects⁷¹⁶.

The cogitative appears often in Aquinas's writings regarding human knowledge of the material world. Fabro divides the different functions and roles of the cogitative into four main areas⁷¹⁷:

- 1) by means of the "*collatio*" or gathering of several individuals, the cogitative comes up with the phantasm, with the help of memory;
- 2) the cogitative perceives the sensible per accidens, presented in the sensible per se but not directly grasped by the lower faculties;
- 3) the cogitative allows the intellect to know the *quid* or essence of a particular object;
- 4) based on the previous function, the cogitative provides the minor premise for prudential syllogisms, carried out by the intellect. Regarding the most proper course of action, the intellect requires the cogitative's direct knowledge of the particular circumstances in order to act properly *hic et nunc*⁷¹⁸.

⁷¹⁶ Cf. FABRO, PP, 229.

⁷¹⁷ Cf. FABRO, PPS, 53-55; TMTT, 549-550; PP, 175-179.

⁷¹⁸ Cf. FABRO, PP, 175-179. This list of the cogitative's function goes well beyond Klubertanz's presentation of Aquinas's teaching. Klubertanz limits discursive power (the cogitative) to this fourth function alone, and attributes the first function to imagination. The second and third he attributes to the estimative faculty, keeping Avicenna's five inner senses, despite the fact that Aquinas specifically rejected such a fifth inner sense, as not necessary (see STh, I, 78, 4). When Aquinas speaks of the estimative, he does so regarding animals; human beings have the cogitative instead. "*Knowledge of the material singular in the practical order depends on the discursive power in four ways: (1) in so far as that object involves something to be done, the discursive power apprehends the concrete operability and similar intentions; (2) that power directs attention; (3) and grounds the operation of memory; (4) and, in so far as judgment is concerned, it deals with the concrete elements of time and motion involved in every verb. Knowledge of the material singular in the speculative order depends on the discursive power only in the last three ways. The first function (of materially limiting and particularizing universal knowledge) in the speculative knowledge of the material singular is replaced by the act of the imagination*". DP, 293. When dealing with the discursive power (Klubertanz's translation of the cogitative), the author distinguishes heavily between speculative knowledge and practical knowledge. Speculative knowledge draws knowledge in, while practical knowledge is from the intellect outwards. The discursive power functions almost entirely in relation to practical knowledge, according to Klubertanz. We thus have two separate channels in the inner senses: The imagination and estimative draw in towards the intellect, while the discursive power is the channel out of the intellect. Such separation of speculative and practical intellect does not seem to correspond to our one, united mind and the overall process, and does not seem to correspond to Aquinas's thought. "*With regard to intellect and the discursive power, these relations work out something like this. First, the intellect receives from estimative-and-imagination the conjoined sensible form-and-knowledge of sensible goods which the estimative apprehends of itself. Secondly, under the guidance of reason (the mover-moved relation), the discursive power constructs in the imagination the images of those sensible objects or acts which are to be made or done in accord with the universal principles of reason. Thirdly (and as far as time is concerned, simultaneously with the second), the reason, standing to the discursive power as principal cause to instrument and as form to matter, knows the operable throughout its construction and in its finished state of image*". DA, 285-286. "*St. Thomas never says that the discursive power is operative in a special way in the indirect intellectual knowledge of the singular in the speculative order. [...] We may say that the preparation of phantasms by the three interior senses (imagination, discursive power, and memory) consists in the appropriate combination of diverse elements into a unified phantasm in the ready re-presentation of this complex phantasm, and in the maintaining of it within sense awareness for such length of time as is necessary*

Aquinas contrasts the cogitative with animals' estimative faculty, as natural instinct.

[The cogitative] apprehends the individual thing as existing in a common nature, and this because it is united to intellect in one and the same subject. Hence it is aware of a man as this man, and this tree as this tree; whereas instinct is not aware of an individual thing as in a common nature, but only in so far as this individual thing is the term or principle of some action or passion. Thus a sheep knows this particular lamb, not as this lamb, but simply as something to be suckled; and it knows this grass just in so far as this grass is its food⁷¹⁹.

The cogitative is able to associate individuals with a common nature, thanks to its *experimentum*, as the perceptual schema regarding similar objects. We begin to see the intellect's object in universals, present implicitly on the level of the common, shared nature.

The cogitative is the highpoint of sensed perception, but it is not the final arrival point in human knowing. What does the cogitative provide to intellectual knowledge? How are sensed perception and intellectual knowledge mediated in the cogitative? It "provides the intellect with the schemas that are the most up-to-date, so to speak, in the phantasmata, as the concrete conditions found in reality. From those phantasmata the intellect abstracts the universal, and through those phantasmata the intellect can know reality and objectively apply its universal contents"⁷²⁰. The cogitative is a first gathering and focusing of the multi-faceted complexity of sensible reality: From the cogitative's condensed schemas and phantasmata⁷²¹ the intellect can discover what it can understand properly. The cogitative can grasp the singular fully, in its singularity and substance,

for the intellect to do its work. St. Thomas does not say it explicitly, but it seems to be evident that in different cases the relative importance of the different interior senses will vary. For example, in the preparation of the phantasms of operables, the work of the discursive power is relatively important, and, as we've seen, is singled out in many texts". DA, 258-259. Klubertanz does not seem to reflect the unity of the cogitative in the entire process of knowing, but splits it into estimative and discursive power, one focused on speculative knowledge, and the latter on practical knowledge.

For further criticism of Klubertanz's reading of Thomas's perception theory, see WHITE, A.L., «The Picture Theory of the Phantasm», in *Tópicos*, 29 (2005), 135-136, 144.

⁷¹⁹ AQUINAS, Comm DA, Bk. 2, Ch. 13, 398 [Yale, 258]. "Nam cogitativa apprehendit individuum, ut existens sub natura communi; quod contingit ei, in quantum unitur intellectivae in eodem subiecto; unde cognoscit hunc hominem prout est hic homo, et hoc lignum prout est hoc lignum. Aestimativa autem non apprehendit aliquod individuum, secundum quod est sub natura communi, sed solum secundum quod est terminus aut principium alicuius actionis vel passionis; sicut ovis cognoscit hunc agnum, non in quantum est hic agnus, sed in quantum est ab ea lactabilis; et hanc herbam, in quantum est eius cibus".

⁷²⁰ FABRO, PP, 178. "[La cogitativa] fornisce all'intelletto gli schemi, diciamo così, più aggiornati sulle condizioni di fatto della realtà (phantasmata), dai quali l'intelletto astrae l'universale e per i quali esso si può congiungere nella riflessione con la realtà concreta alla quale si riferiscono gli schemi, ed oggettivare in essa il contenuto dell'universale".

⁷²¹ Here we use Aquinas's term directly. A possible translation is phantasm, or species. However, species is used more for the senses and for the intellect, while *phantasmata* is more proper to the cogitative. Thus it may be considered the inner representation of the object at the level of the cogitative, between the senses and the intellect.

thanks to its close relation with the intellect. Human perception goes beyond animal perception, thanks to the cogitative's relation with the intellect. The interplay between the cogitative and the intellect is important, since the intellect only knows universals, and cannot directly grasp singulars. Nor do the senses grasp singulars, since the *intentiones insensatae* and sensible per accidens are not directly sensed. "Thus it is through the cogitative faculty that humans apprehend singulars in their real concreteness, and not through the intellect. The intellect is the faculty that universalizes the concrete contents discovered by the cogitative"⁷²².

For all its importance in sensed perception, the cogitative is still only a step towards full knowledge in the intellect. It certainly provides the intellect with key, essential information about the outside world. However the cogitative is only a sense faculty, and plays a preparatory function for the intellect⁷²³. The cogitative's *intentiones* and perceptual schemas are essentially functional, in that they perceive the object inasmuch as related to the subject's needs. Objectivity is certainly obtained, but the presence of subjective elements in the cogitative remains. It is the intellect that obtains the highest amount of objectivity. "The explicitly 'objective' unification is brought about by the intellectual consciousness, as when the intellect becomes aware of the intelligible contents in the phenomenal contents (*conversio ad phantasmata*)"⁷²⁴. The intellect certainly needs the phantasmata provided by the cogitative, but it is only the intellect that reaches fully objective knowledge. The doctrine of *conversio ad phantasmata* allows for the grounding of that in us which we call representation. The senses without the intellect only perceive chaos; the intellect without the sensed phantasmata would remain with only inner, solipsistic knowledge. "The encounter of the intellect with the senses, and the universal with the phantasm, is very much beneficial as really the only escape route [for theories of knowledge]"⁷²⁵.

Some might regard Aquinas's *conversio ad phantasmata* as a humiliation for the intellect's dignity; they however fail to realize the importance it plays in realistic knowledge

⁷²² FABRO, PP, 252. "L'uomo quindi apprende i singolari nella loro concretezza reale con la Cogitativa, e non con l'intelletto, che è propriamente facoltà universalizzatrice dei contenuti concreti scoperti dalla Cogitativa".

⁷²³ Cf. Ibid., 257. "Né si dica che per tutto questo basta l'apprensione della cogitativa: essa resta intrinsecamente una facoltà della sensibilità e la sua funzione è essenzialmente isagogica alla vita dell'intelletto, tanto sotto l'aspetto pratico, quanto sotto quello speculativo e non può mai assurgere a principio sufficiente nella nostra vita cosciente".

⁷²⁴ Ibid., 341. "La unificazione «oggettiva» esplicita è operata dalla coscienza intellettiva, quando l'intelletto si rende conto della presenza dei contenuti intelligibili nei contenuti fenomenali (*conversio ad phantasmata*)".

⁷²⁵ Ibid., 266. "L'incontro pertanto dell'intelletto con il senso e dell'universale con il fantasma è quanto mai benefico, anzi è l'unica via di salvezza".

of the world. The intellect reaches the world through sensed perception, not as directly drawn from external senses, but as properly condensed or distilled by the cogitative in the phantasmata.

The *conversio ad phantasmata* constitutes the process of objectifying knowledge, as its fundamental moment. It reveals and at the same time brings about the transcendental structure of the subject in the senses and intellect, as well as revealing the object's structure at its different intentional levels [...] according to the complex, interwoven characteristic that constitutes reality⁷²⁶.

The founding moment or element of knowledge is the *conversio ad phantasmata*, as carried out intentionally by the intellect turning towards the cogitative's phantasmata, in order to verify its knowledge on a universal level. This founding moment is the opposite of Kant's grounding of knowing. While the *conversio ad phantasmata* implies the intellect relying on the senses, the representation relying on the presentation, the subject relying on the object, Kant's transcendental philosophy is dependence and reliance in the opposite direction. "As Heidegger has acutely observed, [...] it is the a priori that determines the object as object, objectivity itself"⁷²⁷. For Kant the object must first be possible, according to the conditions of the *Ich denke*. The conditions of knowledge, as regards the content of the object, are not drawn from the senses, but form the basis for the object to be imagined or imaged. Thus the ground of Kant's representation remains completely within the *Ich denke* and its conditions of possibility in thinking and imagining. Representation for Kant is the intellect's reference to the senses, imposing and determining according to the a priori forms:

[S]pace and time are only forms of our sensible intuition and hence are only conditions of the existence of things as appearances, and that, furthermore, we have no concepts of understanding, and hence also no elements whatever for the cognition of things, except insofar as intuition can be given corresponding to these concepts. That will prove, consequently, that we cannot have [speculative] cognition of any object as thing in itself, but can have such cognition only insofar as the object is one of sensible intuition, i.e., an appearance⁷²⁸.

⁷²⁶ FABRO, C., «Il nuovo problema dell'essere e la fondazione della metafisica» in *Rivista di Filosofia Neo-Scolastica*, 66 (1974) 2, 492. Future reference to this work as NPE. "La *conversio ad phantasmata* costituisce pertanto il processo di oggettivazione in actu exercito nel suo momento fondamentale il quale rivela (ed attua) ad un tempo la struttura trascendentale del soggetto di senso e intelletto e la struttura dell'oggetto ai suoi vari livelli intenzionali: di essente ed essere, di essente ed essenza, di essenza ed esse, di sostanza ed accidenti, di materia e forma... secondo l'intero intreccio costitutivo della realtà".

⁷²⁷ Ibid. "Il trascendentale moderno, come ha precisato con acume Heidegger, non è identico all'a priori ma è l'a priori che determina l'oggetto come oggetto, l'oggettività".

⁷²⁸ KANT, CPR, B xxv-xxvi. "Daß Raum und Zeit nur Formen der sinnlichen Anschauung, also nur Bedingungen der Existenz der Dinge als Erscheinungen sind, daß wir ferner keine Verstandesbegriffe, mithin auch gar keine Elemente zur Erkenntniß der Dinge haben, als so fern diesen Begriffen correspondirende Anschauung gegeben werden kann, folglich wir von keinem Gegenstande als Dinge an sich selbst, sondern nur so fern es Object der sinnlichen Anschauung ist, d.i. als Erscheinung, Erkenntniß haben können, wird im analytischen Theile der Kritik bewiesen".

Thus the understanding's knowledge reaches only as far as our phenomenon; we draw no information from the senses. Kant's top-down approach from the intellect fails consider the proper role of the inner senses; they structure and develop representation (species or phantasms), to the point that the intellect can understand and read in (*intus-legere*) the phantasmata what is universal and necessary. The *conversio ad phantasmata*, as allowed by the cogitative faculty, gives us the ground so long sought for by Kant.

The importance of the perceptual schemas may be Fabro's most valuable contribution to 20th-century debates on human knowing. He draws mainly from Piaget's genetic theory of perception, in order to provide traditional Aristotelian-Thomistic philosophy with a contemporary equivalent of the ἐμπειρία-*experimentum*. This notion of the perceptual schemas allows us to re-consider Kant's theory from a genetic point of view, that is, how the mental and perceptual schemas arise from within sensed experience. Rather than simply present in the *Ich denke* as innate, Fabro shows such schema as relying heavily on experience with objects, as we draw important information from such experience. This experience drawn from reality's structure becomes a solid basis for our intellectual knowledge of the world around us.

The perceptual schemas are a subjective tool for perceiving outer reality with greater ease and precision. Our experience comes into play in all our perception, but at the same time we must keep in mind the primordial reality that sensation plays. Since sensation is pure receptiveness, we rely on objects' determining our knowledge in sensed perception. Reality remains the standard of our knowledge, even as we gain ever greater knowledge in experience of such reality. "We do not continue to sense, perceive, and understand the world afresh in every interaction we have with the world. We are only virgin knowers once"⁷²⁹. The perceptual schemas in the cogitative allow us to perceive objects according to their meaning. And even as we develop these schemas, things themselves remain the ultimate standard for knowing. "The world remains the principal determinate and source of all cognitive content and it never ceases to be the measure of truth. All cognitive content must be sized up to and judged against their proportional conformity to the world"⁷³⁰. The cogitative's communication and dependence on the senses allow for such measuring between our inner perceptions and outer reality.

⁷²⁹ DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 408.

⁷³⁰ Ibid.

4. Perception and the cogitative

As a conclusion of this chapter on the inner senses and perception, we consider how the Aristotelian-Thomistic position, supported by modern experimentation, helps to make sense of the problems that Hume and Kant are unable to answer properly. If we propose different inner faculties over Suarez's reduction to the intellect alone, it is not simply on the authority of Aristotle or Aquinas; rather, it is because their theory provides a fuller explanation of how in fact we perceive. Both the common sense and the imagination are needed to gather the different sensed objects of the external senses into a united whole, as continuous over time. The resulting form-gestalt is just one factor in perception, however; we must grasp the object's meaning in order to perceive it properly. This meaning is the *intentio insensata* apprehended by the cogitative faculty, thanks to the *experimentum* stored in memory and virtually present in the cogitative's perceptual schemas. Each of these factors and their corresponding faculty has their role in perception. In order to appreciate the value of this perception theory, we consider Hume and Kant's shortcomings in accounting for our perception. Modern experimentation is important here, since it considers the facts of human perception as far as such perception can be empirically known, prior to philosophical systems and explanations.

4.1. Hume's skepticism regarding causality

David Hume attributes our perception of cause and effect to our habit or belief that the future will be like the past. Such a habit has no real basis in reality; it is simply our imagination's projecting the past into present perception. However Piaget's studies in developmental psychology show the contrary: Perception of a certain effect from a given cause motivates the child to repeat the causing action over and over, as she slowly becomes accustomed to the connection between the two. This process of repetition is "a form of assimilation, since it seeks to reproduce an 'interesting result', that is, to rediscover an 'effect' identical to the one previously perceived. It is this producing assimilation that explains how the habit is formed, not vice versa like Hume thought"⁷³¹. It is through her own action and causality in the outer world that the child develops the idea of cause and effect. This experience is real for the child, and the habit follows upon experience. Hume

⁷³¹ FABRO, PP, 447. "Invero la reazione circolare primaria implica, secondo il P[iaget], un fattore di organizzazione o di ripetizione attiva che supera ormai l'abitudine e che è già una forma di assimilazione la quale tende a riprodurre un «risultato interessante», a ritrovare cioè un «effetto» identico a quello percepito in precedenza: è questa assimilazione produttrice che spiega il sorgere dell'abitudine, e non viceversa come pensa Hume".

switches the order and assumes that our imagination quite arbitrarily projects the relation of causation onto the world and perception. As adults, all voluntary action and interaction with the world is real. More than an arbitrary piecing together of past and present in the imagination, is there not some higher faculty at work in perception?

Hume only allows for three faculties in humans: sensation, reason and imagination⁷³². Aristotle's common sense allows for us to gather individual sensations into a coherent whole, based on the properly common sensibles. For Hume, imagination assembles simpler, basic ideas into any order it desires, while being guided by the gentle force of habit to join them constantly in similar ways. It can be deceived by the resemblance of presently sensed objects with past objects like them; the imagination arbitrarily takes the resemblance as objective, but that is clearly false according to Hume⁷³³. By not recognizing an objectively perceived form or gestalt, Hume cannot ground sensation in anything further than associating beliefs. He fails to recognize another inner faculty that gives more objective value to perception: Between imagination and reason there is the mediating faculty of the cogitative.

The fact that a child repeats her action and forms a habit points to a factor beyond present experience: The child is developing a broader, more complete perceptual schema of the world around her. This developing schema is thanks to the cogitative directing and observing experience, in order to grasp reality better. While the imagination may be just as full of fancies for Aquinas as for Hume, human perception reaches a higher level of objectivity and perception according to Aquinas, due to the cogitative's intervention and direction. The case of perceiving causality is a clear example of perception as a two-way, bipartisan effort: Experience first gives rise fortuitously to an effect; the cogitative takes note of the phenomenon and intentionally repeats the causing action, in order to confirm whether the effect is always produced. The perceptual schema relating our action with

⁷³² Cf. HUME, THN, 1.4.2.3.

⁷³³ Ibid., 1.4.2.43. "Tis a false opinion that any of our objects, or perceptions, are identically the same after an interruption; and consequently the opinion of their identity can never arise from reason, but must arise from the imagination. The imagination is seduc'd into such an opinion only by means of the resemblance of certain perceptions; since we find they are only our resembling perceptions, which we have a propensity to suppose the same. This propensity to bestow an identity on our resembling perceptions, produces the fiction of a continu'd existence; since that fiction, as well as the identity, is really false, as is acknowledg'd by all philosophers, and has no other effect than to remedy the interruption of our perceptions, which is the only circumstance that is contrary to their identity. In the last place this propensity causes belief by means of the present impressions of the memory; since without the remembrance of former sensations, 'tis plain we never shou'd have any belief of the continu'd existence of body. Thus in examining all these parts, we find that each of them is supported by the strongest proofs; and that all of them together form a consistent system, which is perfectly convincing. A strong propensity or inclination alone, without any present impression, will sometimes cause a belief or opinion".

outer effects is formed through this repetition. Both experience and the cogitative's capacity to relate objects are needed to explain human perception; Hume's version of the imagination cannot fully explain perception⁷³⁴.

4.2. Kant and space a priori

As we have seen, Kant regards sensed intuition as amorphous matter for cognition, activating so to speak our perceptual schema. Sensed qualities, quantity and structure are not based on things; the mind contributes all those aspects to the object in cognition. However, modern experimentation from the Gestalt school reveals the structured organization of sensed perception⁷³⁵. In order to mediate the two heterogeneous sources of cognition, Kant proposes the transcendental schemata. Such schemas however take no information or data from sensed intuition, but actively apply their own structuring criteria to that intuition, thus producing the image. For Kant, perception is not a two-way road between outer reality and the mind; rather it is a structuring activity of the *Ich denke*, in concentric circles: from the *Ich denke* to the understanding's categories to the corresponding schema of the imagination. When these schema are applied to sensed intuition (already structured in the a priori categories of sensation, space and time), the imagination produces images⁷³⁶. It is no wonder that we can only know the phenomenon present within us, and never the noumenon: We receive no data from the noumenon besides its existence, intuited from the "dust" of sensed matter, as a mere condition for sensed intuition. The ground of that in us which we call representation is subjective as far as both structure and content are concerned.

The sensible per accidens involve the object's structure and meaning, as the cogitative comes to grasp the object per se. We come to grasp this concrete object in front

⁷³⁴ Cf. FABRO, PP, 448. "Hume non ha descritto che la corteccia esterna dei fatti. Il fatto su cui egli insiste, cioè che anche il proprio corpo è «scoperto» ed appreso gradualmente, dimostra che la differenziazione di qualsiasi oggetto, per immediato che questo possa essere, non si acquista che grazie ad una elaborazione sempre più complessa degli schemi: è l'organizzazione degli schemi e l'intervento della intelligenza elementare — per mezzo della cogitativa — che costituisce la causalità percettiva. e non la sola esperienza".

⁷³⁵Cf. Ibid., TMTT, 548.

⁷³⁶ Cf. Ibid., PP, 308. "Lo schema kantiano, ultimo frutto della ragione, non pone perciò alcun problema genetico, ma soltanto quello dell'applicazione dello schema al contenuto sensoriale, poiché la categoria è troppo distante, nella sua universalità, per riferirsi immediatamente ai dati. Se poi anche lo schema ha tutta la sua ragion d'essere, come principio unificante, dalla rispettiva categoria, non si sa per qual modo e con quale diritto possa organizzare i dati amorfi d'esperienza. [...] Si può convenire pertanto nel ritenere aver Kant sfiorato il dualismo ed anche il realismo percettivo: ma lo ha solo sfiorato, senza preoccuparsi di svilupparlo. L'unico problema, che in esso rimane, è quello della derivazione degradante e concentrica, a partire dall'io penso, delle categorie e degli schemi".

of us, only thanks to our capacity to remember and contribute past experience to current perception. Our perceptual schemas arise from sensed perception over time.

The process which the moderns call “perception” corresponds substantially to that which in Thomistic doctrine is called apprehension of the *sensibilia per accidens* (and St. Thomas expressly attributes this apprehension to the cogitative[e]), it can be seen that the concurrence of the memory and of past experience is the indispensable condition for every perception. In all this process, therefore, the cogitativ[e] has the principal part⁷³⁷.

Whereas Kant views space as an a priori condition for sensed intuition, Piaget argues from his experimentation that space is in fact perceived already present in external sensation, even if only minimally grasped at that level. Since our perception develops according to our vital needs, we require an immediate perception of the continual, as regards both space and time. However, such *immediate* perception means for Kant that it can only exist a priori, as underived from the senses. Space in fact involves both objectively structured data, as well as the cogitative’s schema. Perception of space comes together with the perception of bodies, as their multiple surfaces imply depth, and their motion implies space between bodies⁷³⁸. Pure space exists only in the mind, as an abstraction from our perception of the outside world. The concept of space is certainly the result of the perceptual schemas, as they “become more and more mobile and capable of interacting in multiple forms. Thus we establish spatial relations between objects on the one hand, and on the other the schemas involve our own bodies among that spatial whole”⁷³⁹. It is above all the cogitative that brings about the notion of space, as it relates sensations. While there are objective elements at the basis of space, they are always perceived as forming a spatial, interacting whole. Fabro does not consider this perceptual space as completely prior and independent of the intellect: “Space cannot be thought of as a reality separate from the spirit’s involvement”⁷⁴⁰. Space is a uniquely human schema in perception; Kant neglects to give space a basis in sensed reality, as already structured in itself.

4.3. *An integral theory of perception*

⁷³⁷ Ibid., KP, 364.

⁷³⁸ Cf. Ibid., 313.

⁷³⁹ Ibid., 323. “Nella misura invece in cui gli schemi diventano abbastanza mobili per combinarsi fra loro in forme multiple, si stabiliscono da una parte le relazioni spaziali fra gli oggetti, e dall’altra interessano il proprio corpo nel suo insieme”.

⁷⁴⁰ Ibid. “[Le percezioni] sono il risultato dell’attività intellettuale e lo spazio non può allora esser concepito come una realtà separata dall’insieme del lavoro dello sviluppo spirituale”.

As a summary of the difference between Aristotle and Kant's theories of perception, we return to the initial definition of knowing as presence and assimilation⁷⁴¹. How do we assimilate reality in knowing? Aristotle holds that our senses passively receive the qualities and quantitative structure that objects portray. Kant thinks that all structure and organization comes from a priori elements or functions of the transcendental apperception. Thus there is no real assimilation possible for Kant; for Aristotle we do know reality, because "reality as it is, and reality as it is known, coincide as far as content. For whatever there is in known reality, is there in reality itself; the difference between them comes from how they exist, one being real, the other being intentional, that is representational or mental"⁷⁴².

Here we encounter the difference in theories of perception: the role that reality plays and how we come to know that reality. Whether Kant's theory holds over Aristotle's should be based on the facts of experimentation. It may be argued that experimentation such as Piaget's is based on a pre-conceived outlook of human knowing. Experimentation in psychology is not comparable to physics' experiments; a certain pre-conception of the human person is bound to mix in with tests. Piaget is certainly not aiming to justify Aquinas or Aristotle, and yet we find Piaget and others' results corroborating Aquinas's explanation based on multiple faculties between the senses and the intellect. Such experimentation provides key information about how we sense and perceive things; neither Aquinas nor Kant had such experimentation to support their theories. If such experimentation does in fact support Aquinas's over Kant's theory, we should re-consider Kant's predominant role in modern theories of knowledge.

How do we explain our initial example of perception as someone looking out of the window and seeing a tree? How do the different layers in perception – color, shape, identity – come together into one, single object for us? Since we have gone into a certain amount of detail regarding each part of the perceptual process, it might seem that we have divided the process so much that the object itself has been split up. In order to return to a unified whole in perception, we briefly run through the process again, highlighting the precise problem that each step addresses, and the structuring that it contributes.

The starting point of all human knowing is the sensed impulse received from outside of us, as dependent on exterior objects. This impulse interacts with a sense organ,

⁷⁴¹ Cf. Ibid., 47.

⁷⁴² Ibid., 309. "*La realtà in sé e la realtà conosciuta coincidono quanto al contenuto, perché quanto c'è nella realtà conosciuta, c'è nella realtà in sé: ciò che è diverso è il modo di essere, essendo nell'una reale, nell'altra intenzionale cioè rappresentativo e mentale*".

properly disposed to receive certain types of impulses, and the sense faculty assimilates those impulses as a sensed “image”. This initial step is a minimal yet real transition from the physical to the immaterial, since the physiological level (nerve impulses) is related to the psychic processes, as the soul’s presence in sensation. As we saw in Tellkamp’s distinction, physical change occurs together with intentional, inner sensing, but this second aspect goes beyond the merely physical level⁷⁴³. Sensed objects are perceived as already related and structured from the start. Beyond the immediately perceived figure-gestalt, continual motion involves a serious dilemma as to how we perceive. Perception of motion involves a certain grasp of the past; we require an initial “contraction”, to use Fabro’s term, of sensed data into a single whole. While the senses only passively receive a succession of impulses in a certain shape-structure, the inner senses of common sense and imagination condense those multiple data into something of a united whole, enduring over time and throughout motion. Sensation relies ultimately on receptive determination from things outside of ourselves; such receptivity is human, in that it is developed and enhanced in emerging structures and relations, thanks to the inner faculties.

A second level of organization and structure must come into play, if our perception is to go from a general grasp of our surroundings to a more precise and exact apprehension of particular, concrete objects within our field of perception. This placing of objects comes from the subject’s recognition of objects according to their meaning and value. We relate them to our various needs, and thereby we apprehend their *intentio* or value. This level of comprehending implies that we understand objects as constants, independent of ourselves; it also requires the ability to compare the present object with past experience. The perceptual schemas in the cogitative and memory allow us to unite and recognize the object’s meaning and use. Thanks to the schemas we do not consider strictly isolated, unrelated acts of sensation, but recognize them according to constant, common traits, as useful for our persisting needs.

Perception itself ends at the point of the schemata or phantasmata, as we grasp the present object in its particular nature; such a “nature” is what the schemas allow us to recognize. Still, human knowledge involves both perception and intelligence. We come to objective knowledge in concepts and notions, based on the experience of the cogitative and its phantasmata. The process of knowing is complete when the mind reverts its abstract concepts back to the phantasmata of the cogitative; it is in intellectual knowledge

⁷⁴³ Cf. TELLKAMP, J.A., «Aquinas on Intentions in the Medium and in the Mind», in *Proceedings of the American Catholic Philosophical Quarterly*, 80 (2006), 281-283.

that we reach the deepest grasp of the material world around us. The next chapter will present the intellect in greater detail.

The overall process can be understood as a gradual building up, where each step solidifies slowly and allows for the following step. "Perception and intelligence are certainly in continuity between each other [...] but nevertheless they cannot be identical. The intellect shows an increased complication of functions, and it comes into action when immediate perception is no longer enough"⁷⁴⁴. The continuity between sensed perception and our intellect is what allows for a midway solution between associating sensations together and the aprioristic dominance of our intellect. It is the proper interplay between them in the cogitative that allows us to understand our surroundings as we do. We must now consider how the intellect itself figures into the process, and what type of knowledge it provides. If the cogitative is able to identify an object as under a common nature, what use do we have of anything further in the intellect?

⁷⁴⁴ Ibid., 335. "Percezione e intelligenza sono bensì in continuità l'una dell'altra ed hanno fra di loro strette analogie, ma, ciononostante, non si possono identificare, poiché l'intelligenza segna una progressiva complicazione di funzioni ed interviene con la sua azione quando la percezione immediata non basta più".

CHAPTER 7: THE HUMAN INTELLECT AND UNIVERSAL KNOWLEDGE

Human knowledge can be seen as a gradual, organic growth in our grasp of the outer world. Piaget shows how from our birth we develop perceptual schemas based on our interaction with the world. This organic development does not finish at the cogitative's understanding of a particular object as a certain sort. We also arrive at knowledge of what it means to be a human being, as well as concepts like friendship. What basis do such general, universal concepts have in material reality? Abstract terms denote such a removal from concrete particulars that we may suspect them of being purely mental constructs, with no solid basis in reality. Or may we follow Locke's view of general terms as collectives that bunch together a set of individuals, not based on knowledge of their intrinsic traits, but merely as a rough estimate of their resemblance to each other? As important as our cogitative faculty is for understanding our current surroundings, human cognition goes well beyond our immediate surroundings. Where do our universal ideas come from?

The origin of our universal ideas is the main dividing point between Aristotle and his master, Plato. Not only do universals separate their epistemologies, but even their metaphysics. Studies on Aristotle's development have shown that at first he followed his Plato's theory of the Ideas, as separate from the material world⁷⁴⁵. It was only during his last period of thought that Aristotle took an increasingly opposing stance towards his teacher's theory of participation and remembrance. From his scientific observation of the material world, Aristotle could no longer regard the material world as mere appearance, of secondary interest for knowledge; he came to accept nature as real, in agreement with Democritus. Thus Aristotle conceives material reality as real, true being. Does Aristotle thus abandon the status of universality in thought? No: He agrees with Plato on the existence of universal ideas, but in agreement with Democritus, Aristotle sees material reality as the starting point and reference for all such universal knowledge. How can the two go together? What are universals, and how do we come to know them? If material beings around us are related to universal concepts, do sensed stimuli serve as mere occasions for us to recall the world of Ideas? Aristotle has considerable ground to cover, if he wishes to link sensation of particulars with universal concepts and judgments.

⁷⁴⁵ Cf. FABRO, PP, 215-220.

An important question to answer along the way of justifying universal concepts is the following: What type of relationship does the intellect have to singular, particular objects? What type of knowledge does it have regarding concrete things? Following Augustine's lead, many medieval and modern Scholastics argue that the intellect directly knows the particular object in front of the subject. However, Thomas Aquinas realizes the subtle problems involved with such a straightforward approach to intellectual knowledge of material things; he adopts Aristotle's middle way, as long and winding as it may be⁷⁴⁶. This position continues to provide the most solid bridge between the intellectual mind and material reality. This chapter seeks to present the final capstone of human knowledge: the intellect. Far from being a simplistic photograph of reality, intellectual knowledge involves a deeper grasping of objective reality. It does so only based on the preparation of the *experimentum* or perceptual schemas in the cogitative.

The gradual preparation of universal concepts in the intellect can be seen as played out in Aquinas's own thought development, which runs parallel to Aristotle's transition from Platonism to his theory of the abstraction. Fabro notes how at the start of Aquinas's career, the Angelic Doctor thought that the first principles of knowledge are innate, and that the intellect only requires the *experimentum* from sensed perception in order to verify the value of those principles already present in the intellect. This position of innate first principles disappeared in Aquinas's mature works, however; it was replaced by the *experimentum* and our intellectual recognition⁷⁴⁷. We should bear in mind the difference between the first principles ("the whole is greater than the part", and the principle of non-contradiction) and the habit by which we come to know such principles. Our capacity to understand them is certainly innate, as part of the intellect's power. This capacity is a part of our participation spiritual, immaterial beings. Besides the *ability* to know the first principle, there is the concrete, defining moment of actually *knowing* the first principles. This coming to know them is the result of a process, which we will present shortly; if we arrive at such knowledge only after a process, then the knowledge itself is not innate.

We see how both Aristotle and Aquinas start with a more Platonic understanding of human knowledge, and then come to balance it with a greater role given to sensed experience. This development in their thought is not an outright denial of Plato: Both

⁷⁴⁶ Cf. FABRO, C., «La percezione intelligibile dei singolari materiali» in *Angelicum*, 16 (1939) 4, 430. Future reference to this article as PISM. "Per chi invece, come S. Tomaso, ha accettato senza diminuzioni il nuovo concetto di natura, inaugurato dall'Aristotelismo, il problema della conoscenza del concreto genera un turbamento reale, quasi che i principî più saldi del sistema venissero a conflitto".

⁷⁴⁷ Cf. FABRO, PP, 222-223.

Aristotle and Aquinas appreciate the Academic's interest in universal knowledge, as the most sublime and surest. Aristotle and Aquinas arrive at ideas through the senses, and they keep the ideas and universals within the individual mind, rather than in a separate World. Let us now turn to consider how Aristotle and Aquinas arrive at universal concepts in the human intelligence.

1. Induction towards universals

1.1. *How we come to universal concepts*

“According to Aristotle the universal cannot exist *in se* as such, but follows as the result of the mind's operation, which abstracts it from sensible objects present in experience. Hence sensible cognition is not mere stimulation, but the first obligatory holding place in objectivity”⁷⁴⁸. Aristotle grounds all knowledge, even abstract, universal concepts, as based on sensed experience. We are initially without any notion or ideas, and only come to formulate them through experience. R. Schmidt highlights an powerful image from Aquinas, regarding the term “concept” as derived from the conception of life within the mother's womb. The process of assimilation in cognition – with its objective and subjective elements – gives rise to universal knowledge⁷⁴⁹. The complex process of abstraction is fraught with possible errors and subjective suppositions; still Aquinas and Aristotle's acute grasp of human experience in psychology provides a coherent overview of the process.

Fabro calls this “the fundamental problem of philosophy – the birth of the universal in the mind”⁷⁵⁰. Such a birth comes from the “gestation” of sensed perception and experience; the gestation process is referred to by Aristotle as ἐπαγωγή, translated as “induction”. Fabro is quick to qualify this type of induction as “psychological”, so as not to confuse it with the current understanding of induction in logic. As we saw in chapter 3, Karl Popper argues extensively against any possibility of induction to justify scientific laws. This section will present the Aristotelian-Thomistic teaching on universals drawn from experience; the term “induction”, applied to that process, goes squarely against Popper's

⁷⁴⁸ FABRO, KP, 342.

⁷⁴⁹ Cf. AQUINAS, T., *Summa contra Gentiles*, Bk. 1, Ch. 53. Future reference to this work as SCG. As cited in SCHMIDT, R., *The Domain of Logic according to Saint Thomas Aquinas*, Martinus Hijhoff, The Hague 1966, 107. Future reference to this work as DLTA.

⁷⁵⁰ FABRO, KP 341.

position. In order to understand induction properly, we first clarify the term so as to avoid confusing induction with inference.

“Induction” is not to be confused with “inferring”. We infer a conclusion when we do not have enough evidence to reach it conclusively. Fabro applies this type of inferring to perception, as a necessary but momentary step at the start of a child’s experience of the world. As mature adults, we may infer an object’s meaning when we do not perceive enough of its elements given in sensation. This type of piecing together and affirming the identity of an object is certainly a first step in knowing new, unfamiliar objects⁷⁵¹. However Fabro does not accept the theory of Spencer⁷⁵², who believes we perceive *all* objects through inferring. Familiar objects, which make up the vast majority of our daily experience, have their corresponding perceptual schemas in the cogitative, which allow us to recognize objects without any conscious recurring to past experience. Inferring comes into play when the perceptual schemas are not sufficient, due to lack of previous experience with a given object-type. Induction works differently, in the sense of Aristotle’s ἐπαγωγή.

In order to understand better the transition from perceived experience (*experimentum*) to reason proper, in his *Commentary on the Posterior Analytics of Aristotle*, Aquinas uses the example of the medicinal use of herbs. Experience tells the medical expert that a certain herb has cured a considerable number of sick individuals; rational knowledge goes to the next step of asserting that the species of herb cures sick people in general. How do we come to this general assertion?

[R]eason does not stop at the experience gathered from particulars, but from many particulars in which it has been experienced, it takes one common item which is consolidated in the mind and considers it without considering any of the singulars. This common item reason takes as a principle of art and science⁷⁵³.

Just as repeated sensed experience gives rise to the *experimentum* in memory, so too does the growing familiarity with the *experimentum* give rise to a higher form of knowledge. This is based on the repetition of sensory experience, together with the capacity to relate experiences and draw out the common elements. “There are three phases or stages in the journey that leads to thought: sensation, memory and the

⁷⁵¹ Cf. FABRO, PP, 338.

⁷⁵² Cf. Ibid, 333-342.

⁷⁵³ AQUINAS, Comm PA, Bk. 20, L. 20, n. 11 [Magi, 237]. “*Ratio autem non sistit in experimento particularium, sed ex multis particularibus in quibus expertus est, accipit unum commune, quod firmatur in anima, et considerat illud absque consideratione alicuius singularium; et hoc commune accipit ut principium artis et scientiae*”.

experimentum: many sensations make a memory; many repeated memories make an *experimentum*; many *experimentum*, if we complete the process, give a thought and a principle”⁷⁵⁴. Knowledge is a continual process of condensing or distilling what is essential to outside reality, as we leave aside what is peripheral, secondary and less important. This gathering around things’ core or heart is portrayed by a poignant example in Aristotle’s *Posterior Analytics*. Aristotle points to how, when a line of defense is broken in battle and the soldiers begin to flee in retreat, a soldier may stop his flight and turn to face the oncoming enemy. Others slowly gather around him, and so a second line of defense is formed⁷⁵⁵. Fabro elaborates on the example of how universals arise from experience: “So too the universal, originating in the mind because of the impressions of many memories and past experiences, is the next line of battle that the mind constructs as a barrier against the disordered bombardment of experience”⁷⁵⁶. We have two main levels of unification in knowing, where we gather our multifaceted, kaleidoscopic experience into a coherent whole: The first line of unification-defense is the *experimentum*; the second level occurs when the *experimentum* gives rise to a certain constant factor, and we arrive at the universal.

Another example is contributed by Aquinas in *De veritate*, q. 15, art. 1. There the author compares angelic and human intellects, and concludes that whereas angels have a direct intuition into things, we must circle around an object over and over. Garcia comments on Aquinas’s text:

Until it reaches knowledge of the truth the *collatio* [the cogitative] does not stop gathering. Aquinas contributes another text [*De Divinis Nominibus*, Bk. 8, L., 2, n. 713] where the *collatio* is described as a process “starting with one, proceeding through many, resulting in one” (*ab uno incipiens, per multa procedens, ad unum terminatur*). The intellectual *collatio*-reason gathers many representations into one⁷⁵⁷.

Knowledge implies a gathering towards a fuller grasp of the common aspects in multiple singulars. Such gathering slowly arrives at the essential aspects and traits of things. With the help of the examples of the battle rank and circling around, we understand more fully how universals are born in our minds from experience. Aquinas’s commentary on Aristotle’s *Posterior Analytics* is especially clear and straightforward: “If many singulars

⁷⁵⁴ FABRO, PP, 219. “Vi sono pertanto tre fasi o tappe nell’itinerario che conduce al pensiero — la sensazione, la memoria, l’«*experimentum*»: molte sensazioni fanno una memoria; molte memorie ripetute, un «*experimentum*»: molti «*experimenta*», completiamo, danno un pensiero e un principio”.

⁷⁵⁵ Cf. ARISTOTLE, *Posterior Analytics*, Bk. 2, Ch. 19, 100a, referred to by FABRO, KP, 346.

⁷⁵⁶ FABRO, KP, 346.

⁷⁵⁷ GARCIA, CTA, 276. “Así, pues, mientras no se llegue al conocimiento de la verdad, la *collatio* no cesa. Se observa, pues, otra fórmula donde la *collatio* es descrita como un proceso que *ab uno incipiens, per multa procedens, ad unum terminatur*; esto es, la *collatio* intelectual, la razón, reúne muchas representaciones en una sola”.

are taken which are without differences as to some one item existing in them, that one item according to which they are not different, once it is received in the mind, is the first universal⁷⁵⁸. The one common element or item found in all singulars is what is received (*acceptum*) into the soul, and that element gives rise to the first universal. This is hardly the final phase of human knowing: Aquinas notes that we may make a common aspect a universal, even if that aspect is something accidental, not actually essential to the singulars of that species. For instance, our first universal may be whiteness, as the common factor observed in John, Robert and others; the universal could also be their capacity to reason. The universals themselves require their own order and hierarchy. What is important to notice is how universals are drawn, received or noticed from the experience of many singulars.

The cogitative's grasp of the sensible per accidens provides the immediate basis for the intellect's abstraction of universals. There is a definite transition from the cogitative's sensible level of cognition and the intellect's level; they are however intimately related to each other:

The universal inasmuch as it is universal can never in any way be the object of sense, not even per accidens; the sensible per accidens is not to be confused with the intelligible. The *sensibile per accidens* properly indicates an intelligible aspect precisely inasmuch as it can be seen concreted in reality, as this substance (the son of Diares), this causality ..., not substance and causality as such. We understand then how the mind which makes contact with concrete reality only by means of the senses apprehends the *sensibile per accidens* by means of the senses in some way, and (as Aristotle affirms) we can say that even sense knowledge in some way is of the universal, and, we repeat it, this is verified only in human sensibility, not inasmuch as it is sensibility, but inasmuch as it is human, i.e., inasmuch as it operates with the dependence on intelligence and participates in it⁷⁵⁹.

Schmidt highlights the grounds we have in forming universal concepts according to Aquinas. "There must be more to induction than a mere recording of instances. They must be compared to reveal what is common, and this takes intelligence and reason"⁷⁶⁰. This comparing capacity of reason is much like the *experimentum* of the cogitative, but goes beyond mere resemblances to a deeper level. We find a similar statement in Hume, regarding the mind's main role or capacity as comparing things: "All kinds of reasoning consist in nothing but a comparison, and a discovery of those relations, either constant or inconstant, which two or more objects bear to each other"⁷⁶¹. The reason's ability to compare things in perception is what allows it to find common determinable traits,

⁷⁵⁸ AQUINAS, Comm PA, Bk. 2, L. 20, n. 13 [Magi, 239]. "*Si enim accipiantur multa singularia, quae sunt indifferentia quantum ad aliquid unum in eis existens, illud unum secundum quod non differunt, in anima acceptum, est primum universale*".

⁷⁵⁹ Fabro, KP, 352.

⁷⁶⁰ SCHMIDT, DLTA, 279.

⁷⁶¹ HUME, THN, 1.3.2.2.

according to Hume's theory⁷⁶². The mind's capacity to compare and draw out common aspects is what allows us to go beyond singulars; Popper is wrong to limit our mental capacities to mere observation of singulars.

Schmidt analyzes Aquinas's underlying metaphysics of material things and shows that for Thomas, a constant trait or propensity to act in a certain way depends on or lays in the *nature* of the object. Natures do not change, since they are the constant principle for operation in the thing. Common behavior among certain singulars leads us to understand a common nature as the principle behind that common behavior, as what sustains the common traits and characteristics. "The discovery of a common nature is the real basis for deriving the universal conclusion from the singular premises. [...] Wherever this nature is found or in whatever subject it may be, it will act in the way proper to that nature"⁷⁶³. We will return to Aquinas's underlying metaphysics in a subsequent chapter; it is certainly highly debated today. Here I simply indicate ontological natures as providing the basis for our mind's induction from many singulars to universals, as the one common trait between them. The basis for the intellect's induction from many experiences to universal thought is the common factors between experienced singulars. The intellect understands things as enduring in time and behaving consistently. This leads us to understand such things as having a constant, internal source of their common behavior, namely their nature. For example, we know that come springtime, the tree we see outside will begin to bloom, if nothing obstructs it. If it does not in fact bloom, we then investigate the reason why: We expect a certain behavior from the tree, according to its nature.

Until now we have been considering the birth of the first universals, as drawn from many experiences. However, as adults we do not know things through a long, drawn-out process of experience. Besides the teaching of the ἐπαγωγή in the *Posterior Analytics*, Aristotle also presents in *De Anima* his famous doctrine regarding abstraction (ἀφαίρησις). While induction is the development of how we first arrive at universals, the mature intellect abstracts the universal form of objects. Sensed perception is just as much involved in abstraction as it is in induction. While the process of induction indicates the continuity with sensed experience, the abstraction process points to the transition from the material senses to the immaterial intellect. As immaterial the intellect can only receive (*accipere*) on an immaterial level: "Reception always takes place according to the mode of the

⁷⁶² Cf. WESTPHAL, «Hume, Empiricism and the Generality of Thought», in *Dialogue*, 52 (2013) 2, 250-252.

⁷⁶³ SCHMIDT, DLTA, 281.

receiver”⁷⁶⁴. Since sensed experience only presents us with material things, the intellect must set aside the material, individuating aspects of singulars, in order to grasp the form or the quiddity as the essential element of the object. “Abstraction is the ‘absolute’ grasping of the quiddity, the ‘setting free’ from the individuating and material conditions in which the quiddity exists in reality”⁷⁶⁵.

Fabro addresses the two different paths of ἐπαγωγή and ἀφαίρησις present in Aristotle’s thought. He shows that Aristotle’s teaching on ἐπαγωγή in the *Posterior Analytics* is from Aristotle’s Platonic period, before his decisive break with his master. This explains why Aristotle’s theory of induction – going from many to one and the important role of memory – has a clear Platonic basis. If we compare this understanding of induction with Aristotle’s parallel teaching of abstraction in *De Anima*, are we to conclude that they regard two different processes? Aquinas himself does not seem to have seen the two teachings as opposed: “[Aquinas] considered [induction] as the equivalent or rather as the preparatory phase of ulterior abstraction. Both theories, that of induction and that of the abstraction, describe the same process, the progressive acquisition of the intelligible”⁷⁶⁶. The difference between induction and abstraction is the perspective each one takes regarding how we reach universal concepts or intelligibles: Induction is more “phenomenological” in its approach, as a building up towards universal, while abstraction is concerned more with universal thought per se. In this section I focus more on the process of induction, since it is in continuity with the progressive structuring and understanding of objects from sensed perception.

Aristotle’s teaching on abstraction is better known, but it may be easily misconstrued as precisely too “abstract” or removed from our actual experience. The teaching of induction helps to ground such abstraction in our common experience. As Sanguineti notes, “how are we to think that our concept of bread for example is formed abstractly from the mere image of bread, rather than more plausibly by a sorting based upon our complex, dynamic experience of the object ‘bread’? Such an object is not able to be represented per se, but it is incorporated intentionally into the living experience of the subject”⁷⁶⁷. Thus the two methods of induction and abstraction are not to be opposed,

⁷⁶⁴ “*Quod enim recipitur in aliquo, recipitur in eo secundum modum recipientis*”, AQUINAS, STh, I, 79, 6, as cited by SCHMIDT, DLT, 178-179.

⁷⁶⁵ SCHMIDT, DLT, 180.

⁷⁶⁶ FABRO, KP, 348.

⁷⁶⁷ SANGUINETI, J.J., «La cogitativa en Cornelio Fabro. Para una filosofía no dualista de la percepción», in *Studium. Filosofía y Teología*, 34 (2014), 443. “¿Cómo se puede pensar, por ejemplo, que el concepto de pan se forme abstractivamente a partir de la simple imagen del pan, y no en cambio, como es mucho más plausible, de una categorialización basada en la experiencia compleja y dinámica del objeto ‘pan’,

but rather they complement each other. The theory of abstraction receives grounding in reality through its source in lived, perceptual experience; induction only reaches full development in the intellect's knowledge of the universal essence of an object.

1.2. How we assert universal judgments

Beyond forming universal concepts, our intellect also has the ability to judge, as we predicate one thing of another. The intellect does not only apprehend the essence of material things, but it also makes judgments about those things. This attribution of one term to another goes a step further in our knowledge regarding the world outside of us. On what basis does the intellect attribute or deny one term as related to another? Once it has a grasp of the universal form of things, is the intellect free to join or separate forms and terms at will? How does the intellect keep in touch with reality when it judges on the level of abstract universals? Here we recall the importance of judgments in Kant's *Critique of Pure Reason*: His entire motive for the work is to justify the possibility of synthetic judgments a priori to experience. What conditions does Aquinas give for our intellectual judgments regarding material reality? Fabro looks to one of Aquinas's most famous Scholastic commentators, T. Cajetan, as providing us with an answer.

In his own commentary on Aristotle's *Posterior Analytics*, Cajetan makes use of the *experimentum* as the basis for our judgments, as well as for our simple apprehension of universals. There could be no basis or evidence for our intellect to compose or attribute terms of something, unless experience moves us to do so. What Aquinas refers to as the *experimentum* for simple apprehension of universals, Cajetan then develops into *cognitio experimentalis complexionis terminorum*: experiential knowledge of the terms' combination [in judgment]. "Only the *cognitio experimentalis complexionis terminorum* can be the (psychological) intermediary between extremes, which are the unity in reality of things *extra animam*, and the conceptual union that the intellect makes of the same things in the first judgment"⁷⁶⁸. Just as our growing familiarity and experience of an object in the *experimentum* gives rise to universals, so does such experience provide the intellect with sufficient basis for its judgments.

Regarding judgments there are certain first principles that govern how we think and judge the world. How does the mind come to possess those first principles, such as

que no es propiamente representable y que se incorpora de modo intencional a la vivencia experiencial del sujeto?" Author's translation.

⁷⁶⁸ FABRO, KP, 348.

“the whole is greater than the part”? Are the first principles of the intellect innate? Aristotle himself argues against any such Platonic innatism, and so is faced with the problem how we arrive at first principles in judgment. These principles form the basis for all reasoning, both in syllogisms and in scientific theory. Are they derived from some other principle? If so, where does that other underlying principle come from? The possibility of an infinite regression of founding first principles is imminent.

Here the importance of sensed perception and the cogitative's *experimentum* comes to the fore. The first principles are arrived at by preceding knowledge, but on a different, *non-intellectual* order. Aristotle “explicitly declares that the *principia prima* come to the mind for the first time from the senses. And since sensible cognition comes to the mind directly from (external) things, the movement of the mind terminates at reality itself, and thus the objectivity of knowledge is saved in its entirety”⁷⁶⁹. The experience gained through sensed perception, especially in the cogitative, is what gives rise to the mind's first principles and grounds all intellectual judgment and argumentation. The conjoining of the terms subject-predicate in the first principles is not based on a middle term on a logical level; “the function of the *experimentum* is to be a psychological, not logical, intermediary”⁷⁷⁰. Most of our intellectual life consists in judging, and the guiding first principles are essential. Those first principles arise from the *experimentum*, and as the intellect grows, it deduces other principles by its own reasoning. The phantasmata form the bridge or contact point between exterior reality and the mind's judgments. We conclude the *experimentum*'s essential role for arriving at the first principles of judgment; we have an objective basis for intellectual judgment, thanks to the cogitative's functioning.

2. The human intellect and our capacity to know things

Once we have considered the abstraction of universals based on the cogitative's *experimenta*, we now turn consider the intellect itself. It is not the cogitative that arrives at universals: It reaches only as far as the singular, knowing its concrete meaning and use. If we go beyond the experience of singulars and achieve universal knowledge, it is thanks to a specific, separate faculty: the intellect. In this section we will consider the truth-value of our intellectual knowledge. The previous chapters have provided important bases for our knowledge. There are several steps in the process, and the intellect could not function without each of the preparatory steps. We now turn to consider the end-result in our

⁷⁶⁹ Ibid., 344.

⁷⁷⁰ Ibid., 359.

intellectual knowledge, above all our understanding of extra-mental reality. Is the mind so removed from outer reality that its judgments cannot reach reality? Is it not somehow arrogant of Aquinas to assert that we know the essence of material things? There appear to be so many uncertain factors throughout the entire process: the senses possibly being deceived, or the subjective “coloring” in the *intentio*. It would seem more appropriate to say that the furthest we can reach is an approximate guess. From Locke we have grown accustomed to a less ambitious truth-value in our knowledge; is Aquinas’s doctrine on knowledge simply a medieval belief? Can we not remain at the level of universals as simply groupings of similar objects and labeled with a general term, without having to assert knowledge of essences? Both Locke and Hume argue against any such level of knowledge. The previous chapters have provided important elements, but it is only on the intellectual level that the process of knowing reaches its full value; what do we know about the world around us?

In this section we first address Aquinas’s distinction between the agent intellect and the possible intellect, as an important distinction in Thomas’s theory of knowledge. Then we address the object of the intellect, to see if it is indeed distinct from the cogitative’s and the senses’ object. If there is a clear distinction in objects, the faculties themselves are distinct. By considering the object of the intellect, we learn how much the intellect differs from the perceptual faculties. We then consider the relation between singulars and universals, and conclude the section with a few important qualifications on the level of knowledge attained by the intellect.

2.1. The agent and the possible intellect

As we saw in the first part two currents run through the history of philosophy: rationalism and empiricism. Their basic difference is how they view the human intellect. Members of the empiricist school give importance to actual sensed perception, while the intellect’s main role is to store and recall those perceptions as ideas. The rationalist school bases all real, certain knowledge in the intellect and its ideas, which are higher and more necessary than anything found in the sensed world. For Aquinas and Aristotle, the intellect relies on the senses in order to draw its thoughts from the phantasmata. But the senses are not opposed to the intellect’s universals, as Plato thinks. The difference between Plato and Aristotle is not so much regarding the intellect’s object, but rather how that object exists in reality⁷⁷¹: the world of the Ideas as the principal mode of existence, or material

⁷⁷¹ Cf. FABRO, PP, 217.

things, known by the intellect. If Aristotle's path of induction is more complicated than Plato's world of Ideas, it is because of the drastic difference between material reality and the human mind.

What is the intellect? How does it come to know things universally? Aquinas compares the intellect at birth to a blank sheet of paper, available and ready to be written on⁷⁷². The example of a blank sheet highlights the type of alteration that the intellect undergoes when it comes to know something: Rather than a loss or destruction of its initial state, intellectual knowledge is an alteration that involves the mind's *receiving* the form from outer reality. Our mind starts in a completely blank state; it requires some distinct element other than itself in order to know, and so a distinct faculty must impress on the intellect forms of objects. This action of impressing forms, as writing them on the blank sheet of the intellect, is the agent intellect's function.

All material things outside of us are unable to be assimilated by us, inasmuch as they are material. Unless we consume and assimilate them through digestion, material things cannot enter into our bodies. Perception is a sort of assimilation, whereby we receive only the sensible form, as things' qualities and quantity-structure. Sensed perception is considered immaterial insofar as we come to have an image inside of us of the tree outside of us. However, what is material is strictly speaking unknowable by the intellect⁷⁷³; through things' qualities we come to have, on an intentional and inner level, the sensible form of things. Memory and the cogitative's perceptual schemas allow us to go a step further beyond this concrete material object, since we are able to classify the presently sensed object under the common category, "tree". This level of knowledge is still not able to be considered by the intellect: The perceptual phantasm cannot be written or impressed on the intellect, because it still contains material, specific elements. There is an important step from the phantasm to the intellectual species or form, in order to reach the immaterial nature of the intellect. What is material is unintelligible, strictly speaking. If our knowledge must proceed through several steps in sensed perception in order to reach intellectual knowledge, it is because of the intellect's immateriality surrounded by material things.

⁷⁷² Cf. AQUINAS, Comm DA, Bk. 3, L. 9, 722 [Yale, 422].

⁷⁷³ Cf. AQUINAS, Comm DA, Bk. 3, L. 9, n. 724 [Yale, 423]. "*The actually understood is so in virtue of an abstraction from matter; for, as we have seen, things become objects of the understanding just in the degree that they can be separated from matter. So he [Aristotle] says 'in things separated from the material'*".

Given this gap between the mind and surrounding, material objects, we see why the human subject must proceed through a process of sensed perception. The mind is seen to be immaterial⁷⁷⁴, but it is not disembodied: It is the intellect of a human person who must survive in the middle of a material world. Thus the person is first directed towards external, material reality, in search of whatever may help her to survive. Piaget shows the earliest stages in a child's perception as completely subjective and dependent on the self. It is only gradually that the child comes to distinguish objective reality, and places herself in the midst of that reality. This level of perception is properly reached by the cogitative. However, if we were to leave all human knowledge at the level of the concrete, we would be left without the enormous amount of mathematical, scientific, artistic and philosophical knowledge. We clearly do reach a higher level of knowledge than sensed perception of the concrete. This thesis, along with the amount of yearly publications, is an indication of our higher level of knowledge beyond the immediate grasp of our surroundings. It is our immaterial mind that goes beyond the material conditions and limits of things, and comes to know things on a higher, universal level. How exactly do we go from sensed perception of the concrete to intellectual knowledge of universals, essences or forms? Forms of material things around us are not in themselves intelligible: If they are to become intelligible, only the intellect in act can make them intelligible in act. "We must therefore assign on the part of the intellect some power to make things actually intelligible: by abstraction from the material conditions. And such is the necessity for an active agent intellect"⁷⁷⁵.

The intellect is able to receive forms, but it only comes into contact with material things. Inasmuch as they are material, they are unintelligible. If the intellect is to receive anything intelligible from them, it requires some faculty to "enlighten" them, as in make them intelligible. The agent intellect fills this role of enlightening, aided by the cogitative's perception of the phantasmata. The phantasmata are the concretely experienced and actually perceived objects, present to the cogitative according to the object's concrete substance and meaning. The phantasmata are still only images of individuals.

It is by power of the agent intellect that a certain likeness [*similitudo*] ends up in the possible intellect, as a result of the agent intellect turning towards the phantasmata. The likeness is certainly representative of those things which the phantasmata present, but only according to

⁷⁷⁴ Showing the immaterial nature of the human soul goes well beyond the limits of this thesis. As we discover the capacity of the intellect to know, as going beyond what is material, it should become clear that it is immaterial. It is a grounding belief that founds human knowing and acting more solidly than the contrary position of reducing the soul to a material elaboration reached thanks to the evolving of complex organic systems.

⁷⁷⁵ AQUINAS, STh, I, 79, 3. "*Oportebat igitur ponere aliquam virtutem ex parte intellectus, quae faceret intelligibilia in actu, per abstractionem specierum a conditionibus materialibus. Et haec est necessitas ponendi intellectum agentem*".

the nature of their species. And this is how we say that the intelligible species is extracted from the phantasmata⁷⁷⁶.

Thus we can see a clear connection and unity between the intellect and the cogitative's perception in the phantasmata. Since those phantasmata are species or images received in the external senses, there is a real connection between the intellectual concepts and outer being. Given the radical difference between material reality and immateriality intellect, the intellect uses the intermediary phantasmata in the cogitative to draw from them whatever is intelligible. We should not think of the intentional species or image as remaining numerically the same throughout the process of abstraction or intellection⁷⁷⁷. In the process of intellectually knowing, Aquinas argues against our image or species being like a body moved from one place to another within us⁷⁷⁸. We must distinguish clearly between the image of the material object and the universal concept. Clearly the two are related, but the transition must be understood as so significant that there is not numerical identity between the phantasmata and the intelligible species.

Lest someone might accuse Aquinas of intellectualism by setting the immaterial intellect so highly above sensed reality, Aquinas specifies that such material reality is what is most easily and naturally known by the intellect: "Our possible intellect [...] is made to be informed by similitudes of material things, abstracted from phantasmata. It therefore knows material things better than immaterial substances"⁷⁷⁹. We begin to understand better the overall process of human knowing: Our intellect needs to be activated, or informed, by the likeness of material objects from outside ourselves. This reliance on material reality requires a double function of the intellect: First it must actively draw out and make intelligible what is only potentially so in the phantasmata. Second and more properly, the intellect receives the intelligible forms and understands them. While the passive intellect plays the main, properly intellectual role, it requires the aid of the agent intellect, because of the unintelligible nature of what we receive in sensed perception. With this distinction in mind we turn to consider the intellect's object per se.

⁷⁷⁶ Ibid., STh, I, 85, 1 ad 3. "*Sed virtute intellectus agentis resultat quaedam similitudo in intellectu possibili ex conversione intellectus agentis supra phantasmata, quae quidem est repraesentativa eorum quorum sunt phantasmata, solum quantum ad naturam speciei. Et per hunc modum dicitur abstrahi species intelligibilis a phantasmatis*". Author's translation.

⁷⁷⁷ "Intellection" is a Latinism, as intellectual knowing.

⁷⁷⁸ Cf. Ibid. "*Non quod aliqua eadem numero forma, quae prius fuit in phantasmatis, postmodum fiat in intellectu possibili, ad modum quo corpus accipitur ab uno loco et transfertur ad alterum*".

⁷⁷⁹ Ibid., 88, 1 ad 2. "*Intellectus autem noster possibilis, secundum statum praesentis vitae, est natus informari similitudinibus rerum materialium a phantasmatis abstractis, et ideo cognoscit magis materialia quam substantias immateriales*". I change the translation from "passive" to "possible" intellect.

2.2. *The intellect's proper object*

Given the mind's intimate connection and grounding in the body and the senses, the intellect must always start with sensed knowledge and constantly refer to it as its criterion for objectivity.

Even as abstraction implies a distancing from the singular and from matter, the intellect must keep some contact with both, so as to keep the "common" form with the "common" matter, the whole of the essence. [...] The instant the intellect should seek to set aside the senses completely, the intellect's contents would be emptied of all objectivity⁷⁸⁰.

When we speak of abstraction, it does not imply the complete lack of reference to matter. All the objects that we experience are material, and so if we are to come to know them on a formal, essential level, it is clear that such essences only exist individually in matter. Sensed perception gives meaning and content to intellectual knowledge in abstraction.

In one of his works posterior to *Percezione e Pensiero*, Fabro summarizes the object of our intellect, as the faculty of a concrete body. As immaterial, the intellect can only know what is intelligible, that is, separate from matter.

Human understanding, insofar as it is human, cannot gaze directly upon the purely intelligible. On the other hand, what is sensible is not as such intelligible, and the sensible only presents the very external, superficial aspect of reality. And so we must go beyond the outer bark and reach the nature that lies behind; the accidents are but the modifications of this nature. And for us they serve as indicative signs⁷⁸¹.

We shall consider the metaphysics of objects later, in order to see just how reliable the external accidents and qualities are in telling us about the underlying nature of the object. For now, as far as the mind is concerned, it considers the common, constant properties of a given class of objects as part of their nature. It is this nature that the intellect knows, and this is what we refer to as the "essence" of the material object. We should not think of the intellect's object – the essence of material things – as somehow separate from the object itself. Aristotle gives several examples of what exactly the intellect considers in things, as distinguishable from matter. His favorite example is a snub (rounded) nose. The

⁷⁸⁰ FABRO, PP, 261. "Nell'astrazione, pur allontanandosi dal singolare e dalla materia, l'intelletto ritenga ancora qualche contatto con l'uno e con l'altra, onde possa avere presente assieme alla forma «comune» anche la materia «comune», per cui si ha l'essenza completa. [...] Nell'istante in cui volesse l'intelletto abbandonare completamente i sensi, il suoi contenuti si vuoterebbero di qualsiasi oggettività".

⁷⁸¹ FABRO, C., *La nozione metafisica di partecipazine secondo S. Tommaso d'Aquino*, Edivi, Segni 2005, Opere Complete, vol. 3, 128. Future reference to this work as NMP. "L'intendere umano, in quanto umano, non dirige il suo sguardo direttamente all'intelligibile puro; d'altra parte il sensibile, come tale non è intelligibile, e non presenta che l'aspetto più esterno e superficiale della realtà. Bisogna allora superare questa corteccia esteriore e raggiungere la natura che dietro si cela e di cui gli accidenti non sono che modificazioni e, per noi, segni indicativi".

concept of snub is always connected with nose, but it is not essential to noses: There exist aquiline, pointed noses as well.

We discern the being of flesh and flesh either by something else or by something in a different state. For flesh, far from being without matter, is like the snub, "a this in a that". It is then with the perceptual faculty that we discern warmth and coolness and those things of which flesh is the formula, it is with something else that we discern being-flesh. [...] In the way then that things are separable from matter in general, in that way are things connected with the intellect⁷⁸².

From the example of flesh, we distinguish actual, currently perceived flesh (with a given temperature, color, smell, size, etc.) from what we understand by the term "flesh", as what it means to be flesh in general. The second way is considering it on a general level, as separated from this or that piece of flesh. It is on this general level that the intellect understands flesh, humanity, trees and such material objects, according to their universal essence or form.

Fabro describes the intellect's comprehension of material objects in terms of phenomenology's *Wesensschau*:

The intellectual gaze apprehends the essence, finding it "beyond" the phenomenal shell, and it strives to see it transparently. "The intellect proceeds to know the quiddity of each thing [...] through the aspects that each sense perceives. Thus it is through the sensible qualities of a certain thing that I conceive the quiddity of that thing" (Aquinas, *Quodlibetales* VII, q. 2, art. 4)⁷⁸³.

Just as the cogitative aims to grasp the concrete meaning of a particular object, so too does the intellect strive to understand the essential nature of all objects presented to it by the senses. The difference is that the cogitative is more subjective, since it apprehends the object's value for the subject's benefit. The intellect is more objective, as it seeks to understand the underlying structure of the thing itself. In its effort to grasp reality, the mind seeks to unite things and comes to consider all things as naturally determined: A tree does not suddenly act as a horse, for example. This determination is precisely the essence of the thing, what makes it be and operate in a certain way and with certain properties. "A given manner of operating is constant or always the same. Consequently the nature [or essence] is revealed by its operation and known from it"⁷⁸⁴. Thanks to our intellect we come to know the quiddity, essence or nature of things, and we can both predict their operations in the future, as well as successfully identify new,

⁷⁸² ARISTOTLE, DA, Bk. 3, Ch. 4, 429b [Penguin, 202-203].

⁷⁸³ FABRO, PP, 416. "Lo sguardo intelligibile, che apprende l'essenza, la trovi «al di là» della scorza fenomenale e si sforzi di vederla in trasparenza: «Intellectus procedit ad cognoscendam quidditatem uniuscuiusque rei... per ea quae quis sensu percipit; sicut cum per sensibiles qualitates alicuius rei concipio illius rei quidditatem» ([AQUINAS, T.] Quodlib. 7, q. 2, a. 4)".

⁷⁸⁴ SCHMIDT, DLTA, 281.

previously unknown singulars as members of a species. The entire edifice of science is based on this knowledge of things' nature or essence, which we arrive at through things' common traits and properties. Of course we may all be equally deceived, and actually be ignorant of things; yet the fact that we manage to survive in a material world, based on our practical and scientific knowledge of material things, should lead us to conclude an actual, successful assimilation and knowledge of the essence of things. We saw Popper's theory of propensities in chapter 3; such dispositions of things (not merely relationships, as Popper asserts) is what explains observed phenomena and behavior. The *onus probandi* is left with those who hold our perceptual knowledge to be entirely subjective and imaginary, because the facts and discoveries of science are patent and point to our knowledge of the real world.

Since our intellect is human, it does not stay on the level of abstract universals and essences; rather it constantly refers back to sensed perception, in order to further its knowledge and adjust its concepts more precisely to reality. This is the role of the *conversio ad phantasmata*. This capacity of the intellect to compare concrete phantasmata with abstract concepts is what allows the mind to identify a particular singular object as pertaining to a certain species⁷⁸⁵. The intellect must have contact with singulars, thanks to the cogitative.

It is only by allowing for intellectual knowledge of singulars that we can explain how we reason regarding singulars, how we put proper names to things, how we formulate the statement "Socrates is a man", and how we include the particular minor in a prudential syllogism. [...] The cogitative remains intrinsically a sense faculty and its role is primarily preparatory for the life of the intellect⁷⁸⁶.

Thus we conclude that the intellect does reach some level of knowledge regarding the essence of material things. Just as the perception of the figure-gestalt goes together with the properly sensed qualities (confer Stumpf's prepositional phrase "in and with"), so comparatively we may say that the intellect comes to know the essence or nature of things through, or thanks to, the experienced phantasmata. We shall now consider the status of this intellectual knowledge, as universals compared to singular, material things. Afterwards we shall qualify our intellectual knowledge, insofar as we clearly do not have

⁷⁸⁵ The species or essence of natural things exists in two different ways: as the actual, real essence of *this* concrete rock, for example; or the species as considered as the logical essence, the universal that enables us to name several particular rocks. This is the "logical universal" species or essence.

⁷⁸⁶ FABRO, PISM, 446. "*Solo l'ammissione di una conoscenza del singolare anche da parte dell'intelletto, può spiegare come noi ragioniamo anche sui singolari, imponiamo i nomi propri a le cose, formiamo la proposizione «Socrates est homo», e inseriamo la minore particolare nel sillogismo prudenziale. Nè si dica che per tutto Cogitativa: essa resta intrinsecamente una facoltà della sensibilità e la sua funzione è essenzialmente isagogica alla vita dell'intelletto*".

a perfect, infallible grasp of all material things; this does not mean however that we do not achieve a certain amount of knowledge regarding their essence.

2.3. *Universals and singulars*

In order for the immaterial intellect to know its proper object, it must abstract it from the phantasmata present in the cogitative. It is only thus that the intellect can know: Its object must be immaterial like itself. Universals are immaterial, as what the intellect knows immaterially; how can they be said to be the essence of material things? If the intellect is so superior to material being, how can we assert any correspondence or knowledge between the two? If our intellectual knowledge must go through so many steps of perception to finally abstract the formal essence, what type of objectivity is left in such knowledge? It is so abstract that we may very well agree with Kant in positing the categories of the understanding as what structures and organizes the object, at least on an intellectual level. If there is such a distance between concrete singulars and universal concept, what objective value is left in those concepts to assert that they are knowledge of material reality?

In his commentary on Book 2 of *De Anima*, Aquinas clarifies how natures exist into different ways. Natures – as in the determining principle of a thing's being and behaving – exist primordially in individual things, as in this rock, that rock and all rocks, as so many *individually* existing essences or natures. This way of being for a nature is what Aquinas calls the *material* way of being; a second way of being is the *immaterial* way, inasmuch as natures exist intentionally⁷⁸⁷ in the intellect. Natures cannot exist materially in the intellect, because the intellect is immaterial. The universal, immaterial way of being comes to nature (*advenit ei*, to use Aquinas's phrase), insofar as it is abstracted from individual matter⁷⁸⁸. Thomas is quick to qualify this type of abstracting by drawing a clear distinction between reality and the mind. Just because we have a universal notion of a thing in our mind, this does not mean that such a nature is really abstract, separate from matter *outside* of the mind. It is our mind's way of understanding that abstracts from individuating matter; at the same time our intellect understands that

⁷⁸⁷ Intentional knowledge will be the consideration of chapter 9, and is the crux of the entire problem. For now, we may define "intentional" as the way extra-mental objects are found to be represented within ourselves, through perception.

⁷⁸⁸ Cf. AQUINAS, Comm DA, Bk. 2, L. 12, n. 378 [Yale, 250]. "*Ista autem natura, cui advenit intentio universalitatis, puta natura hominis, habet duplex esse: unum quidem materiale, secundum quod est in materia naturali; aliud autem immateriale, secundum quod est in intellectu. Secundum igitur quod habet esse in materia naturali, non potest ei advenire intentio universalitatis, quia per materiam individuatur. Advenit igitur ei universalitatis intentio, secundum quod abstrahitur a materia individuali*".

such abstract, universal natures exist in reality only together with matter. This teaching on two distinct ways of being in natures is what distinguishes Aristotle from Plato. Plato holds our mind's thoughts and ideas to exist outside of the mind. Aristotle considers nature more closely, and realizes the difference between what is material and real on the one hand, and what our immaterial intellect draws from such material reality, on the other hand, as being universal only in our minds.

For those who are wary of abstraction as a distancing from reality and so unobjective and false, in lectio 12 of his commentary on Book 2 of Aristotle's *De Anima*, Aquinas answers the question directly; rather than a falsification, abstraction is a "distilling". The cogitative's *experimentum* grasps what is common to several different objects, by leaving aside the secondary, unimportant differences; so too is the intellect's abstraction a further step in clarifying what is essential and important to objects. It does so by setting aside the individuating aspects, in favor of the essence or form. The principal individuating aspect is matter itself, which is left aside in abstraction, even as the mind is aware that the natural essence is only found in matter. "In its apprehension the mind does not judge that the nature exists apart from the individuating principles [matter]; it simply apprehends the common nature without apprehending the individuating principles"⁷⁸⁹. In order to show the difference between particular, individuating aspects and the essential nature of things, Aquinas points to how we understand human nature, beyond an individual person's skin color. We realize that skin color is important: All human beings are colored. However to be white is not essential to being human. We therefore distinguish what is essential to being human from what is individual circumstance. "In order to grasp truth it is not necessary that we apprehend everything present in a thing. [...] The intellect draws out [*abstrahit*] the species from the individual, inasmuch as it understands the nature of the species, without understanding the individual aspects"⁷⁹⁰.

Aquinas concludes his commentary with a clear distinction between material natures and universal natures in the intellect. Our process of unification in knowing begins with the wide variety of multiple sensations, and first achieves unity in the simpler, denser *experimenta*; it reaches still fuller unity in intellectual thought.

A common nature can only achieve universal extension [*intentio*] inasmuch as it has its being in the intellect; for such a common nature is only one of many individuals, inasmuch as it is

⁷⁸⁹ Ibid., n. 379. "*Non enim apprehendit hoc intellectus, scilicet quod natura communis sit sine principiis individuantiibus; sed apprehendit naturam communem non apprehendendo principia individuantiia; et hoc non est falsum*". Author's translation.

⁷⁹⁰ Ibid. "*Non enim exigitur ad veritatem apprehensionis, ut quia apprehendit rem aliquam, apprehendat omnia quae insunt ei. [...] Et similiter abstrahit speciem ab individuis, inquantum intelligit naturam speciei, non intelligendo individualia principia*". Author's translation.

understood beyond the principles by which the one is multiplied in many. Thus we see that universals, insofar as they are universals, do not exist except in the soul. The natures themselves, which are attained with universal extension [in intellectual knowledge], exist in things⁷⁹¹.

We only ever experience individual, singular things; our mind notices the aspects that are common between different things, first within the perceptual schema. However at a certain point we come to grasp the common nature, such as humanity, and understand it on a universal level. We understand that such universals are intentional, mental forms of being, referring to real beings in a unified and intellectual way. This “unification” is what the term “universal” expresses, and constitutes the culminating point of knowledge.

Fabro stresses the fact that our intellect is not so disconnected in its universal knowledge that it loses contact with singulars. As we have seen, our intellect is involved with our overall, biological life, and so it must keep an eye so to speak on exterior reality. Due to its being immaterial, the intellect cannot have direct contact with reality, but it continually refers to the phantasmata of the cogitative. Rather than becoming lost in its abstract thought, the intellect continually reverts back to concrete, perceived things. The intellect is above all a faculty that compares and contrasts things, so as to reach their essentials. Once our intellect has come to formulate a universal nature, it then reverts back to the phantasmata and compares them to its formal, universal concept. “This reason (*ragione*) is no longer considered indifferent and absolute, but ‘relative’, as in it is found to be the ‘common’ reason through which particulars may receive the same formal denomination”⁷⁹². In abstract concepts the intellect grasps the common elements and patterns running through individual singulars; it does so thanks to its ability to compare things. Realism and intellectualism are both maintained in Aristotelian-Thomistic philosophy: “Every singular has its own nature, which is incommunicable; but this nature is found by the intellect to be similar to that of other particulars; and so the intellect sees that nature as a formal principle, communicated and incommunicable”⁷⁹³.

While universals are the common natures found in particular, material beings, they still keep reference to material existence. Such reference in universals is what Aquinas

⁷⁹¹ Ibid., 380. “*Quod naturae communi non potest attribui intentio universalitatis nisi secundum esse quod habet in intellectu: sic enim solum est unum de multis, prout intelligitur praeter principia, quibus unum in multa dividitur: unde relinquitur, quod universalia, secundum quod sunt universalia, non sunt nisi in anima. Ipsae autem naturae, quibus accidit intentio universalitatis, sunt in rebus*”. Author’s translation.

⁷⁹² FABRO, NMP, 129. “*Questa ragione non appare più indifferente, assoluta, ma «relativa», nel senso che è trovata essere la ragione «comune» per la quale i particolari possono ricevere una denominazione formale identica*”.

⁷⁹³ Ibid. “*Ogni singolare ha la sua propria natura, che è incommunicabile; ma essa è trovata dall’intelletto esser «simile» a quella di altri particolari, onde l’intelletto la vede, come ragione formale, comunicata e comunicabile*”.

calls “common matter”. Matter in and of itself is individual and individuating: It cannot be shared by another being. The process of abstraction obtains the common nature of material objects as being individually in distinct material bodies. The form is meant to exist in matter: The term “nature” comes from the Latin term for birth, and forms are only ever properly speaking in matter, as in they are “born” to be in matter. The intellect understands this and so keeps a certain reference to matter within the universal concept, by including common matter⁷⁹⁴. Thus we see how the intellect does maintain objectivity by referring to the phantasmata and sensed experience. Its universals are internal to itself, as the result of the unifying process of knowledge of singulars.

2.4. Qualifications regarding our intellectual knowledge

When Locke and Kant deny our possibility of knowing the essence of things, they are reacting against a misconstrued scholastic teaching. If we say that the intellect’s object is the essence or quiddity of material things, does that mean we know things thoroughly, perfectly and in all their aspects? While some scholastics and rationalists assert as much, Aquinas does not propose a quasi-divine or angelic understanding of things; we clearly do not have a perfect understanding of things. To what point is Locke’s nominal essence a valid limitation for our knowledge? How well do we come to know material things on an intellectual level?

Aquinas qualifies human intellectual knowing as a growing process⁷⁹⁵. The intellect starts with the quiddity, or the essence or nature of the thing; but this knowledge of essence is an initial grasp of the most important, salient traits. The intellect can go on to apprehend further aspects, such as its properties, its accidents and other circumstances regarding its essence. And so we see that Aquinas himself does not take the intellect’s grasp of essence as a perfectly clear and thorough knowledge of the thing. Rather it is an initial grasp that must be filled out with further knowledge and experience. Fabro comments on this passage by emphasizing the importance of grasping the relations inherent in the object. Just as perceptual apprehension draws out and makes explicit the relations present in sensed perception, so too does intellectual apprehension make explicit the intrinsic relations and structure of the object. “Understanding is a dynamic progression, which we can never declare as finished: It is a progression that starts with the universal, as containing potential and integral parts on an implicit level. It then

⁷⁹⁴ Cf. *Ibid.*, PISM, 456-457.

⁷⁹⁵ Cf. AQUINAS, *STh*, I, 85, 5.

considers those parts more closely, in order to return to the universal level and define those relations more precisely”⁷⁹⁶. Thus we see that universal knowledge is not absolutely precise and definite knowledge from the start: It implies the possibility of an ever-better grasp of things.

Once we have reached the level of universal concepts, it would seem that they form the apex of human knowledge. However induction to universals and abstraction from particulars is simply the start of intellectual knowledge. The entire area and possibility of growth – both in the arts regarding practical knowledge and in the sciences regarding speculative knowledge – goes well beyond the scope of this thesis. Once we have scaled the first mountain by induction and reach universal thought, the unlimited mountain range of human knowledge opens up before our minds. I simply make note of Aquinas’s vision of the sciences, because he relates the three levels of sciences as referring either to the outer senses, to the imagination or to the intellect. The text is found in his commentary on Boethius’s *De Trinitate*. Garcia summarizes Aquinas’s division of the three levels of sciences thus:

Even if all knowledge starts from the senses, not all knowledge refers back to the senses. In physics the universal concepts apply to the senses; mathematics sets aside sensed matter as universal concepts are applied to the imagination; and since there can be no sensed representation of the objects in metaphysics, it is concerned with the intellect⁷⁹⁷.

This division of the sciences (in the medieval classical sense of the term) views mathematics as still related to matter. Aquinas distinguishes individual, actual matter, and intellectual, common matter. Such matter is what mathematics regards. While the physical or natural sciences regard material things in all their aspects, mathematics sets aside their qualitative aspects, and is concerned only with their quantitative aspects. Thus we have geometry and continuous extension, as still related to matter but without regards to qualities like color⁷⁹⁸. We can appreciate the intellect’s capacity to know things on ever greater abstract and universal levels, without losing contact with reality.

⁷⁹⁶ FABRO, PP, 328-329. “L’intellezione è un progresso dinamico di cui non si può mai dire che sia finito: è un progresso che va dall’universale che contiene le sue parti, potenziali e integrali, in forma implicita, alla considerazione particolare di queste parti per ritornare all’universale e definirlo secondo relazioni più precise”.

⁷⁹⁷ GARCIA, CTA, 379. “Partiendo todo conocimiento de los sentidos, no todo termina en ellos, pues en la física los conceptos universales se aplican a los sentidos; matemática -dejando de lado a la materia sensible-, a la imaginación; y en la metafísica, dado que no puede haber representación sensitiva de los objeto metafísicos, a la inteligencia”. The exact reference of Aquinas’s text is *In Boethii de Trinitate*, 2, q. 11, art. 2. See also Fabro’s comments on the same text, PP, 462-464.

⁷⁹⁸ Cf. AQUINAS, Comm DA, Bk. 3, L. 8, n. 8 [Yale, 415].

We recall here Popper's criticism of induction in scientific theory, based on Hume's skepticism. Drieschner argues that Popper's criticism is fundamentally different than Hume's. Hume doubts that the future can be assumed to be like the past; such doubting is much too drastic for human thought and theory to work with. "If from tomorrow on everything could be entirely different, then a theory that has been verified until today could be wrong from tomorrow on, but just as well a theory that has been falsified until now could be valid for all future times; logically one cannot exclude that"⁷⁹⁹. Science cannot work within a Humean system. Popper conflated Hume's doubt with a less radical one, regarding which scientific theory is valid⁸⁰⁰. As we saw, Popper agrees with Kant, by accepting only subjective standards for valid theory, without every knowing things themselves. While reality remains as the ultimate standard for falsification in Popper, it is simply a horizon towards which we may draw closer and closer, without ever reaching. Popper still bases his theory of falsification on the assumption that the future will be like the past, and so induction remains as a basis for his thought.

Scott contrasts such skeptical philosophy of science with how empirical scientists approach reality. "By empirical science claiming to explore entities which are demonstrable through measurement, scientists metaphysically assume that there is something like a 'real world', experienceable through the senses and expressible via reason"⁸⁰¹. The very attribute "empirical" sets the standard of scientific knowledge solidly in things; our intellect's capacity to reach universal judgments in theory depends on our capacity to turn to the senses for real information about the world around us. Once again, the *conversio ad phantasmata* allows for a real transition from knowledge of particulars to knowledge in universal theory. Aquinas's theory of knowledge provides a more solid basis for scientific theory than either Kant or Popper.

As a result of our closer consideration of intellectual knowledge, we realize that we do indeed come to know the nature of things, as the common factor that determines species of objects to be and to operate in a certain way. Such a nature is grasped in the mind as having a universal *intentio*, or extension. This universal nature is understood and predicated of real things, not as if the universal nature really existed. "Something is called universal as what is meant to be in many things and to be predicated on many things; [...] The universal is that which is meant (*natum*) to be in many, not that it actually is in

⁷⁹⁹ DRIESCHNER, M., «Popper and Synthetic Judgments A Priori», in *Journal for General Philosophy of Science*, 36 (2005), 52.

⁸⁰⁰ Cf. *Ibid.*, 53-54.

⁸⁰¹ SCOTT, C.D., «Saint Thomas Aquinas' ontological epistemology as clarified realism: The relating of subject to object for ontological knowledge», in *South African Journal of Philosophy*, 35 (2016) 3, 252.

many”⁸⁰². As we can conclude, we only deal with and interact with concrete singulars; the intellect has the ability to make explicit the common factors and unite multiple objects, as all sharing in the same nature. This level of knowledge is of great practical and speculative use, and explains the amazing growth in human civilization.

3. The interplay between the senses and the intellect

In this chapter we have considered the intellect and how it arrives to universal knowledge of things’ essence. We have mentioned several times the intellect’s relation to sensed perception, but it would be helpful to clarify that relationship somewhat more in-depth. Our intellect is intimately related to the senses, but both work in very different ways. How are we to keep the two extremes together? After seeing the sensed faculties in chapter 5, we seem to have come a far distance from those initial sensations. In this section we must gather together the two extremes involved in human knowing: the intellect and the senses.

Aristotle draws our attention to the object’s presence in our knowledge; that presence is only passively received in the senses. We start with the sensed object, as it is structured and qualified in its phenomenal, sensed appearance; the intellect does not invent or imagine its object. The senses present the object’s concrete, individual traits, while the intellect grasps the sensed object’s essence, on an abstract, universal level.

Each faculty considered on its own can only give us inadequate knowledge of present reality. Present reality is given not just in single accidental characteristics, but first and foremost in its essential determinations. However, reality is not given as universal determinations, but only as individual ones. And therefore our adequate knowledge of reality requires a “synopsis” of both objective aspects present in reality, and we must consider this synopsis as the result of one single, unifying faculty⁸⁰³.

Kant presents human knowledge by reducing sensed intuition to a mere passivity, as the object of knowledge is determined completely by the intellect. According to transcendental philosophy, the intellect receives no sort of content or information from the senses. Aristotle’s theory of abstraction relies much more on sensed information, since

⁸⁰² AQUINAS, *Comm Mph*, Bk. 7, L. 13, n. 1572-1574. Text reported in SCHMIDT, *DLTA*, 184. “*Hoc enim dicitur universale quod natum est multis inesse et de multis praedicari. ... Universale est quod natum est pluribus inesse, non autem quod pluribus inest*”. Author’s translation.

⁸⁰³ FABRO, *PP*, 244. “*Ciascuna facoltà, quindi, considerata isolatamente, non può dare che una conoscenza inadeguata della realtà attuale, che non è data da sole determinazioni accidentali ma anche ed anzitutto dalle essenziali; ma che d'altronde non è data neppure da determinazioni universali, bensì da quelle individuali. La conoscenza adeguata della realtà esige perciò una «sinossi» di ambedue gli aspetti oggettivi della realtà, sinossi operata s'intende da una facoltà unica ed unificante*”.

he views human knowing as the fruit or synopsis of both sensed and intellectual faculties. This synergy thus allows for objective thought on an intellectual level. Kant's theory leaves our cognition precariously subjective and dependent on the mind's categories; Aristotle's theory considers both factors, and not just the understanding.

Since we are surrounded by material singulars, our intellect does not directly deal with its immaterial object in those singulars. The intellect can only know forms as universals, but it does not contain such forms in itself a priori or by memory. So it must draw or abstract them from material singulars. In this process the intellect always remains in contact with the senses, as the start and constant reference point for the mind. Abstraction is not to be understood as a distancing from reality, but a going deeper or getting to the heart of material reality. The proper functioning of our knowledge relies on the *conversio ad phantasmata*, which the inner faculty of the cogitative allows. This inner faculty is the interface between the senses and the intellect, where the intellect draws from for its concepts, and where it also compares universals with externally perceived reality⁸⁰⁴. This *conversio* can be seen as the opposite motion of Kant's transcendental schemata. The transcendental schemata originate in the intellect and its structuring categories in judgment; such structures are applied to sensed intuition thanks to the imagination, and produce images. The intellect plays the structuring role for Kant; Aquinas's *conversio ad phantasmata* has the intellect drawing its information from sensed perception and constantly referring back to it. Exterior reality in sensed perception is the clear criterion or reference point for the intellect in Aristotle and Aquinas, thanks to the constant *conversio ad phantasmata* carried out by the intellect .

When we separate the intellect and the senses too much, it becomes impossible to make sense of anything beyond a chaotic, disconnected stream of sensations. Intellect's universal grasp allows us to make sense of sensations, while the sensible concrete gives the intelligible universals their content and basis. "Just as the singular would be irreconcilably lost to an utterly irrational contingency, were it not upheld by the universal, so too would the universal be an absurd, [...] ontologically empty thing, if it did not remain to some degree in touch with the singular"⁸⁰⁵. When Fabro says that singulars are upheld by our understanding, he refers only to our thought as making sense of sensed reality; he clearly does not follow Kant's *Selbstsetzungslehre* of his *Opus postumum*.

⁸⁰⁴ Cf. Ibid., PISM, 454-455.

⁸⁰⁵ Ibid., PP, 266. "Come il singolare sarebbe abbandonato irrimediabilmente ad una contingenza del tutto irrazionale se non fosse sostenuto dall'universale, altrettanto l'universale sarebbe assurdo come ha notato il Varisco, ontologicamente «vuoto», come nella «Wesensschau» dei Fenomenologi, se non restasse in qualche modo attaccato al singolare".

Things are independent of our thought, and do not require that we know them, in order to be. Our knowledge of reality has a certain continuity to it between the sensed qualities and universal concepts. The interplay between sensed singulars and intellectual universals is how our knowledge happens, and this interaction leads us to come to know the material world, on a universal level.

The concrete and the universal go together in our knowledge, as a synopsis of both. Stumpf warns against imagining our perceptual schemas and universals as empty thought without any real content. "It is above all in the visible-concrete material thing in which and from which the universal shines forth"⁸⁰⁶. Universals are always directed toward concrete objects, as the source from which they radiate; it is through the light of universals that the intellect can grasp concrete objects. And this grasp is not as immediate as Augustine would have it: Intellectual knowledge only comes with several operations of the inner sense faculties, as we have seen in chapters 5 and 6. Human knowledge is the fruit of the synergy between sensed experience and intellectual knowledge.

While the senses and the intellect both regard material reality, they consider it on different levels. As Aristotle notes in *De Anima*, the senses rely completely on their objects being currently present. In contrast, once the intellect has come to form a given universal, it may consider it at will⁸⁰⁷. Another difference between the senses and the intellect is their correctness, or correspondence with reality. In contrast to the main philosophical tradition since Descartes and Locke, it is the intellect that has more possibility of being incorrect according to Thomas. The senses are always correct regarding their object. "Incorrect understanding [...] results in spurious science or imprudent decisions or foolish opinions. Sensation, on the other hand can only be correct, for the senses are infallible with respect to their proper object"⁸⁰⁸. The senses passively receive their proper sense the object: color, sound, etcetera; the senses receive the impulses as they come. It is the cogitative and the intellect that can mistake them, as in mis-take them for something else. Where the senses may err is regarding their indirect objects: Beyond color and taste, we may judge something to be what it actually is not. "The senses have also their indirect objects, and with regard to these they can be deceived. What seems to be white is indeed white as the sense reports; but whether the white thing is this or that thing, is snow, e.g., or

⁸⁰⁶ STUMPF, C., *Erkenntnislehre*, vol. 2, Leipzig, 1939-1940, 178. "Überall ist es das konkret-anschauliche Material, an und aus welchem uns das Allgemeine einleuchtet". As cited by FABRO, PP, 232.

⁸⁰⁷ Cf. ARISTOTLE, DA, Bk. 2, Ch. 5, 417b-418a [Penguin, 171-172]. See also AQUINAS, Comm DA, Bk. 2, L. 12, n. 375 [Yale, 249].

⁸⁰⁸ AQUINAS, Comm DA, Bk. 3, L. 4, n. 630 [Yale, 382]. "Non recte autem contingit intelligere, secundum eorum contraria, idest secundum falsam scientiam, et secundum imprudentiam et secundum opinionem falsam. Sentire autem non contingit nisi recte, quia sensus circa propria sensibilia semper verus est".

flour, is a question often answered badly by the senses, especially at a distance”⁸⁰⁹. The senses and the intellect interrelate in order to perceive things outside of ourselves properly; however, the source of error is to be sought more in the intellect than in the senses.

The interaction and synergy of senses and intellect in human knowledge contribute to many factors in our knowledge. Fabro sees this interplay as key in answering Hume’s critique of causality. We distinguish several elements in the idea of causality: There is the action and the passivity in the two billiard balls, to use Hume’s example. Besides that action-reception, there is also their connection, and eventually the universality and the necessity of such a connection. “It is clearly admitted that this last element [universality-necessity] can be seen and discovered only by the intellect, as it manages to go beyond the particulars of the event and constitute law”⁸¹⁰. While allowing for universality as the result of the intellect’s intervention, Fabro cannot see how such basic facts like action and passive reception are to be considered wholly the mind’s attributing as well. On the contrary, as we saw in chapter 6, section 4.1, since childhood we form a perceptual schema of action and causality, based on our perceptual interaction with the surrounding world. The law of causality clearly has intellectual elements, but they are based on perceptual ones. Human knowledge comes from the fruitful interplay of both.

Yolton points out the lack of clarity in Locke and Hume regarding the interplay and relationship between sensation and reflection in human perception. “If sensation be taken in the psychological sense, as awareness, then the claim that awareness has two major parts, a sensory and a reflective, is much more disputable, especially when it is claimed that the reflective is derived from the sensory. In fact, neither Locke nor Hume has made good on this claim”⁸¹¹. In conclusion of Part 1 of this thesis, we extended this critique to Kant’s transcendental philosophy as well. Maimon criticizes Kant for assuming that sensation has a real role in knowing, without actually explaining how this is so⁸¹². Indeed, the reflective, internal element in Kant’s theory determines our knowledge so thoroughly that no room is left for sensed content in perception. The lack of clarity regarding the proper interplay between sensation and reflection, or the intellect, has proven to be the

⁸⁰⁹ Ibid., Bk. 3, L. 6, n. 662 [Yale, 397]. “*Secundo autem sensus est circa sensibilia per accidens; et hic iam decipitur sensus. Quod enim album sit quod videtur, non mentitur sensus; sed si album sit hoc aut illud, puta vel nix, vel farina vel aliquid huiusmodi, hic iam contingit mentiri sensum, et maxime a remotis*”.

⁸¹⁰ FABRO, PP, 433. “*È pacifico che l'ultimo elemento può essere visto e trovato dall'intelletto soltanto, in quanto riesce a superare la particolarità del fatto e a costituire la legge*”.

⁸¹¹ YOLTON, J.W., «The Concept of Experience in Locke and Hume», in *Journal of the History of Philosophy*, 1 (1960) 1, 71.

⁸¹² Cf. FINCHAM, R.M., «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal of the History of Philosophy*, 23 (2015) 6, 1035-1036.

downfall for many modern theories of knowledge. Aquinas's theory of their interplay provides a much clearer view of how they interact, via the cogitative.

In conclusion regarding the fruitful exchange between the senses and intellect in knowing material reality, I quote Fabro's reflection on the dialectics between sense and understanding:

Even as our minds elevate to universals through abstraction, and so confer universality and necessity on the object, they do not become distant to the object. Rather our understanding comes even closer to the object and its very nature. It is in the logical-metaphysical synolon⁸¹³ that the object takes on the ontological density and necessity that nature weakens and scatters in multiplicity and the contingent. However, on the other hand what truly *is* is not the separate substance, but contingent singulars. This means that our affirming their being is left in the hands of the contingent, and [depends on] our perceiving real being. Our affirming being relies on perceiving singulars; it is a compromise between sensible and intelligible content⁸¹⁴.

It is only through the concrete individual and its determinations, together with the intellect's capacity to grasp the essential, that we come to have full knowledge of the material world. We readily admit the limitations of this knowledge, as constantly being furthered and deepened. We nonetheless cannot deny the amount of universal knowledge we reach as mature adults; our understanding of the world around us is telling of the insatiable power of our intellect. It is our insatiable curiosity and ability to know always more that drives human and social development. Our intellect's search for objective knowledge is what directs and aligns sensed perception and cogitative recognition. In the next chapter, we will consider the hierarchical order in our knowing, and the principles that guide our knowledge.

⁸¹³ "Synolon" is one of Aristotle's important philosophical notions, as the concrete substance, consisting of matter and form. The term refers to the unity of both principles.

⁸¹⁴ FABRO, PP, 484. *"La mente, che nell'astrazione si eleva all'universale e conferisce all'oggetto la universalità e necessità, non si allontana dall'oggetto ma piuttosto si fa ad esso più vicina della natura stessa, in quanto che nel sinolo logico-metafisico l'oggetto riprende quella densità e necessità ontologica che la natura affievolisce e disperde nella molteplicità e nella contingenza. Ma, d'altra parte, poiché «ciò che veramente è» non sono le «specie separate», ma gli individui contingenti, l'affermazione dell'essere è lasciata in braccio della contingenza e la percezione dell'ente reale, su cui s'appoggia l'affermazione di esistenza, non può essere che un compromesso fra i contenuti sensibili ed intelligibili"*.

CHAPTER 8: THE UNIFIED PROCESS OF KNOWLEDGE IN THE UNITED PERSON

The previous three chapters dealt with the three stages in human knowing: sensorial, cogitative and intellectual. The first two chapters drew especially on 20th-century psychological experimentation to provide support for the explanation that Aristotle and Aquinas give of how we know. While the previous chapters were concerned mainly with providing a correct and accurate description of our sensed perception and intellectual knowledge, in this chapter we wish to arrive at an explanation of knowledge. To describe how our external senses, the internal ones and our intellect interact is itself a hard enough task. We have compared the Aristotelian-Thomistic description with Plato's world of the Ideas, with the associationist theory, with Hume's skepticism and Kant's transcendental schematism, in order to consider which description is closer to how we actually know things.

However, in order to understand human knowledge we must consider the underlying faculties and capacities. We saw that the associationist approach from bottom up cannot sufficiently explain the functions and structure we find in sensorial perception. If we try to explain our intellect in function of our senses, there are certain gaps that cannot be properly bridged. It is only if we follow a top-down approach that we can properly understand the interplay and interaction of the external senses, the internal ones and the intellect. However, this top-down emanation of the faculties is discovered only slowly and in reverse order, through what Fabro calls the "emerging principle" in knowledge. In the opposite direction of Kant's apriorism, we start from the senses and build upwards. This chapter offers the emerging elements in human perception and knowledge, so as to appreciate better the underlying structure of the lower senses depending on the higher ones in the human soul. The process of human knowing can only be properly understood and explained if we understand better the human person and our fundamental make-up.

1. The emerging structure in perception: a description

Each of the previous three chapters presented the three fundamental factors in the act of perception: the external sensorial stimuli, the perception of the object's meaning on the part of the cogitative, and the intellect's grasp of the object's essence. Despite the complex process of knowing, the unity of the object remains. Only after a closer examination of our perception do we realize that perception does not regard only the

immediately present sensorial stimuli: Our past experience factors in by filling out the actually sensed object with further data. Thus Fabro sees perception of an object as not just a presenting (*presentativa*), but also a representing (*rappresentativa*). We call perception “*representative* due to the integration achieved by the schemas, and *presenting* due to the immediate reference of our intellect, as it compares all of its objective content to our actual, present experience”⁸¹⁵. Our internal representations are thus subordinate to sensed presentation, and we can see how the three stages are all required in order to perceive things outside of us. Either a change in lighting, a shift in our mood and affections, or a mental prejudice all influence our perception. In this chapter we consider the overall unity of this process.

How do the three different stages interact as a unified whole? We have presented them as three distinct levels, and yet our everyday experience does not notice anything beyond a single act of perception. Fabro attributes the union of the three levels to the fact that certain constants emerge in the first stage of sensed perception, which then become the object of consideration for the next level of perception. Each level makes explicit a set of relations, as presented by the object. As our perception develops, a number of constant relations stand out and are taken note of. These ever-more explicit relations constitute our process of assimilation in knowledge. The perception of those relations is what defines the act of perception: By grasping different colors, for instance, we necessarily grasp or perceive the overall shape and figure. But we do not stop with the simple act of perception, such as color or shape; the content of that act “then constitutes the initial content for another process of elaboration, brought about by a higher faculty”⁸¹⁶.

What the external sense of vision is able to judge regarding different colors becomes the starting point for a further integration on behalf of the common sense and the imagination or fantasy, as they join those colors with other sensible qualities in order to grasp the object’s shape, size and motion. This in turn becomes the cogitative’s point of reference for drawing out the meaning of this particular object, by apprehending its *intentio* in view of the subject’s needs. What is most stable and common in that meaning, as grasped and retained in the *experimentum*, becomes the object of consideration for

⁸¹⁵ FABRO, PP, 356-357. “L’oggetto di percezione è ad un tempo di natura presentativa e rappresentativa: di natura rappresentativa per via della integrazione operata dagli schemi, di natura presentativa per via del riferimento immediato che l’intelligenza fa di tutto il contenuto oggettivo all’esperienza attuale”.

⁸¹⁶ Ibid., 329. “Questo contenuto però che è semplice rispetto al processo di cui l’atto percettivo segna il termine — sia la vista per i diversi colori, od il senso comune per i differenti sensibili — costituisce a sua volta il contenuto di partenza per un processo di elaborazione da parte di una facoltà superiore”.

the intellect, since it is able to grasp the essence of material things⁸¹⁷. Fabro calls this process “the emerging of content”:

Thanks to the unity of consciousness, the content of a higher order is immanently given in the lower order (*conversio ad phantasmata*). The process of emerging content in knowledge can be seen to develop in the following manner: Elaboration plays an indispensable role as intermediary, in order for implicit content to emerge. Such elaboration consists in making evident the relations that are immanent [implicit] to the objective content. Every apprehension is based on a previous elaboration that previously takes place on the level of a lower faculty, which is immediately subordinated to the higher one⁸¹⁸.

Each faculty in the process of perception plays a key role, but each is necessarily limited in its functions. Our faculty of vision can only perceive so much: color. A higher faculty is required to step in and continue to elaborate the object-image, by making explicit the relations already present implicitly in sight. Such implicit relations only become evident through the higher capacity of the superior faculty. Everything is given in externally sensed perception; that is why it remains the reference point for all perceptual knowledge. However, though all is given in the external senses on an implicit level, the full meaning of the object only gradually emerges as higher and higher faculties take from the immediately inferior faculty and draw out the relations left implicit.

In this process of emerging we can make better sense of optical and sensorial illusions, which are often used as proof against any real knowledge of the external world. Since perception involves several different faculties, each one must function properly and according to its proper conditions. When there is not enough light for instance, or when the volume level of a sound is too great, then the corresponding sense faculty does not perceive its object properly. We naturally distinguish the best conditions for sense perception, and so we can spontaneously tell when our perceptual judgments are adequate or otherwise. So too we realize that a damaged or malfunctioning sense organ directly affects a person’s perception. The exceptions found in sensorial illusions do not debunk the process of perception we have considered; in fact, they show that there are basic data, or given aspects, of a sensed object that act as the ultimate criterion for our perception. We naturally and instinctively strive “to create in the subject the best

⁸¹⁷ Cf. *Ibid.*, 330.

⁸¹⁸ *Ibid.*, 329. “*Teoria del tutto coerente quando si ponga mente al fatto della unità di coscienza, per la quale è data la immanenza dei contenuti superiori in quelli inferiori (conversio ad phantasmata). Il processo di emergenza dei contenuti conoscitivi può esser concepito allora avvenire a questo modo: l’elaborazione è il processo intermediario indispensabile per l’emergere di qualche contenuto: tale elaborazione consiste nel mettere in evidenza le relazioni immanenti al contenuto oggettivo come tali. Ogni apprensione è fondata da una corrispondente elaborazione che avviene — almeno in un primo momento — nell’ambito di una facoltà inferiore immediatamente subordinata alla superiore*”.

conditions for discovering or contemplating the nature of the object”⁸¹⁹. The higher faculties involved in sensed perception are aware of what are and are not the proper conditions for its adequate sensible grasp of a given object. Such direction of the lower faculties on behalf of the higher ones shows the unity of our faculties in perception.

1.1. *Emerging in perception*

Fabro’s reading of Aquinas, especially his metaphysics, is known as the intensive or emerging school of Thomistic thought⁸²⁰. *La Fenomenologia della Percezione* and *Percezione e Pensiero* are works from the early period in Fabro’s philosophy. It is telling that from early on he used the term “emerging” as the interpretive key to understanding our perceptual knowledge. Emerging has to do with the phenomenon of development in our process of knowing. Fabro grounds this emerging in the principle of participation, which he sees as the key to understanding Aquinas’s metaphysics. We will consider that participation in the following section; this section presents Fabro’s understanding of perception as emerging.

Cornelio recognizes previous theories, such as Stuart Mill and Wundt, that basically proposed the position of emerging elements in perception, without using the actual term “emerging”. Fabro takes the term explicitly from physiology and chemistry, namely from G. H. Lewes’s *Problems of Life and Mind*, five volumes published between 1875 and 1879. Lewes discovers that certain chemical phenomena are more than mere results, or sum of the contained parts: There emerges something more than the sum total⁸²¹.

Applying this concept of emerging to our perception, Fabro sees a first, basic emergence between physical-chemical stimuli and their physiological correspondents in the senses. Then, from the sensed colors there emerges the shape and size, as given in and with the properly sensibles. On a higher level the imagination comes to assist the common sense by “contracting” the multiple sensations into a certain unity, in continuity with the immediate past; this contracting is an emerging as well. The apprehension of the

⁸¹⁹ Ibid., FP, 232. “È tutta vólta a creare nel soggetto le condizioni migliori per la «scoperta» o la «contemplazione» della natura dell'oggetto, in quanto essa appartiene all'oggetto”.

⁸²⁰ Cf. FERRARO, C., «La interpretación del esse en el ‘tomismo intensivo’ de Cornelio Fabro (I)», in *Espíritu*, 66 (2017) 153, 33-48. The part of Ferraro’s article referred to explains the “emerging” sense of Aquinas’s metaphysics. The entire article (pages 11-70), together with its second part published in *Espíritu*, 67 (2018) 155, 11-58, is dedicated to presenting Fabro’s reading of Aquinas’s metaphysics as intensive.

⁸²¹ Cf. FABRO, PP, 297.

intentio of the object draws out or makes aspects emerge that give the object real value for the subject.

It is rational intelligence that is the final and fundamental emergence that constitutes our nature. It is in view of this intelligence that the lower levels and faculties of emerging operate. Even though it comes at the end in the natural process, intelligence is in a certain sense at the start, as the immanent reason for the ongoing development or emerging that nature shows⁸²².

Thus intelligence is the last stage or level in the process of development, but actually it is the driving element that moves and elaborates the lower stages. The clear unity of the object and its emerging elements in perception comes from the unity of the intellect with the cogitative, and the cogitative with the senses.

1.2. Two principles of emerging in perception

As we try to make sense of the complexities of human perception, we discover certain principles that are present and active throughout. The first principle that Fabro identifies is the *principle of complementarity*. We notice a certain duality, as perception always regards pairs of complementary elements.

The duality of the properly sensible and the commonly sensible on the level of primary sensorial knowledge; the duality of primary synthetic representations (phantasms of the imagination) and secondary synthetic representation (phantasms of the cogitative) on the level of secondary sensorial knowledge; the duality of universal and particular content in intellectual knowledge⁸²³.

We see how the members of each pair complement each other, as far as their content is concerned. And such complementarity in content indicate the functions or operations that permit those contents to complement each other. By observing the emerging of certain aspects and relations of the object, we discover a duality in functions or faculties:

The proper sensibles' power to impress; the common sensibles' power or ability to organize; the sensibles per se's absolute character; the intentional [evaluating] character of the sensible *per accidens*; the evaluating activity of the cogitative (phantasms and schemas); the universalizing activity of intellect, as the active universalization on behalf of the agent intellect, receptive assimilation by the possible intellect⁸²⁴.

⁸²² Ibid., 300. "*Ultima e fondamentale emergenza costitutiva della nostra specie, è l'intelligenza razionale, all'esercizio della quale è subordinato quello dei gradi e facoltà inferiori. L'intelligenza, che è il fine di tutta la natura, sta in un certo senso al principio della medesima come ragione immanente dello sviluppo in avanti, od emergenza, che la natura presenta*".

⁸²³ Ibid., 287. "*La prima è la constatazione di una dualità — non dualismo — intrinseca ad ogni funzione e forma di conoscenza umana: dualità di sensibili propri e comuni nella conoscenza sensoriale primaria: dualità di rappresentazioni sintetiche primarie (fantasmi di fantasia) e rappresentazioni sintetiche secondarie (fantasmi di cogitativa) nella conoscenza sensoriale secondaria: dualità di contenuti universali e particolari nella conoscenza intellettiva*".

⁸²⁴ Ibid., 288. "*Ciascuna di queste dualità di contenuto può esser presentata quale risultato di una corrispondente dualità funzionale: efficacia impressiva dei sensibili propri, efficacia organizzativa dei*

We discover a complementarity running throughout the process of knowing, both regarding the contents as well as the functions the develop the content.

The principle of complementarity is not sufficient to explain the ongoing development or the “distilling” process. The complementary pairs are certainly the basic elements in the process, but they are not static: The members of each pair do not remain facing each other. There is clearly a dynamic development involved, and this is what Fabro’s *principle of emerging* highlights. He calls this emergence or emerging a “psychic maturing” of the soul, as it pushes the objective contents to its limits, and so comes to a fuller realization of its own powers to know⁸²⁵. If we take the complementary pairs noted above, we discover that their relationship, far from being static, is actually as two terms *a quo* and *ad quem*: from which and towards which. “The lower function and object is a term from which the emergence starts, while the higher function and its contents is a term towards which the object is seen to emerge”⁸²⁶. The driving force that causes this emerging development in perception is the soul, as each individual faculty elaborates on the immediately inferior content. The basis for this driving force will be the subject of the following section. For now we will consider more closely the phenomenon of this emerging.

A first emerging or advance in knowing happens on the level of our external senses. While our senses clearly depend on physical-chemical stimuli for their activation, there is a marked difference between the term *a quo*, of a physical type, and the term *ad quem*, which is a conscious type. “Sensation consists in a vital, perfecting assimilation of real qualities, as purely formal; this is clearly distinguished from any sort of contingent physical-chemical reaction”⁸²⁷. There is clearly an emergence or elevation between the two terms. This emerging does not happen arbitrarily or according to purely subjective criteria: Our perception starts with the passive activation by external stimuli. However, the change or transition between the two levels is significant.

sensibili comuni: assolutezza dei sensibili per se, intenzionalità dei sensibili per accidens: attività «formativa» della cogitativa (fantasmi-schemi) attività universalizzatrice dell'intelletto, universalizzazione attiva da parte dell'intelletto agente, assimilazione recettiva da parte dell'intelletto possibile”.

⁸²⁵ Cf. Ibid., PP, 292.

⁸²⁶ Ibid. “*Essa in ogni caso ha per termine «a quo» la funzione e l'oggetto immediatamente inferiore; per termine «ad quem», la funzione ed il contenuto che si dice appunto emergente”.*

⁸²⁷ Ibid. “*La sensazione consiste in un'assimilazione vitale perfetta, cioè formale pura, delle qualità reali, la quale va ben distinta da qualsiasi reazione fisicochimica contingente”.*

Besides the emergence of the form in and with the properly sensibles, another level of emergence happens thanks to the cogitative's operation. Here "the term *a quo* is the sensible per se, both the proper and the common; the term *ad quem* is the segregation of the contents of experience into particular objects of value, as useful for survival purposes"⁸²⁸. On this *ad quem* level of the cogitative, Fabro distinguishes two different but complementary terms: one, a definite structuring of the object as portrayed and captured in the perceptual schemas; the other, more subjective term is the evaluation of the concrete usefulness and meaning of *this* object for the subject. Both of these terms are clearly part of the cogitative's function of "collatio", or gathering together. And the cogitative's ability to make emerge both the object's structure and its concrete meaning is due to the cogitative's close contact with the intellect.

A third level of emerging is where the object reaches its definitive content value per se, beyond the intentiones perceived according to the subject's interests. For example, knowledge of the stars may not be of practical value (unless we use them for navigating purposes); still we seek to know them as they are. This objective, disinterested form of knowledge is the intellect's doing. "According to Thomas, the emergence of the intelligible consists above all in an absolute grasp or apprehension of value (the metaphysical universal), and not so much in the structuring or grasping of 'new' content"⁸²⁹. We come to see how the intellectual object emerges beyond the concrete needs recognized by the cogitative, towards the object's absolute, universal structure or essence. It is clearly the same object that both stimulates our sensorial apparatus and grasped essentially by the intellect; our level of understanding and apprehension of the object clearly grows, thanks to the process of emerging.

In order to understand this emerging process in our perception, we must distinguish between contents and relations on the side of the object, and the perceptual functions and faculties of the subject. "In this psychic development, the object grows in the soul, inasmuch as the soul itself grows in that process. The dialectic of the object cannot happen without a corresponding dialectic of the cognitive functions"⁸³⁰. The lower faculties depend on the higher ones, for their direction and unity: The external senses

⁸²⁸ Ibid. "Il termine «a quo» è dato dai sensibili «per sé», propri e comuni; il termine «ad quem», la segregazione dei contenuti d'esperienza in oggetti particolari di valore, utili ai fini della vita".

⁸²⁹ Ibid., 293. "L'emergenza dell'intelligibile consiste anzitutto, nel Tomismo, in un'apprensione assoluta di valore (universalità metafisica) e non propriamente in una strutturazione od apprensione di contenuti «nuovi»".

⁸³⁰ Ibid., 487. "Nello sviluppo psichico l'oggetto s'accresce nell'anima, in quanto l'anima a sua volta si accresce in esso: la dialettica dell'oggetto non può darsi adunque senza una corrispondente dialettica delle funzioni conoscitive".

receive continuity and unity in perception, thanks to the common sense and imagination. This initial, somewhat incomplete primary structuring in the common sense and imagination then receives greater solidity and fullness thanks to the cogitative. By the intellect's reference to the phantasmata in the cogitative, we go beyond the passing, relative nature of sensed perception, as the intellect obtains contact with reality⁸³¹. All these different powers and faculties function in unity and in ascending order. The emerging clarity in our apprehension of the object is based on the interconnected faculties of the external senses, the common sense and imagination, the cogitative and memory, and the intellect. The emerging image or species is the presence and representation of the object within the soul, as it grasps the object more fully and essentially.

The order of emerging elements leads us to realize how our knowledge progresses: From the more superficial aspects of things, we gradually come to understand their inner, essential structure and relations. We realize that what is truly important and essential to things does not vary, but gives things stability; phenomenal appearance is not the essence of things, but their underlying structures are essential. It is only through the appearances that we know those structures. Given this process of emerging, we realize that the order in our cognitive process goes in the opposite direction of what metaphysically is primordial or essential. That this human person is white or black is secondary to her capacity to reason and to choose her actions freely. And yet what we first "notice" is her appearance, not her essence. It is only through experience and reason that we come to know what it means to be human. What the principle of emerging reveals is that all knowledge starts from sensed appearance. Since our senses only perceive the sensed qualities of things, the cogitative must condense and gather those qualities into an experiential, inner whole in the *experimentum*, or perceptual schema. Only then can the intellect grasp the essence of material things. The intellect's reliance on the senses means that we know first what is really secondary – the sensorial qualities and quantity – and only at a later stage do we arrive to what is most important, stable and essential about the object.

When we attribute this emerging development or distillation to the mind's several cognitive faculties, we avoid any type of associationism: We do not organize and structure the object in perception according to standards that are foreign to it; the senses rely completely on the structure received. The sensed appearance and the substantial

⁸³¹ Cf. Ibid. "*La percezione intelligibile avviene per la convergenza dell'idea con i contenuti della cogitativa (conversio ad phantasmata) nella quale, da una parte, l'oggetto contingente è salvato dal relativismo proprio della sfera sensoriale, e dall'altra l'intelligibile astratto riceve la sua incorporazione al reale*".

essence are given together, in that they are only ever received one in and with the other. “The accident cannot be known without some reference to the substance, nor the individual without some reference to the species”⁸³². Our knowledge certainly starts with sensed perception, but our senses are human ones and are united to the intellect, which directs them. Thus the sensed qualities are perceived as having a certain amount of unity. This unity is certainly based on the thing itself; however for the subject, the variety and fluctuation in the external senses implies a broad range of sensations. The unity in the object, inasmuch as represented within us, comes from a higher faculty. And the intellect is the unifying faculty par excellence: The intellect’s universal knowledge reaches a solid, unchanging unity: “The essence [in the intellect’s apprehension] becomes, to use Aristotle’s powerful expression, the line of resistance that the soul puts up against the bombardment of appearances, the one among many”⁸³³. The one among the many is a clearly Platonic phrase, and here we see how the disciple arrived at the basic truth of the master regarding universal truth, but through the long, round-about route of sensed perception. Plato thought that our intellect mirrors the order in things and appearances directly, while Aristotle’s consideration of the senses brought him to see our way of knowing as proceeding in the opposite direction of reality: First we know appearances, then the essential.

The mind remains in contact with reality throughout this emerging process; as it were, the mind simply clarifies what is originally given in the senses. Each level in perceptual knowledge contributes important aspects to this clarification. Our senses contribute our awareness of the object as existing, independent of ourselves as the “cause” of the passive reception of this set of particularly determined sensations. Our cogitative faculty grasps the structure and basic relation of this concrete object, as belonging to this or that sort. Our intellect grasps the essence of the thing, thanks to its *conversio ad phantasmata*. “Each of these three moments [external sensing, cogitative perception and intellectual knowing], while highlighting in itself an un-derivable content, is also conditioned by the others, since each is simply one moment in a global psychic circumstance”⁸³⁴. Thus the emerging elements of the object in perception maintain the unity of the object. How can we say that the subject’s several faculties are ordered and

⁸³² Ibid., 485. “L'accidente non si può conoscere senza qualche riferimento alla sostanza, né l'individuo senza qualche riferimento alla specie”.

⁸³³ Ibid., 486. “L'essenza, così compresa, diventa, secondo la potente espressione aristotelica, la linea di resistenza che l'anima oppone all'irrompere di fenomeni, l'uno fra i molti (τὸ ἓν παρὰ τὰ πολλά: *Post. Anal. II, 19, 100a, 7*)”.

⁸³⁴ Ibid., 456. “Ciascuno di questi tre momenti, mentre accentra in sé un contenuto inderivabile, è a sua volta condizionato dagli altri, appunto perché è un momento di una situazione psichica globale”.

unified? How are we to understand the unity of so many functions on the part of the subject?

2. The unity of the perceptual faculties as participation: an explanation of emerging perception

Kant distinguishes properly the two elements involved in how we know: sensed intuition and intellectual cognition. However he fails to consider properly the senses' role in its synergy with the intellect. According to transcendental philosophy the senses only tell us *that* something is outside of us, but not *what* or *how* it is. All the content in our knowledge must be contributed by our mind, if we are to justify the possibility of synthetic judgments a priori. This relation between the senses and the intellect is much different than Aquinas's theory. Garcia cites Aquinas's term for this ordering as *continuatio*: "[*Continuatio*] is the way in which different substances or spiritual faculties mutually influence each other"⁸³⁵. Just as there is an order in our physical, bodily members and organs, so too must there be an order in our immaterial, spiritual faculties.

In *Summa Theologiae* I, q. 77, art. 7, Aquinas investigates how the faculties, powers or capacities of the soul are to be arranged. All our faculties are attributed to our soul (*anima*), as the substantial form that gives meaning and structure to our entire being. But while all the faculties are derived from the soul, some are derived more directly than others, and these act as intermediate principles for the lower, less directly derived faculties. In the hierarchy of principles, Thomas places the active, moving powers above those that are merely receptive and inactive. "Those powers of the soul that are superior in the order of perfection and nature are the principles of the lower ones, as their final and active principles"⁸³⁶. The senses are a deficient cognitive power, when compared to the intellect, and so the "senses exist for and towards [*propter*] the intellect [...]. The senses are a somewhat deficient participation in the intellect, and so they derive from intellect in the natural order, as the imperfect derives from what is perfect"⁸³⁷. The senses' dependence on the intellect is according to the natural order or *continuatio*. Aquinas distinguishes this natural order from the order of generating or unfolding, which is the

⁸³⁵ GARCIA, CTA, 42. "*Para Santo Tomás la continuatio es la forma en la que las distintas substancias o facultades espirituales se influyen mutuamente*".

⁸³⁶ AQUINAS, STh, I, 77, 7. "*Potentiae animae quae sunt priores secundum ordinem perfectionis et naturae, sint principia aliarum per modum finis et activi principii*". Author's translation.

⁸³⁷ Ibid. "*Sensus etiam est quaedam deficiens participatio intellectus, unde secundum naturalem originem quodammodo est ab intellectu, sicut imperfectum a perfecto*". Author's translation.

order in which they actually, historically come about. In this generating order of the faculties' appearance we find the inferior preceding the superior. Piaget's developmental psychology shows that the child's senses are what first interact with the world around her. Only gradually do the cogitative and intellectual faculties come into play. These two different orders – natural and generative – are important to keep in mind, if we are to explain how the mind makes the intellectual elements emerge from within the perceived object. What first appears among our faculties is not the highest natural faculty, but the lowest one; the generating order runs in the opposite direction than the natural order or hierarchy. Even though the lower faculties appear first, in the natural order, the higher faculties cause the lower ones. Such causation between the faculties explains the phenomenon of emerging in perception.

In order to understand how the higher faculties cause the lower levels, Aquinas uses the Neoplatonic teaching of participation. The Neoplatonists develop Plato's teaching of participation in the world of Ideas by envisioning a tiered, hierarchical reality, where the higher order or sphere gives rise to the lower one, as the superior level cascades down into the inferior one. Regarding our particular problem of perception, Aquinas sees the intellect's power as "overflowing" into the sense faculties. "The cogitative and memorative powers in [humans] owe their excellence [...] to a certain affinity and proximity to the universal reason, which so to speak overflows into them"⁸³⁸. Thus we can say the higher powers cause, direct and orient the lower ones, as their active principles. It is the human soul, present throughout the process of knowing, that allows for the unity in knowing. But this overall unity occurs within an order: the lower powers emanating or flowing from the higher ones. This teaching – Neoplatonic in its origins and often used by Aquinas – allows for a clear order in our faculties.

A certain affinity radiates from the soul: first to the intellect, which then communicates it to the cogitative and from there it passes on to all the other senses. It arrives more or less immediately to the internal ones, and only by the mediation of the common sense does it arrive to the external ones. It is thus that the action of the individual faculties, starting from the lowest, is in a certain sense specified from the start and already oriented towards the final point of full perception, brought about in the cogitative faculty as the encounter between sensibility and intelligence⁸³⁹.

⁸³⁸ Ibid., I, 78, 4 ad 5. "*Illam eminentiam habet cogitativa et memorativa in homine, non per id quod est proprium sensitivae partis; sed per aliquam affinitatem et propinquitatem ad rationem universalem, secundum quandam refluentiam*".

⁸³⁹ FABRO, PPS, 60. "*Quest'affinità viene irradiata dall'anima prima all'intelletto, che la comunica alla «cogitativa» e da questa passa a tutti gli altri sensi, agli interni immediatamente (più o meno), agli esterni mediante il senso comune. Per questo l'attuarsi delle singole facoltà, a cominciare dalle inferiori, è, in cerco qual modo, specificato fin dall'inizio, ed ormai indirizzato al termine finale della percezione completa, operata nell'incontro che hanno la sensibilità e l'intelligenza, nella cogitativa*".

Here Fabro uses several Thomistic terms to understand the relation between the different cognitive powers: “affinity – communicates – immediately/by means of”. It is not by the lower senses that we can understand the higher ones; only by starting from the soul and working our way down through the intellect, the cogitative and other inner senses can we understand the true role of the outer senses. And this top-down vision helps us to understand better the emerging of the object in perceptual knowledge, since the intellect is the driving, active principle behind the cogitative. The intellect determines the lower faculties and directs their attention, in its efforts to understand things more fully. We can see here the Aristotelian principle of final cause or purpose: The goal of an action is what comes last in the action, but in fact is the driving principle of the entire process⁸⁴⁰.

2.1. The interaction between the senses and the intellect in the cogitative

While Aquinas asserts that the senses in general participate in the intellect, this participation or sharing is especially clear in the highest inner sense faculty, which directs the rest of the senses: the cogitative. We notice a tremendous difference between animals’ capacity to perceive things, compared to human beings’ capacity. The estimative faculty in animals can only classify perceived objects insofar as they have subjective value; an animal only recognizes objects insofar as they are of possible interest or harm to itself. The cogitative faculty in humans certainly perceives things around us, but the category of interest or subjective value is not absolute; we also seek to know things for their own sake, in their objective structure. This driving interest to know singulars as objectively as possible can only be explained by the cogitative’s being influenced and inspired by the intellect.

Thus we find that in our sensible apprehension we reach results that are intrinsically superior to those of animals, both regarding content as well as value; sensible apprehension manages to almost reach [*toccare*] the realm of the intellect. It is the notion of participation, as a sort of touching or rubbing up against, that defines the original insight of Thomas’s epistemology⁸⁴¹.

This rubbing up against and contact between the intellect and the cogitative explains the latter’s ability to rise above merely subjective apprehension. By this contact – immaterially understood – between the intellect and the cogitative, the latter participates in the intellect’s power. Each faculty works on different levels: the universal and the

⁸⁴⁰ Cf. GARCIA, CTA, 46-49 on how the intellect guides the senses.

⁸⁴¹ FABRO, PP, 183. “*Così si ha che le apprensioni della sensibilità umana possono raggiungere risultati che sono intrinsecamente superiori, sia per il contenuto come per il valore, a quelli propri della sensibilità animale e toccare quasi la regione dell’intelligenza. E la nozione di partecipazione, quale un attingere, che costituisce l’originalità della gnoseologia tomista*”.

concrete. And yet they work in harmony, because they both participate in the soul, and the cogitative participates in the intellect⁸⁴².

As we saw in the previous chapter our intelligence can only know universals as abstract from all individuating matter. Thanks to the intellect's causing or flowing into the cogitative, the intellect can refer to the phantasmata in the cogitative in order to draw out the essence of the object. The senses already leave behind actual matter in perception and only receive the sensible form or intentional species of the object. But this sensed form or image is only of *this* object, as currently present. The cogitative provides further information regarding the object present: Through previous experience, the cogitative brings into play a perceptual schema that helps recognize the object more quickly and adequately. The cogitative also situates the object in our world, by evaluating its aspectual, actional and affectional percepts. Our perceptual grasp or apprehension of the object does not remain simply on this level of classifying according to personal, subjective needs and interests. Since the cogitative participates in the intellect's capacity to understand on a universal level, we may go from singulars to the universal, as in the statement: "Socrates is a man, and so he can reason".

The close relationship in participation between the cogitative and the intellect involves the intellect acting within the cogitative. The relationship between the two is based on the relationship of the intellectual soul and the body. Aquinas sees the intellectual soul as moving the body through contact, but as a contact of a very particular type. Normal, physical contact entails the parts remaining separate; rather than remaining separate, the soul's contact with the body is through its power (*virtus*). We may call it "virtual" in this specific sense; virtual usually means somehow not real. This contact between the human soul and body is very much real, since the intellect's way of acting upon and moving the body is from within the body⁸⁴³. Garcia expounds on this touching manner of interaction between the intellect and body in Aquinas, applying it specifically to the cogitative:

⁸⁴² The Thomistic understanding of participation is the deciding factor and interpretive key in Fabro's metaphysics. His main works in metaphysics are dedicated to this notion of participation: *Partecipazione e Causalità*, and *La Nozione Metafisica della Partecipazione secondo S. Tommaso d'Aquino*. Here I cannot go into the richness of Thomas's concept, which is itself a synthesis of Plato's vertical participation and Aristotle's horizontal causality, grounded in the Judeo-Christian teaching of *creatio ex nihilo*. I simply indicate "participation" as the lower instance partaking in the higher instance, that is, as partaking in the latter's perfection. The reader would benefit greatly from Fabro's fundamental works in metaphysics, in order to understand fully the power of Thomas's insight.

⁸⁴³ Cf. AQUINAS, SCG, Bk. 2, Ch. 56. "*Quia in tactu quantitatis, qui fit secundum extrema, oportet esse tangens extrinsecum ei quod tangitur; et non potest incedere per ipsum, sed impeditur ab eo. Tactus autem virtutis, qui competit substantiis intellectualibus, cum sit ad intima, facit substantiam tangentem esse intra id quod tangitur, et incedentem per ipsum absque impedimento*".

There is a relationship of instrumentality between our intellect and the cogitative, but it is a different type than the instrumentality between our hands and tools. This latter type is a quantitative sort of instrumentality, in that the agent remains outside the tool and only contacts or touches it on its the very outer surface. The instrumentality of the intellect over the cogitative is a virtual contact “permeating [the cogitative] without any obstacle”⁸⁴⁴.

The intellect uses the cogitative as a tool, not as external but rather as very much internal to the cogitative. This intimate union, maintaining the proper distinction of faculties in participation, explains human perception; the intellect and its power of apprehension is what moves the cogitative to apprehend the concrete object objectively.

As we come to understand more properly the role of the intellect in perception, we must be careful not to attribute perception wholly or even principally to the intellect. The intellect is certainly the driving force in our knowledge of external reality; however, we should not pass over too quickly the role that the cogitative does indeed play. “The cogitative apprehends the individual thing as existing in a common nature, and this is because it is united to the intellect in one and the same subject”⁸⁴⁵. Classifying the singular as an individual member of a certain species is the cogitative’s function, as made possible through its contact with the intellect. The intellect knows the quiddity of those things “phantasmalized” in the cogitative; the cogitative knows the object on a concrete level. We thus see the fruitful and real interaction between the intellect and the senses in the cogitative.

2.2. *The order in participation of the perceptual faculties*

The order among the different faculties becomes clear in Aquinas’s teaching through their participation in the soul; participation means a proper order of emanating, in descending, cascading dependence. The intellect “touches” or influences the cogitative, which touches or directs the memory, which touches the imagination, which touches the common sense, which touches the external senses. It is ultimately the intellect that directs the external senses, but only through the intervening senses⁸⁴⁶. We direct the attention of our senses to what our intellect wants to know; this participating model of cascading

⁸⁴⁴ GARCIA, CTA, 306. “Entre el intelecto y la cogitativa hay, pues, una relación de instrumentalidad, pero de naturaleza diferente a la existente entre nuestras manos y sus utensilios, pues ésta es una relación de instrumentalidad cuantitativa, en cuanto que el agente es externo a lo tocado y se da únicamente en sus límites cuantitativos, sino por contacto virtual, “incorporándose—a la cogitativa— sin ningún impedimento” [*Summa contra Gentiles*, II, 56].

⁸⁴⁵ AQUINAS, Comm DA, Bk. 2, L. 13, n. 398 [Yale, 258]. “Cogitativa apprehendit individuum, ut existens sub natura communi; quod contingit ei, in quantum unitur intellectivae in eodem subiecto”.

⁸⁴⁶ Cf. FABRO, PP, 180.

faculties explains the phenomenon of emerging that we considered in the previous section. The higher faculty is in touch with the faculty immediately below it, and so can take the image developed in the lower one and draw out elements on a higher, more explicit level. The higher level of knowing in emerging is due to the superior faculty's greater capacity. The emerging process only actually occurs from the lower to the higher level in what Fabro calls the *ordo operationis*: the functioning order⁸⁴⁷. The sensible object in sensed perception starts in the outer senses, and goes through the common sense and the imagination, to the memory and cogitative, to reach finally the intellect. The united participation of the different faculties is what explains the emerging intellectual knowledge of objects in perception, as the natural order in the reverse direction: intellect–cogitative–imagination–common sense–external senses.

The key, uniting element in the participation of the senses in the intellect is undoubtedly the cogitative. Were the intellect to deal directly with sensed qualities and figures, it would be utterly unable to make sense of the cacophony of sensations and disconnected stimulations. Aristotle's graphic example allows us to understand what takes place: The outer battle ranks and lines of defense are the outer senses. As these are bombarded with sensed objects, they fall back and re-group in the cogitative's *experimentum*. It is this re-grouping that focuses on what is important and stable in sensed perception. The *experimentum* and the phantasmata then allow the intellect to read among (*intus-legere*) the multiple sensed aspects what is essential to the object, its quiddity. The intellect does so on a universal, abstract level, and it requires a constant referring to (*conversio*) to the phantasms of the cogitative. It is through those phantasms that the intellect knows objects. The participation between the senses and the intellect relies fundamentally on the cogitative. Human knowledge and its progression happen thanks to "the cogitative emanating immediately from the intellect, as it is united to this to the intellect above, while downwards the cogitative connects with the other lower powers"⁸⁴⁸.

We notice a clear order in the first three chapters, as three different levels of structure and apprehension of the object emerge in perception. Far from being a haphazard structuring at the subject's whim, the structure is clearly inherent to the object. The gradual emerging in perception has to do with the progressive elaboration and grasping on behalf of the subject's perceptual faculties. That progression happens thanks

⁸⁴⁷ Cf. *Ibid.*, 181.

⁸⁴⁸ *Ibid.* "Perché la cogitativa emana immediatamente dall'intelletto e ad esso sta unita in alto, mentre in basso si congiunge con le altre potenze inferiori".

to the participatory continuity between the different faculties. Each successive faculty in the process is higher than the previous one, and so it is able to grasp the relations and structures in the object that the lower faculty leaves implicit. For example, the cogitative can apprehend the concrete meaning of an approaching wolf, where the common sense and imagination only detect a certain shape moving towards the subject. This fuller grasp is thanks to the estimative's or cogitative's greater capacity; in the case of humans, the cogitative's capacity is explained by its participation in the intellect. However the ascending process of emerging cannot be fully understood unless seen from the perspective of the descending process of emanating. It is because the lower power emanates directly from the faculty immediately above itself that each faculty can turn towards the inferior one and draw from it: They interact through emanation, as caused or directed by the higher faculty.

If we use such language as "turning towards" and "touching", they should be understood on a philosophical level. In the end each faculty belongs to the soul and is directed by it. If we compare an adult's knowledge with a child's, we may appreciate better how our process of perceptual knowing gradually develops. The soul is continually present as the driving factor in the child's development. The end-stage is certainly intellectual, universal knowledge; but the successful arrival at this final destination depends on the proper development of the intermediate faculties. The soul develops its capacities gradually, and each step grows slowly into the next, higher one. The end-product of intellectual knowledge shows the soul's capacity, which is certainly much less evident in the 18-month-old child. The soul's capacity requires each of the stages, while clearly the soul transcends any of those intermediary stages. The interplay between the senses and the intellect is based on the unity of faculties emanating in participation. We now turn to consider the soul itself.

3. The unified process of perception in the united subject, body-soul

If we are to understand how we come to perceive and understand material objects outside of us, we must arrive at a proper understanding of how we are structured, as perceiving, knowing subjects. I refer to the relationship of the human body and soul. This relationship has become central to current studies in neuroscience regarding the brain-mind relationship. I present the conclusions from our study, as we regard how the soul is present to the body as both directing it and drawing from it. We saw in the previous section

how the different faculties participate in the soul's overall power to know. The notion of participation explains the phenomena of emerging in the object perceived. What allows for this tiered or cascading participation in our different perceptual faculties? Here we reach a basic underpinning in Aristotelian-Thomistic philosophy: the soul's substantial union with the body. Only on the level of abstract thought can we say that the intellect acts independently of the body; however even then the intellect requires images and phantasms. Thus human knowing requires two elements: soul and body. How are we to understand this relationship?

We have already seen how Kant attempts to join the contents of sensed intuition with the form of the categories of the understanding. The incompatibility of the two results in the intellect subsuming sensed perception and determining our cognition fully. The role of transcendental schematism is to bridge the gap between the two separate elements, sensed intuition and the understanding's categories. Such a bridge ends up being a one-way, unilateral structuring on behalf of the intellect, with no part played by the senses beyond passively being structured. The understanding enjoys complete predominance in Kant's theory of perception.

Fabro considers Kant's separation of the senses and the intellect as the view he inherits from Descartes. By separating matter and the soul to an extreme, Descartes cannot allow for any real interaction or participation between the soul and the body. This classical Cartesian dualism is what renders the gap between sensed perception and abstract thought unbridgeable. How can we go from sensations to ideas in a Cartesian world? If the body and the soul are so different, Descartes can only rely on God's truthfulness as a guarantee to make our thoughts somehow coincide with extended body. As a result of Descartes's dualism, the opposition between the senses and ideas and the juxtaposition between the material world and the spirit define the two schools of philosophy, empiricism and rationalism. "[Descartes's] bridge was fictitious, because there was only actually one shore involved: either the idea as concept, or the idea as image"⁸⁴⁹. Our mind deals with ideas in knowledge; the empiricists see all ideas as basically sensed images, stored for later use, while the rationalists understand our ideas as abstract concepts of the mind, separate from the senses. Kant clearly falls into the latter school of rationalism, since he cannot allow for sensed images providing any significant content in cognition. If we are to understand properly how we know things in perception, we must

⁸⁴⁹ Fabro, FP, 69. "*Il ponte era fittizio poichè di sponde non ve n'era che una soltanto: o l'idea-concetto, o l'idea-immagine*".

avoid Descartes's separation of mind and body as fraught with problems, and consider more closely how indeed the soul and the body interact.

The separation between matter and spirit is a Platonic position that translated easily into Christian thought, especially thanks to Augustine of Hippo's Platonic leanings. In the Middle Ages Christian scholars came into contact with Aristotle's texts through the Arab interpreters. Based on Aristotle, Aquinas's teacher Albert the Great considers that too drastic a separation and impenetrability between matter and spirit leads to erroneous conclusions. While sensible objects may not affect or act upon the spiritual soul directly, Albert considers that our sense organs are material, and so they can be affected on a material level. Those organs are animated, as informed by the soul; thus the sense organs allow for sensible objects to affect the soul⁸⁵⁰. Here we appreciate the difference between Aristotle and his master: Aristotle understands the soul as a substantial form that exists in relation to the body. In this intimate union the soul is immersed in the natural world of material things, which necessarily form the starting and constant reference point in knowing. If we do not participate in the World of Ideas, does Aristotle consequently renounce to any intellectual knowledge? The soul does indeed arrive to ideas, but as contained in its mind and existing universally only within the soul. The path to those ideas starts with our sensed perception for Aristotle, as we apprehend material objects around us in search of survival. The soul's dependence on the senses shows the intimate union and communicability between the two faculties⁸⁵¹.

The proper interaction between the soul and the body is Aristotle's middle way between Plato's intellectualism and Democritus's naturalistic physicalism. Aquinas himself notes how the Philosopher successfully draws important elements from both philosophers before him, while balancing out their exaggerated positions. In the *Summa Theologiae*, I, q. 84, art. 6, Aquinas highlights the importance of the "composite" body-soul in Aristotle's teaching. The soul on its own is unable to feel or sense, but since it is united substantially to the body, the animated body does indeed feel and sense. Aristotle agrees with Democritus in that impressions on the senses are received from the outside. However Aristotle disagrees with the idea that sensation involves a physical item (atom) somehow penetrating physically into the body and arriving all the way to the mind as thought-ideas. The intellect and the senses are too distinct and different to allow for such a reductively materialistic position. Aristotle here agrees with Plato's distinction between the intellect and senses. How can they interact? By the agent intellect enlightening the

⁸⁵⁰ Cf. Ibid, IRPS, 130-131.

⁸⁵¹ Cf. Ibid., 128.

phantasms of sensed perception, present in the cogitative, as the intellect draws out or abstracts what is intelligible in those phantasms. “On the part of the phantasms, intellectual knowledge is caused by the senses. Since the phantasms cannot of themselves affect the possible intellect, it cannot be said that sensible knowledge is a total, perfect cause of intellectual knowledge, but rather it is in a way the material cause”⁸⁵². The interaction between the senses and intellect happens thanks to the senses perceiving outer objects. The phantasms present in the cogitative are the material that the agent intellect reads into, in order to abstract what is intelligible in those phantasms. By its substantial union with the body, the human soul can be affected by outer, material things in perception. And if human perception is higher and more developed than animals’, it is because of the intellectual soul’s union with the human body.

Aquinas explains the intimate union of the human soul and body, based on the teaching of participation. The Neoplatonic view of participation sees the higher realm as causing the lower one to exist and operate. This view implies a system of intertwined or interlocked levels of being. The lowest part of the higher realm comes into contact with (*atingit*) the very upper part of the realm immediately below it. A key passage often quoted by Aquinas comes from Pseudo-Dionysius’s work *De divinis nominibus*, Book 7: “Divine wisdom has joined the lower limits of the higher beings with the start of the lower ones”⁸⁵³. This contact or rubbing between levels or spheres explains human existence in its entirety, according to Aquinas. If we compare the human body to the bodies of other animals, plants and inert objects, we see that it has a very complex structure. The discoveries made in the area of the neurosciences continue to unravel the complexities of the human brain as an organ. When we consider our intellect, we see how limited it is in grasping universal thought; compared to the divine intellect and other purely immaterial intellects, we realize just how inferior our own intellect is. In the realm of bodies the human body is the most complex. The intellectual and the bodily realms intertwine in the human person, as the human intellectual soul informs the human body. Aquinas considers this a sufficient explanation of how we are to understand perception: “We may consider something supreme in the genus of bodies, namely the human body equably attuned, which touches the lowest of the higher genus, namely the human soul. And this occupies the last degree in the genus of intellectual substances, as may be seen from its modes of

⁸⁵² AQUINAS, STh, I, 84, 6. “*Ex parte phantasmatum intellectualis operatio a sensu causatur. Sed quia phantasmata non sufficiunt immutare intellectum possibilem, sed oportet quod fiant intelligibilia actu per intellectum agentem; non potest dici quod sensibilis cognitio sit totalis et perfecta causa intellectualis cognitionis, sed magis quodammodo est materia causae*”.

⁸⁵³ Ibid., SCG, Bk. 2, Ch. 56. “*Divina sapientia coniungit fines primorum principiis inferiorum*”, as cited by FABRO, NMP, 282.

understanding”⁸⁵⁴. With its Neoplatonic basis, the notion of participation allows Aquinas to understand the substantial unity of the rational soul with the human body. The unity joins the two realms, material and immaterial. And while the immaterial element is not perceptible per se, we see its ability to go beyond the material, as shown in abstract thought. The intimate, substantial unity of body and soul is apparent in the process of perceptual knowledge.

In chapter 5, we noticed the transition from physical impulses to sensation, in the external sense organs. This transition is the starting point for all human knowing, while remaining shrouded in mystery. How is it that physical, material processes give rise to non-material, spiritual perception? Neuroscientific studies of the physiological processes involved have certainly advanced since Fabro’s 1941 *Percezione e Pensiero*. However, empirical science can only measure the physical, physiological part in sensation; the soul’s presence does not enter into the domain of such empirical observation. The fact that human perception does involve such a transition from the physical to the psychic remains clear; the explanation is to be found in the substantial unity between the human body and soul, not in science. This philosophical, non-empirical truth allows for more explanatory power than the purely materialist or purely rationalist alternatives.

In our search to reach the fundamental basis for our knowledge and perception we have reached the clear presence of the soul, as directing the entire process as its ultimate source. What can we say about the soul itself? Kant dedicates much consideration to the *Ich denke*, or original apperception. How much can we assert about the soul itself? Fabro points to the Aristotelian-Thomistic maxim of “nothing is knowable except insofar as it is in act”⁸⁵⁵. The operations of sensation, inner perception and universal abstraction are clear indications of their corresponding faculties or powers. An operation can only be carried out based on a faculty of the acting subject. Through our considerations of chapters 5 to 7 we came to understand properly the faculties of external sensation and inner senses, along with the intellect. What more can we say about the soul, besides the fact that it is the source and foundation of those faculties? We only know the soul through its habits; we cannot grasp the soul in its full nature. We have certainly reached a clearer grasp of our faculties of perception, and can appreciate the soul’s capacities manifested in those faculties and their operations. As the lowest form of

⁸⁵⁴ Ibid., SCG, Bk. 2, Ch. 68 [Burns, 172]. “*Est igitur accipere aliquid supremum in genere corporum, scilicet corpus humanum aequaliter complexionatum, quod attingit ad infimum superioris generis, scilicet ad animam humanam, quae tenet ultimum gradum in genere intellectualium substantiarum, ut ex modo intelligendi percipi potes*”.

⁸⁵⁵ FABRO, PP, 282. “«Nessuna cosa si può conoscere se non in quanto è in atto»”.

intellects, we must resign ourselves to knowing that our soul exists, with its several capacities. We cannot hope to know it fully, but our better grasp of its faculties and how they emanate from the soul allows us to understand the soul better⁸⁵⁶.

We began this chapter following what Fabro calls the “emerging” relations and elements in the perceived object: From the properly sensibles there emerges the Gestalt; from the unified figure emerges its concrete value and meaning for the subject, along with the object’s classification; from that value and classification emerges the essence, on a universal level. The phenomenon of emerging led us to consider the relation between the different faculties or psychic functions – to use Stumpf’s terminology – involved in that emerging. Only by considering the faculties as participating in each other – the lower ones in the higher – can we understand perception. The generating order of the faculties is really the reverse order of their actual dependence: What we first use as infants are the outer senses, while in the order of dependence or participation they are the lowest faculty. Distinguishing the faculties does not lead to their absolute separation; it is precisely thanks to their participation in each other and ultimately in the soul that they can communicate between each other and develop the object in perception towards ever greater knowing and apprehension. Isolating them excessively is what leads Kant to his insoluble problem of the bridge.

We conclude this chapter asserting the unity of the body and soul, as manifested in the process of perception. The intellect and the senses stand in clear communication and participation with each other. Aquinas explains this participation with the Aristotelian teaching of the substantial unity of matter and form. As much as the term may carry nuances of scholasticism and we may search for other possible explanations, we can see how much superior it is at least to the Cartesian-based theory of transcendental apperception. Kant’s reticence to consider sensation more closely is based on the Cartesian separation of body and soul. If we consider sensation more closely it becomes clear that our minds do stand in real relationship to the senses, as we draw real content from them. This relationship can only take place if the soul stands in substantial unity with the body. The soul can freely move the body, as moving towards a given aim or goal. Only by recovering the unity of the human subject can we understand our process of perceiving. Contrary to certain tendencies among Thomistic scholars to separate the different faculties in the human knower, De Haan stresses Aquinas’s fundamental view of the

⁸⁵⁶ Cf. *Ibid.* “*L'anima invece non è principio degli atti per la sua essenza, ma per le sue facoltà, onde la percezione degli atti dell'anima porta con sé la percezione di un principio di tali atti, come il moto ed il senso: ma da questo non si sa ancora qual è la natura dell'anima*”.

human person as a united whole. It is the human person that senses, perceives and knows, besides willing and reacting emotionally to things. “We are speaking synecdochically when we say that vision sees, the cogitative power perceives, or the intellect understands. More properly it is the human person that sees, perceives, and understands through their powers of vision, cogitation, and intellect”⁸⁵⁷. Within the united person, if we reduce perception either to the sensed images or intellectual categories, we fail to account for key aspects of our knowing. The unity of the soul as substantial form of the body explains satisfactorily the process of human knowing; at least more satisfactorily than Kant’s transcendental philosophy.

⁸⁵⁷DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 411.

CHAPTER 9: THE ROLE OF THE SPECIES IN INTENTIONAL KNOWING

The guiding question throughout this thesis is expressed thus by Kant: “What is the ground of the relation of that in us which we call ‘representation’ to the object?”⁸⁵⁸ How do we know things outside of ourselves, if our process of knowing consists in so many stages of representation? Are those representations simply mental chemistry, or is there a basis for them outside of ourselves? This chapter is the culminating moment, as we draw together the different pieces of our perception and intellect, to see if they are sufficient in providing a grounding for our mental representations of extra-mental objects.

We have already mentioned Aristotle’s agreement with his teacher regarding the intellect’s obtaining universal knowledge. Where Aristotle differs from Plato, both in metaphysics and epistemology, is the relationship between matter and spirit. Plato does not allow for any real relationship between the two; in the area of epistemology, this means that the content presented empirically in the senses is incompatible with the content of the mind’s concepts and ideas. The terminology is Kantian, but the philosophical basis is Platonic.

There is therefore absolute opposition between what is and what appears, between noumenon and phenomenon: The former is what really is, the latter just appears to be. The former is science’s object, the latter is a matter of opinion. [...] Reality is situated in reference to the transcendental subject, and so reality is not given content but the result of cognitive synthesis⁸⁵⁹.

The Kantian opposition between noumenon and phenomenon can be seen as Platonic idealism. Our study must adequately address this opposition of the senses and the intellect⁸⁶⁰.

In order to understand how we actually perceive we must consider the value and ontological status of our mental representations, images or species. What is their basis,

⁸⁵⁸ KANT, Letter to M. Herz, 21 February 1772, AA 10:130. Translated by TUSCHLING, AE 201. “*Auf welchem Grunde beruhet die Beziehung desjenigen, was man in uns Vorstellung nennt, auf den Gegenstand?*”

⁸⁵⁹ FABRO, PP, 393. “*C’è quindi assoluta opposizione fra ciò che è e ciò che appare, tra noumeno e fenomeno: l’uno è ciò che è veramente, l’altro ciò che appare; l’uno oggetto di scienza, l’altro di opinione. Il nucleo essenziale dell’innovazione idealista, a partire da Kant almeno — anche se egli protesta di non voler essere idealista — è la posizione della realtà in funzione del soggetto trascendentale, cosicché la realtà non è un contenuto «dato», ma il frutto della sintesi conoscitiva*”.

⁸⁶⁰ As I mentioned in the methodology at the opening of this second part, I choose to bring up Kant’s position often, interrupting somewhat the flow of my argument. I do so in the belief that it is necessary to compare the starting points of Kant’s theory with Aquinas and Fabro’s. Otherwise they may appear to be two parallel arguments, each with different terminology and problems, while each of them try to explain the same reality: human perception.

their grounding? Some Aristotelians such as Hamilton warn that the Thomistic teaching on species can lead to a *tertium quid* between the subject and the object, and so the species separates us completely from things⁸⁶¹. How does our contact with things come about? As we have stated previously, it would be naïve to think of perception as a video camera receiving and perceiving things exactly as they are. If anything becomes clear in chapters 5 to 8, it is that our mental images involve a highly developed process of emerging. How far does that process lead us away from things themselves by creating a fantasy world in our mind? Is Thomas's teaching on the species like Kant's phenomenon, leaving us knowing only appearances and not reality? We turn to consider the role of the species in our intentional knowing.

1. How we intentionally assimilate objects

In question 18 of the first part of the *Summa Theologiae*, Thomas Aquinas discusses the levels of living beings, classified hierarchically according to their ability to move. While plants move simply according to their natural form in growth, animals determine their movements according to the forms they receive through their senses. Their senses allow them "to recognize not only in connection and touch, but also objects apart from themselves [and so such animals] can move themselves to a distance by progressive movement"⁸⁶². Higher and more developed animals have a greater tool for survival in their sense faculties, because they can perceive objects at a distance; sensed perception beyond immediate contact in touch broadens the horizon of development. The vital needs and desires that initiate all motion receive a much wider realm of means and ends to satisfy those desires. This driving faculty is what starts movement in all living creatures according to Aristotle⁸⁶³. Just as we saw on the level of secondary sensorial organization in the cogitative, our biological needs play a basic role in perception. Kant's starting point within the intellect can hardly reach reality because it remains enclosed within itself. The *Critique of Practical Reason* seeks to do away with our basic animal

⁸⁶¹ Cf. Fabro's reference to Hamilton: PP, 359.

⁸⁶² AQUINAS, STh, I, 18, 3. "*Quae vero habent virtutem sensitivam perfectam, non solum ad cognoscendum coniuncta et tangencia, sed etiam ad cognoscendum distantia, movent seipsa in remotum motu processivo*".

⁸⁶³ Cf. ARISTOTLE, DA, Bk. 3, Ch 10, 433a [Penguin, 214]. "It is because of the movement started by the object of desire that the thinking produces its movement, that which is desired being its point of departure. And even imagination, whenever it produces movement, does not do so without desire. Thus there is really one thing that produces movement, the faculty of desire. If there were two such things, intellect and desire, they would do so in accordance with some form in common, and in fact it is not clear that the intellect produces movement without desire, wishing being a type of desire, and the movement produced by reasoning being invariably accompanied by that produced by wishing, while desire even in the face of reasoning produces movement, a type of desire being appetite".

desires, in order to reach the assurance of our free will. His overlooking our basic needs as animalistic is seen here to be an important gap in how and why we perceive things. The newborn child interacts and understands its environment based on her basic needs for survival. She gradually reaches an objective view, with herself immersed in the world of objects; yet her need for actual survival obliges her to know the surrounding objects as they are, and not merely as she might imagine them to be. Her rational nature is what allows her to reach universal, necessary knowledge in her mind. Such knowledge starts from the senses assimilating the objects around her.

1.1. *Knowing as a type of assimilation*

“The soul is in a way all things that exist”⁸⁶⁴. Aristotle formulates this principle in order to explain the process of perceptual knowledge. To explain his principle, Aristotle compares the soul’s versatility to our hands’ versatility in operating. Aquinas comments on the powerful analogy:

The hand is the most perfect of organs, for it takes the place in man of all the organs given to other animals for purposes of defense or attack or covering. Man can provide all of these needs for himself with his hands. And in the same way the soul in man takes the place of all forms of being, so that through his soul a man is in a way everything; his soul being able to assimilate all forms of being: the intellect, intelligible forms, and the senses, sensible forms⁸⁶⁵.

By Aristotle’s principle we can appreciate the soul’s capacity to receive forms in the senses, as well as on an intellectual level. We saw in the previous chapter the driving force of the intellect in the several levels of perception. This force is founded in the soul’s ability to become all things in intentional knowing. All knowledge implies a sort of change in ourselves: While we are asleep, we do not perceive; when we are awake, we perceive images or forms of things around us. This change only occurs inside of us, as an internal alternation; the object perceived is not affected physically by our sensing it. What type of change occurs through our perception? Aristotle compares cognitive assimilation with digestion or nutrition⁸⁶⁶. Assimilation in nutrition is the receiving of an external object, like cognition, but digestion implies the destruction of the object in the process. Cognitive

⁸⁶⁴ ARISTOTLE, DA, Bk. 3, Ch. 8, 431b [Penguin, 210].

⁸⁶⁵ AQUINAS, Comm DA, Bk. 3, L. 13, n. 790 [Yale, 456]. “*Manus enim est organum organorum, quia manus datae sunt homini loco omnium organorum, quae data sunt aliis animalibus ad defensionem, vel impugnationem, vel cooperimentum. Omnia enim haec homo sibi manu praeparat. Et similiter anima data est homini loco omnium formarum, ut sit homo quodammodo totum ens, inquantum secundum animam est quodammodo omnia, prout eius anima est receptiva omnium formarum. Nam intellectus est quaedam potentia receptiva omnium formarum intelligibilium, et sensus est quaedam potentia receptiva omnium formarum sensibilium*”.

⁸⁶⁶ ARISTOTLE, DA, Bk. 2, Ch. 4, 416a. I follow here Fabro’s comparison between digestive assimilation and perceptual assimilation, in IRPS, 124-125.

assimilation is a change, but on a different level and in a different way than digestive assimilation. "In the cognitive process we find that the contraries are not only perceived according to their proper, formal content but even co-exist, as differential elements in the object of a single sense: different colors for sight, different sounds for hearing, etcetera"⁸⁶⁷.

Following Aristotle, Aquinas takes the alteration in knowing as change in the broad sense. For Aristotle change consists in deriving the act from the potency, as through change the potency no longer exists, but only the act. When our senses sense something, the organ is not destroyed nor is it lost in the process, yet a change occurs to it.

In another and looser sense [alteration] connotes any perception of something from outside. And as a receiver is to what it receives as a potency is to actuality; and as actuality is the perfection of what is potential; so being acted upon in this sense implies that a certain preservation in perfection of a thing in potency is received from a thing in act. For only the actual can perfect the potential; and actuality is not as such contrary to potency. Indeed the two are really similar, for potency is nothing but a certain relationship to act⁸⁶⁸.

It is the likeness between the object and the sense organ that allows the sense faculty in potency to actually sense. It is the activation of the sensed impulses that produces the consequent reception of the sensed form. Thus the change involved in knowing preserves the sensed object as its similar, since the sense organ relies passively on that object for its (the sense faculty's) determination. The soul in knowing relies on sensory stimulation and information in order to know things.

All representation and knowing is the presenting of an object regardless of its value; this object erupts upon consciousness from the very start with a sharp sense of otherness and strangeness. That is why we say it is "given", "presented" [...]. In this light, the objection made by subjectivists against intentionality – against things entering and leaving – does not stand: Such spatial processes do not occur. What occurs is the growth of the soul, as it fulfills its capability in objects; which, in order to be objects, cannot be immanent without also being transcendent⁸⁶⁹.

⁸⁶⁷ FABRO, IRPS, 125. "Nell'attuazione conoscitiva invece si ha che i contrari non solo vengono salvati secondo il proprio contenuto formale, ma di più coesistono come aspetti differenziali dell'oggetto di una stessa facoltà: così i vari colori per la vista, i vari suoni per l'udito..."

⁸⁶⁸ AQUINAS, Comm DA, Bk. 2, L. 11, n. 366 [Yale, 242]. "Alio modo passio communiter dicitur et minus proprie, secundum scilicet quod importat quamdam receptionem. Et quia quod est receptivum alterius, comparatur ad ipsum sicut potentia ad actum: actus autem est perfectio potentiae; et ideo hoc modo dicitur passio, non secundum quod fit quaedam corruptio patientis, sed magis secundum quod fit quaedam salus et perfectio eius quod est in potentia, ab eo quod est in actu. Quod enim est in potentia, non perficitur nisi per id quod est in actu. Quod autem in actu est, non est contrarium ei quod est in potentia, inquantum huiusmodi, sed magis simile: nam potentia nihil aliud est quam quidam ordo ad actum".

⁸⁶⁹ FABRO, PP, 366-367. "Ogni rappresentazione è, nella conoscenza, la «presentazione» di un oggetto, qualunque ne sia il valore: quest'oggetto irrompe nella coscienza fin dalle prime volte con uno spiccato carattere di alterità ed estraneità e per questo si dice che è «dato», «presentato». [...] In questa concezione l'obbiezione dell'«entrare» e dell'«uscire», che il soggettivismo fa all'intenzionalità, non ha alcuna presa, perché tali processi di ordine spaziale non hanno luogo. Ciò che ha luogo è la crescita dell'anima che si attua in oggetti, i quali per essere «oggetti» non possono essere immanenti, senza insieme essere trascendenti".

The object's presence is the determining factor, but it does not physically enter through the senses. The object's transcendence – as enduring independent of ourselves – is a fundamental aspect of knowing.

Rather than a physical sort of change where the original term in potency is destroyed in order to give away the final product in act, Fabro considers our change in knowing as saving the object, as we inwardly “amplify” or magnify it in “ontological emerging”⁸⁷⁰. This is change in the broad sense of the term. Knowing is the perfection of our souls, since we arrive at actual knowledge where beforehand we only stood in mere possibility to know. But the status of the perceived object is also heightened, intensified and distilled in knowing. In coming to know the real, intrinsic properties of certain metals and elements, for instance, we are able to use them in technology to ever greater ends. The “emerging” of these traits is thanks to our experience, enlightened and guided by our intellect. Thus we see knowledge as a type of change or alteration, but a change where each element – object and subject – reach a more perfect status.

Fabro reports Averroes's appreciation for the level of perfection achieved in knowledge. Knowing is our highest act or perfection, above all in intellectual knowing. This means that we come to perfection as human beings through understanding. At the same time the object known receives its highest perfection in the act of being known. The two perfections – objective and subjective – are actually one and the same act: “The knower in act is the known in act; more specifically knower and known become a unity that is more intimate than the unity of matter and form”⁸⁷¹. The two aspects are needed for knowing: Our mind is not powerful enough to know itself simply as it is, but only insofar as it comes to know things outside of itself. The act of knowing is the full, interior assimilation of things. Moya Cañas shows the perfecting aspect of knowledge: “When we speak of ‘grasping the form of the thing’, we understand that this is possible thanks to the penetrating capacity of intellect, as being able to bring to light or know properties and characteristics that are not ‘shown’ in sensorial experience”⁸⁷². Thus we say that in a sense the object is perfected by our knowing it, as the intellect grasps its deeper structure and sense.

⁸⁷⁰ Cf. *Ibid.*, 43. “*Il passaggio invece dalla possessione abituale della scienza alla considerazione attuale non può essere mai detto mutazione od alterazione in alcuno di questi sensi, ma piuttosto salvazione ed amplificazione interiore, emergenza ontologica pura. Rispetto a questo termine, il processo conoscitivo va considerato, più che alterazione, conservazione e salvazione: più che successione di modi contrari di essere, progressione ed ascensione verso il fastigio dell'essere*”.

⁸⁷¹ *Ibid.*, 46. “*Il conoscente in atto è il conosciuto in atto; più ancora o più esattamente, conoscente e conosciuto formano una unità più a intima di quanto non facciano materia e forma*”.

⁸⁷² MOYAS CAÑAS, P., «Intencionalidad y representación: comprensión de estos conceptos en la gnosología de Tomás de Aquino», in *Cuadernos de Teología*, 9 (2017) 2, 191. “*Cuando hablamos de ‘captar la forma de la cosa’, entendemos que es posible por la capacidad penetrativa de la inteligencia*”.

We have identified intentional knowledge as a type of assimilation. Once again the comparison with eating and digesting is a helpful contrast in order to grasp how we assimilate objects in knowing. We know things inasmuch as we assimilate them. This assimilation of things comes gradually. Piaget's active assimilation in a developing child is "a gradual elaboration that the child makes of the objects of experience based on motor and operative schemas. Through those schemas she establishes her relations with her surrounding world"⁸⁷³. We may assimilate objects only insofar as we have the proper schemas to recognize and know them. Such schemas are not somehow innate, like Kant's transcendental schemata; they are gradually formed through our active interaction with objects, starting from infancy. As adults we may not be aware of these mental schemas; however any form of learning requires elaborating new schemas in order to make sense of, recognize and assimilate new material. Our ability to learn points to the soul's capacity "to be in a certain sense of all things"; how exactly such a process of assimilation functions becomes the main question.

Schmidt draws attention to key passages in Aquinas that help us to understand our knowing as assimilation. What happens in our knowing is that "the knower becomes like the thing known: 'All knowledge takes place through the assimilation of the knower to the object known' (Aquinas, *De veritate*, 8, 5)"⁸⁷⁴. How can we say that we, the knower, become *like* the object known? Obviously our nature does not transform into whatever objects we have in front of us; that would be a natural type of likeness, which we find among members of the same species. The likeness between ourselves and objects is a different type of likeness.

The likeness can be either an agreement in nature or a conformity by representation or intention. [...] "Cognition takes place by assimilation, not indeed by natural assimilation but by intentional assimilation. For the stone itself is not in the soul but rather the species of the stone" (Aquinas, *De Malo*, 16, 8 ad 10)⁸⁷⁵.

If the intentional species is an alteration and assimilation, how does it maintain or obtain likeness of things outside of us, while remaining present within us?

que permite 'traer a la luz', es decir, conocer, propiedades o características que no se 'muestran' en la experiencia sensorial".

⁸⁷³ FABRO, PPS, 21. "L' «assimilazione attiva» non significa altro che il fatto di un'elaborazione graduale che il bambino fa degli oggetti dell'esperienza a partire da schemi motori ed operativi, per mezzo dei quali si vengono a stabilire le sue relazioni con il mondo a lui circostante".

⁸⁷⁴ SCHMIDT, DLTA, 99. "Omnis cognitio est per assimilationem cognoscentis ad cognitum".

⁸⁷⁵ Ibid., 99-100. "Cognitio fit per assimilationem, non quidem naturae sed intentionis. Non enim lapis est in anima . . . sed species lapidis".

1.2. The intentional species: what is it?

In order to understand Aristotle and Thomas's teaching on our intentional knowledge it is important to understand properly the term *species*. Knowledge is a very particular type of assimilation; only by grasping the fundamental elements in the species or representation can we understand how we perceive things. It is helpful to start by saying what we do *not* mean by species. Fabro's criticism of a particular point in the Gestalt theory is helpful to distinguish our meaning of species. Authors such as J. Wittmann identify the Aristotelian species in knowledge with the "physical forms" proposed by some Gestalt theorists. Such physical forms are basically the nerve impulses transmitted along our peripheral system to our central nervous system. The external impulse that activates the sense organ is translated into and transmitted by such nerve impulses, and these forms are what explain our mental images and species, according to Wittmann. Fabro calls this position in Gestalt theory "isomorphism", and dedicates a lengthy presentation of its insufficiencies⁸⁷⁶. We saw in chapter 5 Pimental's reading of Thomas's theory of perception as isomorphic; we noticed there the prevalence of this theory among neuroscientists. Ultimately such a presentation of our sense perception is like Democritus's atoms entering through our pores and continuing on to our brain. The Aristotelian-Thomistic view of the species in our intentional knowledge is different, in the sense that the human soul is involved. Physical forms, as physio-chemical impulses, do indeed affect our bodily sense organs, but are immediately translated in sensation to an immaterial level.

These physiological processes [in sensation] can indeed be the only determining factors of our knowing. It still remains true that those processes represent the remote, preparatory phase, which is not yet objective assimilation. Such assimilation takes place in the faculty and in the soul by way of the "species". It is this intentional "species" that on the properly subjective level constitutes a *status in quo* of the assimilation process. Meanwhile the cycle of nervous processes continues its course along the afferent and efferent pathways of the neurons involved in peripheral arousal⁸⁷⁷.

As the cause that determines our sense organ, the external impulse is the principal factor in sense activation. Such a sensible object "produces in the sense faculty and in the soul a particular, qualitative modification called 'the cognitive species'. This species is precisely that unique affection which is the intrinsic reason why the soul adopts

⁸⁷⁶ Cf. FABRO, FP, 346-361.

⁸⁷⁷ Ibid., PP, 60-61. "*Sono questi processi fisiologici i determinanti unici del conoscere, resta sempre vero che essi rappresentano la fase preparatoria e remota, che non è ancora l'assimilazione oggettiva che avviene nella facoltà e nell'anima per via della «specie». E la «specie» intenzionale che nel suo ordine, cioè in quello soggettivo, costituisce uno «status in quo» del processo assimilativo, mentre il ciclo dei processi nervosi continua normalmente il suo decorso lungo le vie afferenti ed efferenti dei neuroni interessati dall'eccitazione (periferica)*".

such and such a determined attitude toward the object”⁸⁷⁸. Fabro thus distinguishes clearly between Aristotle’s species on an inner, intentional level, from a materialistic concept of the physical forms in the Gestalt theory. Many modern philosophers scoff at the scholastic teaching of species, perhaps in part because it implies too “physical” a conception of our representation, like physical forms. Such physical renderings are indeed misinterpretations and misconstructions of Thomas’s understanding of the intentional species. Thomas follows Aristotle in rejecting such a materialistic view of sensation.

In order to understand the key function of the species in knowing, Fabro considers it on two different levels. On the ontological level the species is a quality of the soul, as one of the nine accidents. Its uniqueness comes on the second level, that of knowing (*gnoseologia*, in the Italian, translated somewhat poorly as “epistemology”). The species “stands for the object, to which the species is referred, and which the species refers, because the species is specified by the object and repeats the object’s structure within the faculty and the soul”⁸⁷⁹. The species plays a *referential* role in knowing, as the presence of the object within the faculty.

Since our organs rely on exterior stimulation, they are above all receptive and passive in sensing. Intentionality includes this receptive aspect of our knowing; Schmidt refers several passages in Aquinas that reveal this basic receptive aspect of our knowing. “The operation of the intelligent soul, as regarding the thing it knows and desires, is not an active operation, but a receptive one. And so it is not required to be joined essentially to the thing, but it must simply receive the intention of the thing within itself”⁸⁸⁰. This receptive aspect of our intentional knowledge implies that we rely on the object’s presence and structure. The species is *determined by* the sensible object, since it is received in sensation. At the same time, we are not completely passive; the species is present on an immaterial level, which is then able to be condensed and distilled to the essential aspects of the object. The object becomes present in us “*per informationem*”, that is, on a formal level⁸⁸¹. This formal presence is thanks to the likeness of the thing, and that likeness is within us. The intentional species acts as a “vicarious form” or likeness of the object.

⁸⁷⁸ Ibid., 60. “*Il sensibile produce nella facoltà e nell’anima, di una particolare modificazione qualitativa, detta «specie conoscitiva».* La «specie» è appunto quella particolare affezione che è ragione intrinseca onde l’anima si trovi in tale e tale attitudine verso l’oggetto”.

⁸⁷⁹ Ibid. 61. “*La specie che ontologicamente è una qualità accidentale dell’anima, gnoseologicamente è quello che è l’oggetto a cui si riferisce e che riferisce, perché da esso specificata e ne ripete la struttura oggettiva nella facoltà e nell’anima*”.

⁸⁸⁰ AQUINAS, T., *In I Sent*, 15, 5, 3 ad 4. As cited by SCHMIDT, 98. Schmidt also refers to STh, I-II, 27, 2 and *In I Sent*, 19, 1, 3 ad 1. “*Operatio animae intellectivae in rem quam cognoscit et diligit, est operatio non activa sed receptiva; et ideo non oportet quod coniungatur ei essentialiter, sed quod intentio illius recipiatur in ipsa anima*”. Author’s translation.

⁸⁸¹ Cf. FABRO, PP, 363-364.

As we attempt to grasp the cognitive function of the species in Aristotle's and Aquinas's theory of perception, Fabro contrasts it with the two extremes of Descartes and Democritus. Descartes's dualism implies that the mind contains species that are completely subjective, which then must somehow reach the external, physical world. Aquinas in contrast holds that the species "maintains an intrinsic and immediate relation with the object"⁸⁸². Descartes's species remains purely subjective, as internally referred and staying within the subject. Democritus's species is the opposite, as the object penetrating the subject, with no type of transition between the objective and subjective level. Fabro then situates Aquinas's species as between Descartes and Democritus, in terms of object to subject. "The Thomistic species plays a twofold function: One, it informs the soul as an accident, an entitative quality. Two, it produces knowledge, in that it puts us in relation to the object"⁸⁸³. The species indeed belongs to the subject, as ontologically dependent on the knower; but it is also objective, as determined by external reality. The intentional species is intricate and difficult to understand properly. The several attempts to do so – Democritus, Plato, Ockham, Descartes, Kant, the Gestalt school – reveal important aspects while ignoring others. Here each one must refer to their own experience in perceiving, which remains our basic criterion.

In order to show the unique role of the cognitive species, Fabro quotes at length a section from Aristotle's *On Memory*⁸⁸⁴. There Aristotle uses the example of the painting of an animal. The likeness between the painting and the animal is clear, while the mode of existence is evidently different: on canvas versus in the flesh. The painted likeness is modeled on and refers to the real-life animal. So too our intentional species refer to their proper objects. Intentional species exist only intentionally, that is, within our minds; their likeness in relation to things is their chief characteristic and reason for existing. Fabro comments on the realistic and at the same time mental aspect of our intentional knowledge in species:

Even as the contents of our consciousness are presented as different and multiple, we have a constant impression that we not only have ideas or images present, but the images and ideas of things. It is as if those images-ideas would mean nothing to us if they ended up being pure appearances and modifications of consciousness, duplicating itself as subject and object⁸⁸⁵.

⁸⁸² Ibid., 364. "La specie ha una intrinseca ed immediata relazione al suo soggetto".

⁸⁸³ Ibid. "La specie tomista ha una doppia funzione: una, d'informare come qualità entitativa (ut accidens) l'anima; l'altra di produrre la conoscenza cioè di mettere l'anima in relazione all'oggetto".

⁸⁸⁴ Cf. ARISTOTLE, *The Complete Works of Aristotle. The Revised Oxford Translation*, BARNES, J. (ed.), Princeton University Press, Princeton 1984, vol. 1, *On Memory*, 450b [715-716]. As published at <http://pm.nlx.com/>.

⁸⁸⁵ FABRO, PP, 365. "Al presentarsi dei contenuti di coscienza i più vari e molteplici, noi abbiamo l'impressione costante non solo di aver presenti delle immagini od idee, ma delle immagini od idee di

The intentional species exist as likenesses of things outside of us, and we interact with our surroundings based on this conviction. Theoretical or speculative philosophers may scoff at such a doctrine on mental images, but the touchstone for such explanations will always remain our experience. Human survival and flourishing in human civilization indicate the objective-subjective nature of our knowledge, as explained by Aristotle and Thomas Aquinas and put into perspective by Fabro in comparison to other theories.

The two-fold relation of the intentional species is only properly understood from both aspects: the knower and the object known. We have already seen the process on the knower's side, as presented in chapters 5 to 7; it is the object that defines and determines our intentional knowledge in the sensible form and intentional species. Aquinas himself addresses which of the two extremes – object and subject – is the determining one, and his answer is very clear: The species admittedly only exists thanks to the knower, as an accident whose being can only be found in a knowing subject. However, "a thing is not known according to the mode of existence which is the likeness of the thing has in the knower [the subjective end of the relation], but rather according to the manner in which the likeness existing in the intellect *represents the thing*"⁸⁸⁶. The species' likeness to the thing known is its determining factor, and is what distinguishes it from other imaginary images that we may create at our own whim.

The species' relation to the object is evident from our senses' receptive status in sensation. The possibility of perceptual deception and illusions implies that we identify the ideal external circumstances in order for us to perceive external objects properly. This shows the receptive, passive reliance of our senses on external stimulation. The level of fidelity to reality in sensed perception is affirmed clearly by Aquinas in the *Summa Theologiae*, I, q. 17, art. 2. Our senses are deceived when they do not receive the proper sensible object correctly. This however happens seldom, and due to external causes. Thomas gives the example of a sick person's inability to taste properly: His sickness inhibits his sense of taste. We clearly identify this as an exception; in a usual state our senses perceive the likeness of their proper sensible objects. Our senses may be incorrect

cose: che tali immagini od idee non avrebbero per noi alcun interesse se si riducessero ad essere pure parvenze e pure modificazioni della coscienza che raddoppia se stessa come soggetto e come oggetto".
⁸⁸⁶ AQUINAS, T., *The Disputed Questions on Truth*, Mulligan, R. (translation), volume I, Henry Regnery, Chicago 1952, 2, 5 ad 17, [91]. As published at <http://pm.nlx.com/>. Future reference to this work as DV. "Similitudo enim in vi cognoscitiva existens non est principium cognitionis rei secundum esse quod habet in potentia cognoscitiva, sed secundum relationem quam habet ad rem cognitam. Et inde est quod non per modum quo similitudo rei habet esse in cognoscente, res cognoscitur, sed per modum quo similitudo in intellectu existens est repraesentativa rei". Emphasis added.

when they judge objects that are not their proper ones, or the common object (shape) or a sensible object *per accidens* (“that is a man”). The possibility of error comes from the cogitative and intellect, since they may erroneously attribute traits to the object, beyond what the senses actually receive as present in the object. Prudence involves holding off on pronouncing a judgment regarding an object, until we have observed it closer. Our minds can judge when our senses work in their ideal situation, and so we can tell when we grasp the object properly through them⁸⁸⁷. Our intentional species relate to objects as their likeness, present within us in a way or manner different than the object’s actual existence. This different manner of being is what we mean by “intentional”.

⁸⁸⁷ Fabro sees the commonly argued skepticism regarding the senses as incomprehensible. Unfortunately, it forms much of the basis in theories of knowledge, since Ockham and Descartes. Cf. FABRO, FP, 231-233. *“Il fatto illusorio nella storia dei problemi speculativi è stato considerato come la fonte precipua dello scetticismo e l’argomento perentorio contro il realismo. Ma poche illusioni sono state, non solo assurde, ma tanto arbitrarie e ingiuste come questa. L’illusione al contrario richiama la mente del ricercatore ad una severa disciplina per raggiungere con certezza il contenuto degli oggetti. L’illusione certamente fa cadere le ambizioni di un realismo assoluto che difenda una corrispondenza perfetta «speculare» del nostro conoscere, in qualsiasi condizione l’atto si eserciti, con il suo oggetto: ma oggi non c’è persona sensata che difenda una pretesa così ingenua, all’infuori dei fenomenisti assoluti che hanno soppresso ogni dualismo gnoseologico.*

Ciò a cui il fatto illusorio conduce, quando sia oggettivamente considerato, è l’ammissione che la nostra conoscenza immediata ha gradi vari di corrispondenza con il suo oggetto; per questo esso porta naturalmente all’ammissione di un realismo moderato, che può coincidere, quando siano ben definiti i termini in questione, anche con uno scetticismo moderato.

Il fatto che vi sono delle illusioni o percezioni inadeguate significa che vi sono altri modi di conoscenza che non sono illusioni, che sono ritenuti perciò adeguati ai propri oggetti. E noi sappiamo che la percezione adeguata è nella vita ordinaria il caso più frequente. E che la percezione oggettiva sia il caso normale, l’illusione quello anormale, non lo congetturiamo soltanto dal fatto che quella è più frequente, questa meno, ma dal sapere che la percezione oggettiva realizza le «condizioni ottime» del conoscere. Infatti noi possiamo graduare l’oggettività del nostro conoscere con una curva: si danno inadeguatezze tanto per difetto di condizioni (p. e. mancanza di luce, luce debole incidenza di raggi, ecc.) come per eccesso (luce abbagliante, confluenza di raggi, ecc.). Le condizioni ottime si realizzano con i valori medî. Con questi valori medî noi abbiamo una conoscenza delle cose certamente più adeguata di quella che si possa avere con i due valori estremi, e possiamo progredire continuamente tanto nella conoscenza volgare, come in quella scientifica nel precisare le condizioni che realizzano questi valori medî. Con questo non si vuol dire che noi conosciamo adeguatamente la essenza del reale nel suo intimo e in tutte le sue virtualità: ma che della essenza delle cose noi conosciamo alcuni elementi è certo non per preconcetti filosofici o d’altro genere, ma per via della discriminazione che necessariamente dobbiamo fare fra le conoscenze dette illusorie e quelle che non lo sono.

Possiamo dire allora, con l’Everett Hall il , che «la percezione normale è quella che si ha nelle condizioni migliori di conoscenza rispetto a quella specie di oggetti». Le migliori condizioni per conoscere sono quelle che permettono (in base alle percezioni passate) la discriminazione di un maggior numero di qualità e relazioni rispetto alla categoria di oggetti che si considera... Le percezioni vanno soggette all’illusione nel rapporto secondo il quale le loro condizioni divergono dallo stadio ottimo, per finire in uno stadio di massima inadeguatezza nel quale non è più possibile alcuna discriminazione di un dato oggetto.

Il fatto illusorio così considerato suggerisce che noi in «certe date occasioni» possiamo essere in grado di trovarci in conformità oggettiva con le cose e di conoscere i motivi di questa persuasione.

Né si dica, contro questa posizione di realismo, che noi nella percezione siamo «attivi», e quindi che l’aspetto di percezione è alunché di puramente «costruito» e non di «dato». Riservandomi a suo luogo una presa di posizione più esplicita in materia, ora osservo che l’attività — innegabile — implicata nel processo di percezione non è, come quella kantiana, indirizzata alla immissione di forme in un materiale che ne è privo; ma è tutta vólta a creare nel soggetto le condizioni migliori per la «scoperta» o la «contemplazione» della natura dell’oggetto, in quanto essa appartiene all’oggetto. E il realismo, nella sua forma ragionevole, è appunto la dottrina secondo la quale il conoscere si svolge ed è come la scoperta di quanto concerne cose o processi «diversi da sé e dalle proprie affezioni»”.

Moya Cañas draws attention to the particular nature of intentional being and species, underlined by Aquinas’s consideration of angelic knowledge. As humans, we distinguish between the material elements and the immaterial nature of our intellect in knowing. This is due to our human nature, consisting in an intellectual, immaterial form related substantially to a material body as its matter. Angels are purely immaterial and so do not abstract forms from their material conditions. In question 56, article 2 of the first part of the *Summa Theologiae*, Thomas considers how angels know each other. He distinguishes between the natural being of the angel as it exists per se, and the intentional being of an angel, present in the intellect of another angel. “The angel is himself a subsisting form in his natural being; but his species in the intellect of another angel is not so, for there it possesses only an intelligible existence”⁸⁸⁸. This example helps us to understand the species as the intentional manner of being, as the object virtually within the subject.

The intentional species is an evidently important element in our knowing. In the following sections we will follow its process in emerging, starting from the object in sensation and arriving to intellectual knowledge of that object. This is not simply a summary of the previous chapters. Based on our previous study of each step and the faculties involved, we now attempt to arrive at a proper foundation for the representation in us. Just as in chapter 8 it was necessary to grasp the basic unity of the multi-leveled process of perception on behalf of the human knower, so too we must see the basic unity of the intentional species throughout our perception. This unity is only properly understood if we consider our knowledge as a sort of assimilation of the object. We must consider the species’ relation to the object, in order to see how much objectivity is achieved in sensation by the outer senses. On the level of the inner senses, the perceptual faculties’ influence on the species are further sources of possible deception and loss of objectivity. We must see just how much objectivity is maintained throughout the process.

2. The object in sensed perception

An example can help us understand the purpose of the study regarding the species in this final chapter. Let us imagine a cave that consists of several intricate tunnels, with a well full of water at very end of the cave. The water in this well has the capability of changing dirt into diamond. However, the dirt must be brought from outside

⁸⁸⁸ AQUINAS, STh, I, 56, 2 ad 3. “*Nam ipse Angelus est forma subsistens in esse naturali, non autem species eius quae est in intellectu alterius Angeli, sed habet ibi esse intelligibile tantum*”.

the cave; rocks and dust found inside the cave do not transform properly into diamond. The dirt from outside the cave represents the sensible objects perceived, and the well is the intellect's power to know material things essentially, on a universal level. The study we intend to present in this chapter is a test. After having explored in chapters 5 to 7 the interconnected tunnels of perceptual knowledge, starting from the outer senses and arriving to the intellect, the question becomes this: How much of the external object is "left" by the time we reach intellectual knowledge? That is to say, how much of the dirt carried in from outside of the cave actually survives the journey, and allows for intellectual knowledge of outer reality? The intentional species is supposed to act as a sort of container for such dirt to make the journey. Is that container apt for "transporting" or transmitting real, objective data all the way through the process?

It would be easier either to use rocks from within the cave, or to somehow place the well at the entrance of the tunnel, so as not to lose the dirt of objective, material sensible information along the journey through the tunnel. Both of these options are the proposals of the two extremes in theories of knowledge: Rationalists propose taking the rocks from within the mind itself, as purely immanent knowledge; empiricists propose a much simpler process of knowing, where the intricate tunnels no longer exist between the senses and the mind. However, both proposals fail to explain how we come to have intellectual knowledge of external things, as in fact we do have. Let us now start from the entrance of the cave, the external senses; we shall first study carefully the dirt we receive or obtain there, as the object's sensed qualities⁸⁸⁹. Then we will walk through the tunnels already mapped in chapters 5 to 7, but with our focus now on the dirt contained in the intentional species in order to guarantee that the objective data is kept throughout the process and not somehow replaced by subjective contents. Our aim is to see if the Thomistic teaching of the intentional species holds for obtaining objective knowing. Let us begin our journey.

2.1. Objects' motion towards us

In its reply to associationism, the Gestalt theory has gone to great lengths in showing that the form-gestalt is sensed "in and with" the properly sensed qualities. The receptive aspect of the external senses means that both the qualities and their underlying

⁸⁸⁹ The issue at stake in sensed perception is precisely the fact of whether our senses tell us how things are in reality, and how such objective information comes to be structured. I refer to the "*in und mit*" principle admitted by C. Stumpf for the overall figure perceived in and with the properly sensibles. Cf. FABRO, PP, 102.

form are received from outer sensed impulse. Where Kant sees complete chaos – ordered only thanks to the proper forms of intuition –, the Gestalt theory sees an organization and a structure in the phenomenon that is basic and independent of the subject's internal functions. "It is not knowledge that 'creates' the organization of its object; rather it only *imitates* that organization, insofar as cognition is effectively true"⁸⁹⁰. Gestalt experimentation shows clearly that our minds do not assemble the basic particles of sensation into arbitrary organization or structure; rather, sensed perception receives that organization.

The question becomes how do the impulses arrive so structured? Until this point, we have been concerned with the internal process; we must for a moment turn to consider things outside of us. Kant would deny the possibility of any such consideration, since the appearance or phenomenon of things is the most we can reach; things considered in themselves is a wishful desire. However, if the Gestalt theory has shown that we discover a structure that is passively received in sensed perception, is it not legitimate to suppose that the structure comes from things, and not ourselves? Within Kant's self-contained theory, is it not surprising that our appearances, structured and created by ourselves, should coincide constantly and to such a remarkable degree with the outside world? Is it not simpler to view perceptual knowledge as receiving information from the outside through our senses? It is based on this assumption and natural certainty that all healthy mature human beings perform their daily interaction with their surroundings. How do Aristotle and Thomas view the objects that activate our senses?

Certainly, their specific answers involve their conception of the physical world, especially regarding how light and sound travel. Since our current understanding of light was only fully developed in the last century, we must distinguish what aspects of their theories are an accurate description of things, and what are explanations based on an erroneous understanding of physical reality. For Aristotle in *De Anima*⁸⁹¹, the sensible form arrives to us from the object as a ripple effect: The form is an impression reaching out from the object through air all the way to the eye. Aquinas's commentary follows Aristotle's text, and while their physical explanation involves their misguided conception of air and light, can we still rescue the philosophical principle at its basis? "The intervening air is affected by the shape and color of an object all the way between this object and the

⁸⁹⁰ FABRO, FP, 370. "*Non è la conoscenza a «creare» l'organizzazione del suo oggetto: essa lo imita, soltanto, nella misura secondo cui essa è una conoscenza vera ed efficace*". Emphasis in the original.

⁸⁹¹ Cf. ARISTOTLE, DA, Bk. 3, Ch. 12, 435a [Penguin, 219].

eye”⁸⁹². I cannot go into the physics of light and optics, as a subject far beyond the scope of this thesis; however, I hold that the underlying principle remains: The object affects the sight organ through a medium. Fabro summarizes the role of the three factors involved in sensing: the sensing subject, the sensed object, and the medium between the two. The subject’s role is to be turned outwards towards outer things in receptive sensation. The medium has a two-fold intentionality: “towards the object from which it comes, and towards the subject towards which it is going. And in the object we find one direction only: directed towards the subject, through the intervening environment and arriving to the senses, which then start the assimilation of knowing proper”⁸⁹³. Thus, while physics and optics have certainly advanced since Aquinas, the philosophical principle appears to stand to a large extent.

On the part of the object, we note the ability of bodies to “transmit” information about themselves through the medium, as sensible forms. Once again, the Aristotelian physics that Aquinas follows in his explanation of such motion no longer holds. In *De potentia Dei*, q. 5, art. 8, Aquinas distinguishes two basic motions in material bodies: natural generation-corruption, and a more formal type of motion: “This latter [motion] of a body does not aim at the transformation of matter, but at communicating a certain likeness of its form to the medium, which may be compared to the spiritual intention which things impress on the senses or intelligence”⁸⁹⁴. Aquinas explains this communicative type of motion as caused by heavenly bodies, based on the medieval-classical conception of the natural world. Delbosco places this text within the greater context of the work, which deals with the theological question of movement in the hereafter and the end-times⁸⁹⁵. We may call this *communication* of objects in their sensible forms as part of material bodies’ structure and operation. Their qualities and shape emit color in light, sound through air, and certain tactile aspects, as a natural motion inherent to material bodies. More than a physical explanation, based on the heavenly bodies, Delbosco reads this text within the Thomistic doctrine of participation.

⁸⁹² AQUINAS, *Comm DA*, Bk. 3, L. 17, n. 864 [Yale, 491]. “*Et ideo aer sic motus a figura et colore, movebit visum in quantum visibile immutat totum aerem usque ad visum*”.

⁸⁹³ FABRO, PP, 58. “*A questo modo si potrebbe dire che nel soggetto attuato la intenzionalità ha un’unica direzione, quella di riverbero dal soggetto verso l’oggetto; nel «medium» una intenzionalità doppia: verso l’oggetto da cui viene e verso il soggetto a cui va; nell’oggetto infine una sola direzione: quella diretta verso il soggetto a traverso il mezzo ambiente fino ai sensi che danno inizio all’assimilazione propriamente conoscitiva*”.

⁸⁹⁴ AQUINAS, *On the Power of God. Quaestiones disputatae de potentia Dei*, the English Dominican Fathers (translation), Burns, Oates and Washbourne, London 1933, as published at <http://pm.nlx.com/>, Ch. 5, art. 8, [137]. “*Haec autem est actio corporis, quae non est ad transmutationem materiae, sed ad quamdam diffusionem similitudinis formae in medio secundum similitudinem spiritualis intentionis quae recipitur de re in sensu vel intellectu*”.

⁸⁹⁵ Cf. DELBOSCO, H.J., «El problema de la “acción intencional” en el conocimiento sensible», in *Sapientia*, 45 (1990) 176, 117-118.

To act "sine motu" [without motion] is something proper to spiritual beings; to act "per motum" is something proper of bodies. However, bodies also have the capacity, on a limited and defective level, of a certain type of action without movement. We see this type of action in how they spread their formal perfection, and so determine intentionally the cognitive faculties of whatever is within their reach. Such action can be called "similar to spiritual beings", and so it would not be completely inappropriate to call such motion "spiritual action"⁸⁹⁶.

In the previous chapter we saw Thomas's view of the human person as participating in both the realm of spiritual beings and in the realm of physical bodies. Here he explains material bodies' "motion" in sensible forms as their participation in spiritual beings; their "motion-less" activity of transmitting information outwards partakes on an inferior level the motion-less changes of spiritual beings.

We are attempting to ground our sensible forms in things outside of ourselves; we should consider briefly the metaphysical make-up of material bodies. One of the fundamental beliefs and doctrines of modern philosophy, found both in rationalists like Leibniz and in empiricists like Locke, is the non-objective status of qualities. They firmly hold that secondary qualities such as color and sound are subjective attributes, without any clear foundation in things themselves. This means a fundamental rupture and split in things – between secondary qualities and primary ones – and leads to serious consequences in how we can know things. In this sense, Kant's denial of possibly knowing things is the logical consequence of severing qualities from things. If qualities do not depend on bodies, they can tell us nothing about those bodies. If they can tell us nothing about bodies or the primary qualities, then our knowledge is limited to merely subjective knowing. If we hope to understand our perception of things outside of ourselves, we must consider the relationship between qualities and bodies.

In explaining the sensed qualities of bodies, the difference between indicators and expressions is helpful. Fabro uses the example of boiling water to distinguish between an indication and an expression or manifestation: "When I see the pot bubbling on the stove, I have the 'sign' that the water is boiling. Here the 'sign' truly manifests the new physical state of the water: heated. The bubbling is the expression of that state, as it holds within itself the reason ('because'), not just the indication"⁸⁹⁷. The water's bubbling is the sensibly

⁸⁹⁶ Ibid., 120. "Obrar 'sine motu' es propio de los espíritus; obrar 'per motum' es lo propio de los cuerpos; sin embargo, éstos poseen también, aunque de una manera limitada y defectiva, la capacidad de un cierto obrar sin movimiento, a saber: la de difundir su perfección formal, determinando intencionalmente las facultades cognoscitivas de quienes se encuentran a su alcance. Como se trata de una operación hecha "al modo de los espíritus", no sería del todo inapropiado denominarla "acción espiritual". Author's translation.

⁸⁹⁷ FABRO, PP, 402. "Quando io vedo il gorgogliare della pentola sul fuoco, ho il «segno» che l'acqua bolle: qui il «segno» è veramente manifestativo del nuovo stato fisico acquisito dall'acqua, il calore: ne è espressione, contiene in sé il «poiché» («weil»), non soltanto l'indicazione".

visible expression of something we otherwise could not see: the heated state of the water. They are intimately related: Heat is the principal factor, and the bubbling is a derived state manifesting or expressing that heat. Fabro then uses this example to show how sensible phenomenon brings us into real relationship with objects around us:

The sensible appearances are not just indications of a hidden reality, such as words for thought or the arrows on a street sign. Appearances act more like "expressions" and signs (*Anzeigen*) of proper aspects, inasmuch as they move us to be persuaded about reality. This persuasion is aroused in our consciousness, as a conviction resulting from sensible things, just as the water's boiling is the manifesting effect of the water's heat⁸⁹⁸.

Sensed appearances arrive to us as signs and expressions of objects, and we naturally relate them and interpret them as such. In sensed perception we form a natural, spontaneous conviction that reality is as it sensibly appears; such a conviction is basic for our proper interaction with the world. All healthy adult human beings live by this conviction, while keeping a healthy sense of criticism in knowing. The Aristotelian-Thomistic account, presented and brought up to date by Fabro, does more justice to how we in fact see the world around us than Kant's theory. We do not so much project our mental images out and see how close they get to reality, like Popper's nets⁸⁹⁹; rather we receive information from outside of ourselves. That information may be superficial at first glance: colors and shapes. However those colors and shapes are discovered to be expressions of a reality that lays deeper and more enduring than mere qualities, motion and location.

The relationship between phenomenon and reality already came under suspicion in Leibniz. To save appearances on the one hand and intellectual knowledge on the other, monads do not really need to affect each other, but only perceive each other. However, a proper grasping of things is important for survival; how can we know things except through their sensed appearances? We agree that their actions and their substance are never directly present to the senses; things always appear as the focal points of given action and passivity.

A body is colored, reverberates and is heavy: what is such a body without light, without air that transmits sound, without the earth's attraction? The body is that which is capable of reflecting light in a vibration of a certain form and wavelength that corresponds to a given color; it is that which can make air vibrate with a different form and wavelength; it is that which undergoes certain relations to the earth, under certain circumstances⁹⁰⁰.

⁸⁹⁸ Ibid. "*Le apparenze sensibili non sono pure indicazioni della realtà nascosta, come le parole per il pensiero o le frecce di un indicatore stradale dell'itinerario, ma «espressioni» e segnalazioni (Anzeigen) sue proprie in quanto contengono la «motivazione» reale della persuasione di realtà che suscitano nella coscienza: sono gli effetti che le cose sensibili producono in noi, come il gorgogliare dell'acqua è l'effetto (manifestativo) del calore sull'acqua*".

⁸⁹⁹ Cf. POPPER, LSD, 37-38.

⁹⁰⁰ FABRO, PP, 478. "*Il corpo è colorato, risuona, è pesante: cos'è il corpo senza luce, senza l'aria che trasporti il suono, senza l'attrazione terrestre? E ciò che è capace di riflettere la luce con una vibrazione*

We certainly do consider bodies beyond their concrete color and weight; even so a substance is always known and presented physically by its qualities. Kant denies any arriving to the *Ding an sich betrachtet*, and remains only on the level of appearance. Fabro's rendering is much more concrete and real, as placing things in a real relationship with its surroundings and eventually in relationship with us.

It is not that bodies are indifferent to their qualities, but simply that the qualities of bodies produce in their surroundings something corresponding to the quality, as according to the nature of the medium [air-light]. And that medium in turn produces something similar to itself in the psychic-physical organ that conditions and determines our perception⁹⁰¹.

Thus a certain relationship exists between the object's qualities and its inner structure and essence. The object has the ability to "communicate" or transmit those qualities through the proper medium to our senses. Our senses do indeed receive objective information from the outside world. With this brief justification for objectivity in sensation (as far as the limits of this thesis allow), we now turn to the journey inside the cave, to see how the intentional species received in the senses develops along the path of perception, while remaining a faithful image of the object.

2.2. Sensed species as a likeness

Where do our intentional species or representations draw their objectivity from? How do we form a subjective grasp of outer reality? A medieval debate may help us to understand the relation between objects and our minds in knowing. Aquinas dedicated much effort in arguing against philosophers like Siger de Brabant, who followed Averroes's theory of the one, separate intellect. Averroes and his 13th-century followers hold that instead of each person understanding things intellectually as individuals – that is, with their own intelligence – each one of us perceives things on our own, but only in preparation towards the one, single, separate intellect that actually knows. Averroes thus attempts to save the universality of thought, by attributing it to one single intellect and not to many individual intellects. In his work entitled specifically *On the unity of the intellect against Averroists*, Aquinas shows how we come to have a likeness or representation of

di una certa forma e lunghezza corrispondente a dati colori, ciò che può far vibrare l'aria con un'altra forma e lunghezza di vibrazione, ciò che soggiace alla attrazione terrestre in determinati rapporti".

⁹⁰¹ Ibid. "Il fatto che non vi sono colori e suoni senza vibrazioni di un mezzo, né peso senza l'attrazione terrestre, non significa per nulla che il corpo sia indifferente a queste proprietà, ma soltanto che le qualità del corpo producono nel mezzo una corrispondenza di sé secondo la natura propria del mezzo, come il mezzo a sua volta produce una corrispondenza di sé sopra il complesso psicofisico che condiziona la percezione".

things outside of us. Things are the object of our intellect, in that they determine our intelligence: “The object does not take its species from either the act or the power, but rather the other way around”⁹⁰². The receptivity of our external sense implies that we are not the ones who determine objects outside of us, but rather they determine our senses. Aquinas’s quote runs completely contrary to Kant’s thorough-going determination in the forms of the apperception: Things determine us and our intentional species.

The likeness we have in cognition is related directly to things outside of us. Aquinas compares this kind of likeness to the substantial form of material objects. In Aristotelian metaphysics, the substantial form is the principle of being and acting of any singular; similarly, the intentional form is the communication from the individual, as the principle of our knowledge of that individual⁹⁰³. Our entire process of knowledge depends on likenesses received from things; to follow our image of the cave, intentional likenesses are the dirt needed for the intellect to work properly. Aquinas is keen on distinguishing two levels of human knowing: sensed perception and intellectual knowledge. At the start of the entire process is the likeness received in the senses; the intellect requires a higher type of form in order to understand. “As the sense is directly informed by the likeness of its proper object, so is the intellect [informed] by the likeness of the essence [quiddity] of the thing”⁹⁰⁴. We will track the integrity of this likeness received in the senses, as it is assimilated by the inner senses and presented in the phantasms to the agent intellect. It is clear that the senses receive the likeness of the object faithfully, as the dirt from outside the cave that allows for cognition.

In order to understand the intentional species, we must consider the assimilation in knowing as a process of dissimilar things becoming similar. Objects themselves do not change in any respect, while we ourselves change as we come to have the likeness of things inside us. The intentional species is the interface between the object and the subject. “Insofar as the species holds within itself on an intentional level the same contents that constitute the object on a physical level, the species is similar to the object. Insofar as the traits of the object become engraved and situated in the life of the subject, the

⁹⁰² AQUINAS, *On the Unity of the Intellect against Averroists*, Zedler, B. (translation), Marquette University Press, Milwaukee 1968, Ch. 5, n. 108 [68] as published at <http://pm.nlx.com/>. “*Obiectum autem non recipit speciem ab actu neque a potentia, sed magis e converso*”.

⁹⁰³ Cf. *Ibid.*, STh, I, 14, 4: “*Sicut enim esse consequitur formam, ita intelligere sequitur speciem intelligibilem*”. Also, STh, I, 17, 3: “*Sicut res habet esse per propriam formam, ita virtus cognoscitiva habet cognoscere per similitudinem rei cognitae*”. As cited by SCHMIDT, DLTA, 100-101.

⁹⁰⁴ *Ibid.*, STh, I, 17, 3. “*Sicut autem sensus informatur directe similitudine propriorum sensibilium, ita intellectus informatur similitudine quidditatis rei*”.

species is like the subject"⁹⁰⁵. Thus, the species contains the dirt-contents of material reality outside of us, while it is also a subjective container that the mind can recognize and assimilate.

3. From sensation to perception

Human perception is a unique phenomenon: We rely on material things to activate our sensible faculties, and yet we come to know those things on an immaterial level. How do material things affect what is immaterial? What type of process allows for our sense perception to arrive at such abstract formulas as universal laws in physics, while still keeping a real relationship with the material cosmos? Kant's problem of a priori synthetic judgments is basically that: how intellectual judgments can have a real relationship with the material world. And so, after a brief look at the sensible qualities of material things outside of us as the detonating or activating principle in sensed perception, we turn to the subjective elements involved. To follow our example of the cave, we must consider the path that goes from the cave entrance to the well itself. Does the intentional species hold the dirt of sensed data in such a way as to guarantee it be delivered safely and intact to the well?

3.1. Sensation

Regarding human perception, Aristotle's middle way occurs between immaterial, intellectual understanding and material causality. Sensed perception is a change in us, but it is not a material change like Hume's billiard balls striking one another. That material form of interaction implies a physical loss of one state, as gaining a different one. The change that happens in the sense organ upon receiving an external impulse does not imply a *physical* change, but an *intentional* alteration. The impulse becomes a "form" on a different level than the physical, material level of bodies. The sensible faculty is activated and receives the sensible form on two distinct levels: on a physiological level, as far as the bodily organ is concerned; but as a sensible faculty, it also receives the form of the sensed object on a higher, interior level. Such a transition occurs thanks to the soul's union with the body, considered in the previous chapter.

⁹⁰⁵ FABRO, PP, 368. "*In quanto porta in sé intenzionalmente gli stessi contenuti che costituiscono fisicamente l'oggetto, la specie è simile all'oggetto; in quanto i caratteri dell'oggetto vengono come trascritti vitalmente ed inseriti nella vita del soggetto, la specie è simile (in natura) al soggetto*".

[Sensation arrives at] a form-object, which is the act of a potency (the sense faculty), without being the form of a matter. This means sensation produces a form which, in comparison to the forms of natural change, is something of a “pure form”. This form contributes nothing but perfection to the subject, and it frees material individuality from its conditions and imperfections⁹⁰⁶.

The sensed form or image is the first step in the process of knowing. The sense organ does not assimilate its object on a purely physical, material level; rather, while it is affected passively by the impulse, it also grasps those impulses on an inner level. The reason for the transition in the organ is found in the sense faculty, which has the capacity to judge or discern between certain limits. The Aristotelian principle of μεσότης here comes out in its importance: It allows for the communication between the material world and the soul, in that it allows for the form to be present without matter⁹⁰⁷. The special sort of change in intentional knowing involves receiving form without matter; this “acquisition” implies a change in us.

The sensed image, or the matter-less form of the sensed object, has a specific name or term because of the special type of change from which it arises. We find ourselves in possession of objects on a completely inner level, as their forms or images become present, without the objects being physically inside of us. The intentional or “cognitive species”, as Fabro calls it, is the human soul’s being determined by an object; the object in sensation gives rise to the inner image called species. An important distinction between Kant’s transcendental apperception and Aristotelian perception is the species: Is sensation merely an “occasion” for thought, in that a sensed impulse sparks the process of cognition, but without providing any content or information? Aristotle understands sensation as a real reception: Our sense organs are altered and determined by their proper objects. At the same time, their standing open to extremes (μεσότης) means their structure is able to draw exterior information in. Sensation and species are very much related, since our intentional, cognitive species are determined by sensation. However, outer material-physical reality and the inner psychic-spiritual soul are distinct, and so we are able to consider intentional species, even while the nerve impulses of our sense organs continue to function on a physiological level. Our attention has gone from actual sensation to more interior forms of knowing. The intentional species can only draw information (dirt) from the senses, as the determining factor of the intentional species’

⁹⁰⁶ Ibid., 65. “*Il processo termina ad una forma-oggetto, ad una forma che è atto di una potenza (la facoltà), senza essere forma di una materia, cioè ad una forma che, per rispetto alla forma del divenire naturale, è qualcosa come un atto «puro»: essa al soggetto non porta che perfezione, libera dalla condizionalità e quindi dalle imperfezioni proprie della soggettività materiale*”.

⁹⁰⁷ Cf. Ibid, IRPS, 133-134.

traits. However, the species is a human function with subjective elements that cannot be explained entirely by biological processes alone⁹⁰⁸.

Sensed perception is an intriguing, mysterious phenomenon that somehow goes from the material, physical world to the psychological, subjective and immaterial world. Here we see play out before us what we concluded in chapter 8: As incarnate rational beings, humans participate in both the material world of bodies and the world of the immaterial. Fabro speaks of sensation in terms of participation, as the highest of the physical realm rubbing up against the lowest of the immaterial realm. "Sensing is definitely an action higher than any physical action, and we may say it 'touches' and approaches in some way what is immaterial. However sensing does not yet reach the purely spiritual. [...] It remains at the threshold of the spirit, without being able to cross over"⁹⁰⁹. Sensing is the border between physical impulses and spiritual knowledge; Fabro can only go so far as describe it, without being able to understand perfectly the transition. There are limits to our understanding, and the human person is full of areas that we vaguely fathom.

The transition from the physical to the intentional in perception is a sort of ennobling. While Aquinas grants that what truly exists are objects outside of us, such as sugar outside of us, which we see as white and taste as sweet. Still he sees sensation as an "ennobling" of what is material. "Of the two [the sensible object and the sense faculty], the sense is strictly speaking the nobler thing, and this is in virtue of sensitivity itself. In receiving the object immaterially the sense ennobles that object, for things received take, as such, the mode of being of the receiver"⁹¹⁰. The spiritual soul present in the subject receives the object's form or image as the soul itself is: immaterially. This receiving results in the intentional species being determined by the sensed object, as per its contents and structure, while being an immaterial form⁹¹¹.

3.2. Perception

⁹⁰⁸ Cf. *Ibid.*, 134-135.

⁹⁰⁹ *Ibid.*, PP, 53. "*Il sentire è certamente un attuarsi più nobile di qualsiasi attuazione fisica, e si può dire che «tocca» e adombra in qualche modo l'immaterialità, ma non raggiunge ancora la spiritualità positiva. Il concetto proprio del sentire che Aristotele si è fatto come attività che è alla soglia della vita spirituale, senza riuscire a varcarla*".

⁹¹⁰ AQUINAS, *Comm DA*, Bk. 3, L. 3, n. 612 [Yale, 373]. "*Sensus proprius simpliciter est nobilior propter virtutem sensitivam, unde et nobiliori modo recipit sine materia: omne enim recipiens aliquid, recipit illud secundum suum modum*".

⁹¹¹ The English word "image" is somewhat nuanced in current use. For all its scholastic use, I prefer to use "species" here, as playing a specific role in intentional knowledge.

After considering the intentional species and the sensed object per se, we turn to the inner senses. Just as we saw in Aquinas's quote regarding the ennobling of the sensed object in sensation, inner senses involve a gradual ennobling and development of the intentional species. The common sense is the first inner faculty, which gathers the scattered, multiple and somewhat disconnected data received in the external senses. This gathering of the common sense implies a certain superiority over the external senses, while still remaining essentially passive in receiving data. When we consider the other inner senses such as the imagination, we discover a more active role in perception. The inner faculties of perception play an important role of mediation between the two extremes of sensing and intelligence. Fabro sees many theories of knowing as "monist", in that they reduce one factor in perceptual knowing to the other: either senses depending on intelligence (as in Kant), or the intelligence functioning on the basis of the senses (as in Locke and Hume). "Only the dualist view can grant perception its own role and value in knowing, since it allows for autonomy of content on both a sensible level and an intelligible one. At the same time our dualist view shows the possibility and even the necessity of a mutual integration of the two levels of content in order to achieve adequate knowledge"⁹¹².

While the senses provide valuable information regarding things beyond ourselves, we are aware of several factors in knowledge that are subjective. What determines which objects I pay attention and interest to? We do not grasp objects immediately upon our first experience; we require a certain amount of familiarity and cognitive dexterity before we can say we have a good grasp of things. This requirement of experience does not come from the object, which remains the same from the start. Rather, there are subjective elements involved in perception that require developing⁹¹³.

The importance of perception is highlighted by Piaget's studies in children's perception. To use our example of the cave, the child must explore and practically create the tunnels of the inner senses inwards, so as to reach the well of the intelligence. The Geneva psychologist's studies reveal two important elements in a child's assimilation of her environment: repetition and recognition. Through repeated actions and interaction with an object, she comes to recognize it better. Fabro follows suit in speaking of an "accumulative repetition' that stores up the practical results obtained, as the child

⁹¹² FABRO, FP, 41. "Solo il Dualismo quindi può attribuire al percepire un proprio valore noetico in quanto ammette l' autonomia di contenuto di ambedue gli ordini, sensibile ed intelligibile, e la possibilità, anzi la necessità, di una integrazione mutua ai fini della conoscenza adeguata".

⁹¹³ Cf. FABRO, PP, 389. "La frequenza degli atti permette di correggere le inadeguatezze iniziali: è la familiarità che ci rende gli oggetti più facilmente accessibili e più o meno immediati secondo la parte che il soggetto ha presa e può prendere nella storia, modesta quanto si voglia ma per lui estremamente importante, della propria vita".

continues to generalize her action by extending it to new objects. This leads her to recognize objects on a motorial-practical level⁹¹⁴. This recognition based on past interaction and repetition is what gives rise to the child's perceptual schemas. As she continues to interact with her surroundings, her vital needs and her reason push the schemas to new levels of complexity. Piaget uses the term *l'intentionnalité* as the use of means for a concrete end⁹¹⁵. The schemas in this sense take on a flexibility that allows the child to adapt to ever-more complex environments. "Intentionality [...] in contrast to the [previous] spontaneous processes, becomes a manner of adapting on a higher level, since our consciousness must differentiate and subordinate values as means towards an end. This step is vital in achieving objectives"⁹¹⁶. As a process of reaching a clearer grasp of objects, perception is how the intelligence is able to draw information into its own proper orbit of understanding. The child's natural curiosity and interest in the outside world drives her to an ever-greater grasp through the perceptual schemas, which allow for a proper recognition of objects according to their meaning as means and ends.

In this inner process of perception, have we possibly lost sight of the object, or somehow exchanged the dirt of sensed qualities for merely subjective content? A child's focus and interest in her surroundings, as she develops a proper grasp of several objects, indicates the need for objectivity in perception. For example, her disappointment at taking an object for food only to discover its disagreeable taste implies that her senses attain objective reality, and not mere subjective expectation. The imagination allows us to relate the currently present sensed phenomena with the immediate past. The memory and the cogitative allow us to recognize the meaning of the concrete object present, thanks to past experience. Such internal perception goes far beyond what the outer senses perceive; yet those further functions in perception all refer back to the senses and only make explicit what the senses incidentally receive. It is our perceptual knowledge of concrete objects that provides the fundamental basis for universal thought. In our perception, sensed reality and our perceptual schemas come together for adequate knowledge of things:

The relation of perceptual acts do matter; both the subject of cognition and the reality cognized condition the way a thing is perceived. Both specify the cognitive operation and object perceived

⁹¹⁴ Ibid, 211. "*La ripetizione è anch'essa assimilazione, in quanto non è pura rinnovazione di uno stesso atto, ma è una «ripetizione cumulativa» che tesoreggia dei risultati pratici già ottenuti e si continua nella generalizzazione dell'attività con l'estensione a nuovi oggetti e rende infine possibile la ricognizione motrice, cioè pratica, degli oggetti stessi*".

⁹¹⁵ Cf. PIAGET, J., *La naissance de l'Intelligence chez l'enfant*, Neuchâtel-Paris, 1936, 153", as cited by FABRO, PP, 212. "*L'intentionnalité se définit ainsi par la conscience du désir, ou de la direction de l'acte, cette conscience étant elle-même fonction du nombre d'actions intermédiaires nécessitées par l'acte principal*".

⁹¹⁶ FABRO, PP, 212. "*L'intenzionalità così intesa, va quindi considerata, rispetto ai processi spontanei, una forma di adattamento di grado superiore per la coscienza esplicita che implica la differenza e subordinazione dei valori (fini e mezzi): è questo il passo decisivo per la conquista degli oggetti*".

by the cogitative power. Dogs, cats, and children might perceive a man in Jacques-Louis David's the "Death of Socrates," but only a mature human with the prerequisite acquired knowledge can perceive a thing as a painting by Jacques-Louis David. We do not perceive things in the world without bringing the treasury of our past experiences to bear upon the realities displayed for us here and now⁹¹⁷.

As we saw in chapter 7, the first universals arise from perceptual experience through induction. Thus, the intentional species received in the senses has arrived safely through the tunnels of inner perception, to the point of intellectual knowledge. The development of perception is focused on the intentional species received in the senses. Any elements discovered in the process of perception are not added to the species, but rather make explicit or draw out aspects of the sensed species. What the senses receive implicitly and incidentally becomes explicit in perception, thanks above all to the work of the cogitative. The commonly sensibles, such as size and motion, are perceived in and with the properly sensibles; the meaning of the concrete object is incidentally sensed, and explicitly perceived by the cogitative. This added value-*intentio* does not change the species, but subjectively colors it, focuses it and draws out its proper meaning as *this* concrete object.

4. Intellectual knowledge of material objects in and through their intentional species

At this point we reach the destination of our long, rather tedious journey. Our senses receive only a likeness of objects and not things themselves; how faithfully do our sensed species mirror or represent those things? If our perception adds subjective aspects and draws out objective ones as it distills the species to what is more essential, what is objective and real in that knowledge? Aristotle and Aquinas propose that the perceptual faculty of the cogitative arrives at the phantasm, as the intentional species perceived fully and interiorly. As much objectivity the phantasm may still retain, is it not lost once the intellect abstracts from the phantasm the essential elements on a universal level? The intellect's relation to the phantasm becomes the focal point of this section.

4.1. The intentional species and the agent intellect

⁹¹⁷ DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 415.

Aquinas gives a fundamental principle for our type of intellect, as the lowest type of intellect existing together with a material body: “Whatever is in our intellect must have previously been in the senses”⁹¹⁸. Our intellect’s substantial union with the body means that our intellect is blank at the beginning of our life, and it must receive perceptual knowledge from the senses. The inner senses, especially the cogitative, allow for a proper mediation between the material-based sensing, limited to the here and now, and the immaterial intellect. Whereas material bodies are the direct objects of the senses, the phantasms of the cogitative are the direct object of the agent intellect’s consideration. Aristotle states clearly: “In the thinking soul, images play the part of percepts [...] which is the reason for the soul’s never thinking without an image”⁹¹⁹. Percepts here stands for phantasms or the intentional species. Thus we begin to see how the dirt brought in from outside the cave does indeed reach the well of the intellect. In fact, the well of our intelligence relies on the inner phantasms for its proper operation, and those phantasms are determined in the senses by the object’s sensible form. We rely in the end on sensed perception for intellectual knowing.

Kant hails his transcendental philosophy as a Copernican revolution regarding our knowledge of the world, by putting the understanding of the *Ich denke* at the heart of that knowledge. However he then finds himself trapped inside the mind, without a proper bridge outwards that is capable of reaching reality. Aquinas’s position on intentionality overcomes Kant’s problem by changing directions: Instead of starting from the intelligence outwards, we start from the senses and work our way inwards. The presence of external objects “awakens” and activates our sense faculties, thanks to the bodily organs involved. Through the participation of our faculties, we realize that it is in fact the intellect that moves the senses from the start; however, the intellect’s content can only come from the senses. Fabro follows Aquinas’s teaching of impressed and expressed species, as a helpful distinction to track the emerging development of the species in perception.

Generally speaking we can say that the *expressed* species are the so-called phantasms of the inner senses, or what modern psychology calls the “representations”. The *impressed* species are the objective-subjective changes that each particular sense goes through, inasmuch as the particular sense is stimulated by this exteriorly sensed object. It is that stimulation which activates the sense faculty as its primary act and its sensible object per se⁹²⁰.

⁹¹⁸ AQUINAS, DV, 2, 3 ad 19 [Regnery, 76]. “*Oportet ut quod est in intellectu nostro, prius in sensu fuerit*”.

⁹¹⁹ ARISTOTLE, DA, Bk. 3, Ch. 8, 431a [Penguin, 208].

⁹²⁰ FABRO, PP, 371. “*Grosso modo si può dire che le specie espresse sono i cosiddetti fantasmi dei sensi interni, le «rappresentazioni» della psicologia moderna; le specie impresse sono le modificazioni oggettivo-soggettive che ciascun senso particolare subisce, in quanto è tale senso, dagli stimoli esteriori: ciò per cui si attua in atto primo rispetto al sensibile «per se»*”.

Thus the sensed impressions (*species sensibile impressa*) give rise to the inner expressions in the phantasms (*species sensibile expressa*). Contact with the outside world is maintained, while it is expressed on a more human level, that is, less material, more flexible and clearly represented in the phantasmata. Through perception and the perceptual schemas we know the present object to a degree that the senses cannot grasp. This higher level of grasping then allows the intellect to come into play, as it has elements that it can grasp. The unity of the process from the senses through perception to intellectual knowledge is kept clear by Aristotle, thanks to the sensible *per accidens*. Our senses tell us the proper and common sensibles per se: something white, in a certain shape. The senses also perceive other aspects that are incidentally “there” in the senses; for example, I recognize this colored shape as my friend John. It is the sensible *per accidens* that provide the basis for our intellectual knowledge, while remaining clearly distinct from that knowledge.

The *sensibile per accidens* properly indicates an intelligible aspect precisely inasmuch as it can be seen concentered in reality, as *this* substance (the son of Diates), *this* causality ..., not substance and causality as such. We understand then how the mind which makes contact with concrete reality only by means of the senses apprehends the *sensibile per accidens* by means of the senses in some way⁹²¹.

The unity of knowledge in perception brings objective, sensed reality to the intellect on an intentional level. What happens between the phantasm and the intellect? There is a clear qualitative jump in knowledge: Whereas the sensible species is impressed and expressed in clear continuity, the jump from the sensible phantasm to intellectual knowledge must be understood as a different sort of transition. We recall Aquinas’s warning against imagining this transition as a body being moved from one place to another⁹²².

4.2. Our intellectual understanding of the phantasmata

We have seen the correspondence of our intentional species with the sensed object, as communicated by material things. Fabro calls this stage of perception the “presentation” of objects intentionally. He distinguishes this first presentation from a second moment of our knowledge: our “contemplation of the object in which the subject explicitly ‘expresses’ to himself the object’s content, while the subject is aware of himself

⁹²¹ FABRO, KP, 352.

⁹²² Cf. AQUINAS, STh, I, 85, 1 ad 3. “*Per hunc modum dicitur abstrahi species intelligibilis a phantasmatis, non quod aliqua eadem numero forma, quae prius fuit in phantasmatis, postmodum fiat in intellectu possibili, ad modum quo corpus accipitur ab uno loco et transfertur ad alterum*”.

as he does so”⁹²³. Our understanding of things goes beyond the concrete, but it does not “betray” or falsify the concrete. We discover here the dual reality of our knowing. The empiricists suspect intellectual abstraction as a separation from reality, while the rationalist cannot be bothered with mere sensations. Aristotle and Aquinas’s middle path comes out here in its completeness: We must carefully and patiently distinguish what is intellectual and what is sensed in our knowing, in order to guarantee that the dirt still remains present, even as it becomes diamond in universal thought.

We recall the induction of the first universals as our recognition through the perceptual schemas, based on experience. Our familiarity with certain things leads our intellect to understanding their essence, not on an individual level – as in this herb healing – but rather on a general level – this species of herb curing a certain sickness. We know universals as necessary constants in structure and in behavior, beyond the individual traits that a given singular may have. This is the essential knowledge of material things, according to their nature.

How can our intellect in fact know things, if it only focuses on the phantasms within the inner sense of the cogitative? We have seen how the intentional species is a faithful likeness of the object. That likeness is not the direct object of intellect, as if the intellect were satisfied with knowing the fictions of its own imagining. The intentional species or likeness acts as a medium for our intellect, and Aquinas uses the strikingly clear example of a mirror: “[Just as] our sense receives the likeness of a thing in a mirror, it is directed to [the mirror-image], not as to a thing but rather as a likeness of a thing. [So too] from the species which it receives, our intellect is not applied directly to knowing the phantasm but rather the thing whose phantasm is presented”⁹²⁴. The phantasm’s likeness to the object acts as the mirror by which the intellect can “see” reality. It is reality that constitutes the intellect’s object *quod*, as it understands the quiddity of material things. The means or medium for doing so is the phantasm or intentional species *in quo*, in which the agent intellect sees and abstracts the intelligible species. And since our intellect has the ability to go back over its own process of knowing, it can distinguish the thing known (the object as the quiddity of material things) and the phantasm-likeness (in which it understands that quiddity). Such reflection on the status of our sensible and intellectual species comes at

⁹²³ FABRO, PP, 369. “*Il momento di «contemplazione» dell'oggetto, in cui il soggetto «esprime» esplicitamente a se stesso il contenuto dell'oggetto e si attua in esso*”.

⁹²⁴ AQUINAS, DV, 2, 6 [Regnery, 93]. “*Similitudo autem quae est in intellectu, non abstrahitur a phantasmate sicut ab obiecto cognoscibili, sed sicut a medio cognitionis, per modum quo sensus noster accipit similitudinem rei quae est in speculo, dum fertur in eam non ut in rem quamdam, sed ut in similitudinem rei. Unde intellectus noster non directe ex specie quam suscipit, fertur ad cognoscendum phantasma, sed ad cognoscendum rem cuius est phantasma*”.

a later moment, after actual knowledge. “That which is primarily understood is the object, of which the species is the likeness”⁹²⁵. Thus we do achieve real, objective intellectual knowledge of material things.

Aquinas provides another basic principle that guides our process of knowing: “Reception always takes place according to the mode of the receiver (*‘Quod enim recipitur in aliquo recipitur in eo secundum modum recipientis’* [STh. I, 79, 6 et alia])”⁹²⁶. The intellect’s way of “receiving” the intentional species is only inasmuch as it is intelligible. As we saw in chapter 7, the agent intellect must act on the phantasm in order to draw out the aspects that are intelligible; those elements constitute the quiddity of the thing. Thus the intentional species does in fact provide information for the intellect, and so remains the direct object of our knowing. “Inasmuch [...] as the intellect, through the likeness of the thing which informs it, is determined by the intelligible character of the thing, and so is formally or ‘intentionally’ identified with the thing known, the knower knows the thing in itself”⁹²⁷. Aquinas sees the intentional species or phantasm as determining our intellect in a way that is similar to the sensed object determining our sense faculty. That is how we obtain intellectual knowledge of the material world. “To know things by their likeness within the one who knows, is to know them in themselves or in their own nature”⁹²⁸. The likeness has been shown to represent faithfully sensed objects, as received from objects outside of us. Thanks to the species’ faithful representation of bodies, the intellect is capable of knowing whatever is intelligible in the species, and so the intellect comes to know the quiddity or essence of the things whose images are presented.

Aquinas provides an important argument that opposes Kant’s way of reaching synthetic judgments a priori. Aquinas considers all the different areas of “scientia” (a broader concept than our term “science”) as having reality, particularly material things, for their basis.

[W]hat the intellect understands is the essence existing in things; it is not its own intelligible idea [*species intelligibilis*], except in so far as the intellect reflects upon itself. Because, obviously, it is what the mind understands that makes up the subject-matter of the sciences; and all these, apart from rational science [logic], have realities for their subject-matter, not ideas [species]. Clearly then, the intellect’s object is not the intelligible idea, but the essence of intelligible realities⁹²⁹.

⁹²⁵ Ibid., STh, I, 85, 2. “*Sed id quod intelligitur primo, est res cuius species intelligibilis est similitudo*”.

⁹²⁶ SCHMIDT, DLTA, 178-179.

⁹²⁷ Ibid., 102.

⁹²⁸ AQUINAS, STh, I, 12, 9. “*Cognoscere res per earum similitudines in cognoscente existentes est cognoscere ea in seipsis, seu in propriis naturis*”.

⁹²⁹ AQUINAS, Comm DA, Bk. 3, L. 8, n. 718 [Yale, 419]. “*Quod intellectus intelligit est quidditas, quae est in rebus; non autem species intelligibilis, nisi in quantum intellectus in seipsum reflectitur. Manifestum est enim quod scientiae sunt de his quae intellectus intelligit. Sunt autem scientiae de rebus, non autem de*

Aquinas does see our knowledge as referring only to our own mental species, as does Kant. Heidegger's critique of Kant's theory as "thought on thought" does not apply to Aquinas⁹³⁰; Thomas can provide a clear ground for that which we call representation in us and its relation to things outside of us. As well, Aquinas shows our intellect as knowing things thanks to the intentional species present within us. The vast amount of scientific discoveries and technological advances point to our intellect's knowing the essence of material things, through their intentional presence to our minds. We do in fact reach the heart or essence of matter in intellectual knowing. Even so, science's continual growth indicates our incomplete knowledge of the material world; in no way do I wish to assert our capacity to know things absolutely. Our senses and perception know things intentionally, each on their proper level and capacity. And it is our perceptual knowledge that provides a solid ground for our intellectual knowledge of such reality.

4.3. *Intellectual abstraction and contact with reality*

Once we have shown how the intellect reaches knowledge of material things on the level of their quiddity, a few things must be said regarding our intellectual knowledge in general. We here step back and try to understand the overall unity of the process, as a real relationship between our minds and reality.

A first note should be made regarding Thomas's stance on the intellect's knowledge of singulars. "Since the likeness of a thing existing in our intellect is received as separate from matter and all the conditions of matter, which are the principles of individuation, it follows that our intellect, of itself, *does not know singulars* but only universals"⁹³¹. For an Anglo-Saxon, to admit that our intelligent minds cannot know singulars as such sounds like rationalist scoffing at the insignificance of particulars and sensed reality. If Aquinas denies such direct knowledge material singulars on the part of the intellect, what type of objectivity can be kept? Just as it seems we have joined the two extremes – the dirt of sensed objects and the well of intellectual understanding –, this

speciebus, vel intentionibus intelligibilibus, nisi sola scientia rationalis. Unde manifestum est, quod species intelligibilis non est obiectum intellectus, sed quidditas rei intellectae".

⁹³⁰ Cf. Fabro, TEE, 398, and his reference to M. Heidegger's *Kants These über das Sein*.

⁹³¹ AQUINAS, DV, 2, 6 [Regnery, 92]. Emphasis added. "*Cum similitudo rei quae est in intellectu nostro accipiat ut separata a materia et ab omnibus materialibus conditionibus, quae sunt individuationis principia ; relinquatur quod intellectus noster, per se loquendo, singularia non cognoscat, sed universalia tantum*".

teaching of Aquinas (not all a secondary footnote to his system, but a key distinction) threatens to shut the intellect off completely from contact with the material world.

The difficulty arises from the very nature of the intellect, as the receiving end of the intentional species. The intellect is immaterial *per se* and so can only know what is immaterial. Only the cogitative can provide the bridging point between singulars and the intellect. We have seen that objects “communicate” or transmit certain qualities, which the senses receive and allow the senses to know the sensible form of the object. It is the substantial form which makes a thing be what it is, and that form is known as far as it may through the sensed qualities. It is matter and its individual particulars that limit our full grasp of the object. Where the senses fail to go beyond the individual, the intellect is capable of seeing the purely formal aspects in the intentional species, and so reach knowledge of the form-quiddity of the object without matter.

The intellect’s way of knowing is according to the essential form only: We can only think concepts on a universal level. Locke sees our nominal essences as functioning like categories for labeling and easier identification, without us actually knowing things as they are. This superficial treatment of things is far from how in fact we interact with things. We identify things because of the fruitful interaction of our senses and our intellect. Our senses have direct contact with things, thanks to the sense organs; our senses, inner and outer, “develop our knowledge to the point of reaching a certain global comprehension of the individual [object] according to the real, contingent conditions in which we find it at a given moment”⁹³². Our senses do in fact reach a certain grasp of singulars, especially thanks to the cogitative. That is hardly the end of human knowing, however; how are we to account for the enormous amount of scientific discoveries? Our minds do not simply remain on the level of singulars, or even on a level of matching singulars to nominal essences in groups. We can think only in terms of universals, not as external to physical, material singulars, but as abstracted from *within* them, as a sort of distilling process that allows us to reach their core traits. Our mind goes to the heart of matter by setting aside matter, which is “impenetrable” for our mind. Our senses present to the intellect the individual object, as material in its extra-mental existence, and virtually present to the mind by the intentional species. What the intellect reads in the phantasmata is the essence, quiddity or nature of the object: that which makes the thing be this determined object and not something different. This is how our scientific laws can work on a universal level,

⁹³² FABRO, PPS, 434. “*Il senso invece, poichè è una facoltà legata ad organi materiali, ha un contatto diretto con le qualità concrete degli oggetti d'esperienza ed è comprensibile che la sua conoscenza possa ulteriormente svilupparsi fino a raggiungere una certa comprensione globale dell'individuo secondo le condizioni reali di contingenza nelle quali esso si trova in un dato istante*”.

based on material beings and assuring a universal behavior across the board. Such laws are not educated guesses, or theories that manage to catch a part of reality, like Popper proposes. Laws are born from the experience of sensed perception, together with the ability of our intellect to discover or see what makes things behave as they do: their nature or their essence.

When we assert that our intellect knows on an abstract, universal level, we are not implying a distancing from material reality, but on the contrary a reaching the heart of reality. We considered previously the relationship of a thing's appearance (sensible qualities) and its actual being and essence. The two levels are certainly distinct, but not as separate as Kant supposes. The sensed appearances of things are things' signs or expressions, which they communicate or emit exteriorly. Our sense organs are structured so as to pick up those sensed qualities, structured and determined in a very concrete way. This structured determination of sense qualities relies on things being so; *things are as they appear to be*. Anderson argues extensively in favor of Hume's fundamental agreement with this statement. For all his skeptical doubt regarding how we go from particulars to universals, Hume does regard our impressions as being caused by things outside of us, as their appearance⁹³³. Fabro uses the Heideggerian terms of "presenting" and "presented" to understand appearance and reality: The appearances are what actually present us material things (the presented). Such sensorial presentation in appearances is hardly the end-result of our knowing; our intelligence is made to get to the heart of matter, in that it discovers the substantial essence that makes it be thus determined and qualified. Appearance is the fundamental link between our minds and things.

We come to understand two distinct layers or levels, both on the side of the object as well as on the side of the subject. Appearance and substance are two distinct levels we see clearly in the object: What we sense directly is the quality-quantity appearance, while we understand there is something underlying that appearance as enduring in time and determining its behavior. On the side of the subject we see two levels of knowing: sensed perception and intellectual knowledge. The two outer levels of appearance and senses are what interact intentionally in sensed perception. Through continued experience the intellect in sensed perception gradually sees beyond the appearance and obtains the essential nature. This level of nature is what really *is*, as what endures and

⁹³³ Cf. ANDERSON, R.F., «Hume's Account of Knowledge of External Objects», in *Journal of the History of Philosophy*, 13 (1975) 4, 473-476.

determines appearances and behavior. Our intellect understands this level of reality as existing within the object we experience.

Reality [...] is not considered outside of the object of experience, but "within" it. Here we do not take "within" in a spatial sense, but in a gnoseological [epistemological] sense. Objects of experience can be turned around, dismembered, peeled, and we will still only have sensorial contents. The essence [...] is found exactly where the intellect grasps some aspect of reality. [...] The phenomenal determinations of the object are the only pathway that leads us to reality on an ontological level, and at the same time those determinations receive their ultimate guarantee of content from that essential reality⁹³⁴.

Appearances are not the limits of our knowledge, like Kant is forced to accept. They are rather the ontological grounding for our intentional knowledge. Appearances are what determine our sense perceptions, which in turn determine our intellect knowing. Our intellect sees in such sensorial appearances the metaphysical reality that underlies and sustains those appearances. This is how we see *into* reality; our knowledge does not pass over reality, nor do we remain with our own thoughts alone.

If the intellect knows material things only indirectly, how can it be sure it remains in touch with reality? This brings us to the subject of truth, as a certain correspondence between our intellect and exterior reality. Enough has been said to show that the word "correspondence" does not imply camera-like reception and retaining of sensorial images within us. Human knowledge involves much more than such passive receiving. However we return to the example of the cave. What guarantee do we have that we are dealing with dirt from outside the cave (reality) and not merely picking up rocks along the way (figments of our imagination)?

In *De veritate*, q. 1, art. 9, Aquinas deals with the amount of truth reached in the senses and in our intellect. We have seen how the senses receive passively and objectively the proper object, and so they cannot err under the necessary conditions. Thomas sees this as a level of truth that is basically true, since it implies an authentic correspondence between the sensed object and the sensed image in the faculty. However truth on a full, complete level implies not just correspondence between the object and image or species of the object, but also our *realizing* such correspondence. One thing is active sensation; another thing is our sense's awareness of its action as it senses; and a

⁹³⁴ FABRO, PP, 404. "*La realtà, che è l'oggetto intelligibile e di cui si occupa la metafisica, non è «fuori» di quella che è l'oggetto dell'esperienza, ma è «dentro» di essa. Qui il «dentro» non ha significato spaziale, ma gnoseologico. Gli oggetti di esperienza si possono voltare, rivoltare, smembrare, sbucciare e daranno sempre contenuti sensoriali; l'essenza di cui si occupa la metafisica si trova subito là ove l'intelletto apprende qualche aspetto di realtà. [...] Le determinazioni oggettive fenomenali sono doppiamente solidali con quelle ontologiche: perché sono l'unica via che, per noi, ad esse conduce; e perché ricevono dalle medesime la garanzia definitiva dei propri contenuti*".

third aspect is our sense's awareness of its own capacity to sense objectively, in correspondence with external reality. The act of sensing (level one) is certainly present in sensation; the sense's awareness of sensing (level two) is also present, since we distinguish between being awake and dreaming images while asleep. However the sense is incapable of grasping or understanding its capacity to sense (level 3). It simply senses and knows when it is sensing; how it does so is beyond its own capacity to comprehend.

Our intellect's capacity for truth lies in what Thomas calls its ability to "return completely" over itself and its process of knowing (*reditio completa*).

Knowing something external to themselves, in a certain sense [intellectual substances] go outside of themselves; but by knowing that they know, they are already beginning to return to themselves, because the act of cognition mediates between the knower and the thing known. That return is completed inasmuch as they know their own essences⁹³⁵.

The initial movement in knowing is towards the object, as a turning outwards from the subject. However the intellect only proceeds confidently with its judgments and declarations regarding reality insofar as it is sure that it has grasped such reality sufficiently. We already saw the importance of the *conversio ad phantasmata* as a constant reference point for our intellect. The intellect realizes that it is in fact able to know things by this *reditio completa* of referring its concepts to phantasmata. Unlike the senses' unawareness of their grasping, the intellect is in fact aware of its power or ability to know things. We are aware of knowing things on an intellectual level because our intellect is naturally aware of its capacity. We are not superior intelligent beings: We certainly require hesitation and caution as we explore new uncharted areas. However when we have reached certain knowledge of things, we know them to be true. And when Aquinas speaks of the *reditio completa*, it does not mean that the intellect tracks individually the entire process of each container of dirt as it arrives to the well. We do not need to carry out such an exhaustive analysis of the process, as we have presented throughout these past chapters. The intellect is naturally certain of its adequate grasp of reality.

Kant's *Critique of Pure Reason* seeks to justify the validity and possibility of our synthetic judgments a priori to actual sensorial experience. In order to save our knowledge from the chaotic flow of sensation, as proposed by Hume, Kant argues that the conditions for synthetic judgments must lie within the subject. By considering objects as unknowable

⁹³⁵ AQUINAS, DV, 1, 9 [Regnery, 42]. "*Illa quae sunt perfectissima in entibus, ut substantiae intellectuales, redeunt ad essentiam suam reditione completa: in hoc enim quod cognoscunt aliquid extra se positum, quodam modo extra se procedunt; secundum vero quod cognoscunt se cognoscere, iam ad se redire incipiunt, quia actus cognitionis est medius inter cognoscentem et cognitum. Sed reditus iste completur secundum quod cognoscunt essentias proprias*".

and ultimately unable to provide us with real information about the world around us, Kant provides for all the value of our knowledge as drawn from the categories of the understanding, subsuming and structuring empirical intuition thoroughly. To use our example of the cave, no dirt makes it inside the cave for Kant; the well provides us with diamonds from its own sources.

The process of perception that we have followed is able to ground our intellectual knowledge of reality, even to the level of universal scientific laws. The information provided by the senses leads us to an ever-greater familiarity with things, thanks to our mind's ability to compare and relate objects among each other. The dirt drawn in from outside allows the inner faculties or tunnels to develop more and more, until they reach knowledge of things according to their essence or nature. We once again stress here that we do not know things' essences completely and thoroughly; however, a sufficiently essential grasp is indeed reached, which allows us to formulate laws on objects' structure and behavior. As the intellect understands the essence of different objects, it discovers the constants that run through different species and so can reach universal law. There is objective, real basis for such laws, since they are based on the senses' receptivity of information from objects outside of us.

My argument has been that we do indeed know in this way; I have presented it in contrast to Kant's transcendental philosophy, as a more satisfactory description. I find Aristotle, Aquinas and Fabro to give a more complete account of our knowledge. Human knowledge fortunately does not depend on philosophers' explanations. Let the reader decide if our intellects in fact have this capacity to know things truthfully.

5. Kant's two separate worlds and Aquinas's participation

Part 1 of this thesis concluded with an evaluation of Kant's speculative philosophy. We considered how his philosophy ambiguously confuses physical reality and the mind's operations. Works such as *The Metaphysical Foundations of Natural Science* develop an entire system of material bodies constituted by force. The CPR develops an equally all-embracing system of logic, as the mind's conditions for the possibility of knowing. From its first publication in 1781, the CPR received criticism for its inherent idealism, not merely as transcendental, but as absolute idealism. The two worlds – physical bodies in sensed intuition and the necessary conditions for knowing in original apperception – could not be maintained within the system of transcendental philosophy. The OP reveals a Kant who

was trying to keep both worlds in a united system. His failures to bridge the two worlds leads us to turn to Fabro's proposal of Aquinas's gnoseology. Do the two worlds of physics and logic effectively interact in Aquinas's philosophy?

Before we address the principle question of this thesis, we should note the real difference between the philosophical systems of Aristotle, Aquinas, Kant and Fabro. Each of them is answering different questions arising from their specific intellectual and cultural environment. Their underlying *Weltanschauungen* differ greatly, due to the academic milieu and humus that they naturally drew from. However, this does not mean a comparison between them cannot be made. Human nature and how we know things is still comparably the same as in 4th century BC. Perhaps the most important difference between Aquinas and Kant is the importance given to the empirical sciences beginning in the 17th century. As Popper indicates, Newton's laws are an important reference point for Kant's theory of knowledge. With the rise of empirical science, Kant (and Fabro) addresses issues that Aquinas considered to a much lesser degree. And as we saw regarding how things "transmit" or emit their qualities to us, there are clearly adjustments to be made to Aquinas's theory regarding optics and light. However if we consider Aquinas and Aristotle closely, we are able to achieve what they themselves achieved regarding their own predecessors: discover the kernel of truth in Aquinas's theory and incorporate it into a system that involves scientific knowledge of how our senses and nervous system work. Patience is certainly needed: Several modern philosophers such as Locke and Leibniz refuse to consider the intentional species as important. Let us compare Aquinas's view of reality with Kant's, in order to decide which one obtains knowledge satisfactorily.

As Fabro argues extensively, a key element in Aquinas's entire philosophy is the Neoplatonic vision of participation. The intertwined spheres in participation explain how the higher, superior realities give rise to the lower ones. And if we look at reality from the bottom up, this tiered system allows us to understand the phenomenon of emerging that we find in our perception. Let us take up again our initial example of perception: looking out of the window at the tree in the yard. Colors are what first impact us, but they are united with the tree's shape and configuration. The tree's identity comes about or arises from its colored shape. This identity is based on the tree's nature, as year after year it goes through certain cycles; it is the essential aspect that explains the shape-configuration, as well as the changing colors. Our recognizing the tree is thanks to our faculty of the cogitative's ability to gather and compare information in perceptual schemas.

The emerging of the object's identity through color and configuration is thanks to the participation of our faculties in the soul. This participation involves the lower faculties rubbing up against or touching (*atingit*⁹³⁶) the higher ones. This participation allows for real communication between the two, as the higher faculty is able to consider and draw out the relations that the lower faculty is unable to grasp. Throughout this system of faculties, the one, unified intentional species develops. The qualities and structure perceived in the outer senses and common sense obtain a first elevating or unification thanks to the imagination, since it is able to join the immediate present with the past and future. The constant flow of outer sensation thus achieves a first amount of unity and sense in the imagination. This intentional species of the object achieves a much greater unity thanks to the cogitative. Once we recognize and identify an object that is present, the world around us appears much more stable and logical.

Aquinas's participation in knowledge only reaches its climax in intellectual knowing. The importance of the intellect's *conversio ad phantasmata* appears above all when we compare it with Kant's two-world system. Since the senses only deal with individual objects, Kant follows Plato by separating the worlds of necessary knowledge and that of physical bodies. How can Aquinas allow for the communication between the sensible singulars and necessary, universal concepts? By the participation of the cogitative in the intellect. The intellect can consider the intentional species or phantasm present in the cogitative, and through the phantasmata the intellect can grasp the essence of the thing "phantasmalized" on a universal level. The two worlds are effectively joined, even as we distinguish how each one works properly.

Our intellectual soul is the driving force that both seeks to survive and thrive in the physical world, while also desiring to know that world to its fullest capacity. This goes beyond just practical needs; vital needs are what first awaken in the child her curiosity to interact with the outside world. It is the intellect that slowly develops the cogitative's capacity to recognize in perceptual schemas. This development is thanks to the soul's coordinating presence, and its many faculties collaborate in harmony with each other. Participation allows the intellect to abstract the universal essence; sensed perception provides the intellect with a constant reference point to develop further its understanding through observation, experimentation and reflection. Aquinas's principle of participation allows for the real communication between the material world and the mental world that eluded Kant.

⁹³⁶ Cf. AQUINAS, SCG, Bk. 2, Ch. 68 [Burns, 172].

CONCLUSION. KANT'S PROBLEM OF THE BRIDGE AND THE TRANSCENDENTALS

“What is the ground of the relation of that in us which we call ‘representation’ to the object?”⁹³⁷ The essential difficulty left by Kant’s transcendental philosophy is portrayed by the image of the bridge. What basis or bridge allows us to go from the knowing subject to the object known? How is it that we form representations in our minds that are related to things outside of us? And how much of those representations is based on things outside of us? This basic problem is further complicated as Kant throughout his career is forced to splinter both the object and the subject. On the part of the subject, Kant regards the senses and the understanding as so foreign to each other that no communication happens between them; the *I think* structures sensed intuition according to its a priori schemas. On the side of the object, the separation between appearances and things, phenomenon and noumenon, leaves us ignorant of the world as it is. Despite this limitation on our knowledge, Kant published the MFNS, regarding dynamics and physical reality. How is Kant able to continue his work in the physical sciences, if appearances are all we can know? His theory of knowledge can exist alongside his theory of dynamics because of Kant’s initial approach to philosophy.

Early on in his career, Kant adopts the basics of Leibniz’s metaphysics, but “he rejects its core: the absolute separation of ‘metaphysical atoms’ and infinitely divisible, dynamic matter. [...] Kant defends the *influxus physicus*, the causal interaction of individual substances”⁹³⁸. In Kant’s mind, the two orders or realms of physical bodies and mental thought are compatible. His basic assumptions in both realms lead to intrinsic contradictions, however. “For more than 30 years Kant apparently remained unaware of this conflict, resulting from his program – as exhibited in the *Monadologia physica* – to unite what Leibniz had been careful to keep apart: metaphysics and physics, or self-sufficient substances and dynamically interacting matter”⁹³⁹.

Kant’s solution to the problem of the bridge lies ultimately in the perfect (and entirely gratuitous) coincidence of the physical order with the conceptual one. Our senses and things’ appearances are secondary players in transcendental philosophy, because our *concepts* of things already contain the action and behavior of physical things. As

⁹³⁷ KANT, as cited by TUSCHLING, AE, 201.

⁹³⁸ TUSCHLING, AE, 193.

⁹³⁹ *Ibid.*, 195.

Tuschling points out, Kant's 1755 *Nova dilucidatio* already sets the direction for transcendental philosophy: "Kant has already assumed an orientation that is both metaphysical and epistemological. He interprets the principle of sufficient reason, not as a logical principle [...] but as a cosmological one, concerning the existence of contingently existing substances"⁹⁴⁰. Kant's epistemology translates directly over to his physics, in the principle of sufficient reason. Over time Kant realizes the difficulties inherent to such an approach: "only with the development of the immanent difficulties in the *Metaphysical Foundations of Natural Science* did the underlying metaphysical schema become a problem, that is, in the *Opus postumum*"⁹⁴¹.

In conclusion of this thesis, I wish to present the main points regarding Kant's problem with the bridge, compared with Aquinas's position, brought up to date by Fabro. This thesis has focused mainly on our process of knowing in intentional knowledge. We will briefly go over the contributions of both the empiricist and rationalist schools in Kant's thought, and we will also go further into the metaphysics that grounds the different theories of knowledge. A theory of knowledge that does not address the metaphysical make-up of things and human knowers is left ultimately without any grounding. This conclusion seeks to distinguish physical reality from our minds, in juxtaposition with Kant's gratuitous coinciding of mind and reality; my thesis asserts a real, significant interplay between our minds and things.

1. Empiricist elements in Kant: Locke and Hume

1.1. Empiricist epistemology

The empiricist school places the reliable source of our knowledge in the senses. Both Locke and Hume hold our senses to give us reliable, faithful images of things outside of ourselves. Locke attributes such reliability to God's Providence, who provides us with sufficient knowledge of things around us in order to reach our happiness⁹⁴². Hume simply

⁹⁴⁰ Ibid., 193-194.

⁹⁴¹ Ibid. 193.

⁹⁴² Cf. WILSON, A.B., «Locke's Externalism about 'Sensitive Knowledge'», in *British Journal of the History of Philosophy*, 22 (2014) 3, 441-442. "As Locke sees it, our being assured of the existence of external things is ultimately a consequence of God giving us senses that are sufficient for meeting practical needs and interests. That is, God made us so that we would be assured of the existence of external things with having successfully employed our senses in the attainment of good and the avoidance of evil; and God would not have made us be assured of the existence of external things whenever we enjoy practical success by means of the senses, unless that practical success actually involved an epistemic success: the senses informing us correctly about the existence of external things".

takes impressions as relating faithfully to things, in his Copy Theory⁹⁴³. Beyond the main source of knowledge in sensation, Locke and Hume become unclear regarding the contribution that reflection and imagination grant to our experience. This lack of clarity involves how exactly physical impulses in sensation become sensation interiorly, on a reflective level. “Locke says that the mind employs itself about these impressions, but if the impressions are physiological it could only employ itself about the perceptions produced by these impressions. The transition from nerve impulse to conscious content occurs, but Locke does not have much to say about how it is accomplished”⁹⁴⁴. Locke fails to examine the transition between sensation and consciousness, which is a considerable hindrance to his epistemology.

Westphal sees Hume as being forced to go beyond his Copy Theory and attribute key elements in our thought to the imagination. Hume captures his system in the following statement: “All reasonings are nothing but the effects of custom, and custom has no influence, but by enlivening the imagination, and giving us a strong conception of any object”⁹⁴⁵. The imagination’s customs are left simply as habits of gentle force, without any clear rules of application and functioning. Thus we see that both empiricists Locke and Hume fail to explain the involvement of the mind in our knowledge, as they remain on the level of pure sensation.

1.2. Empiricist metaphysics

Compared to the rationalist school of philosophy, Locke and Hume may be found wanting in explaining our mind’s knowing. However, compared to the rationalists, Locke and Hume can more readily show that bodies exist outside of ourselves,. Since we receive sensed impressions from bodies, it is clear for Locke that such bodies exist outside of us. “Tis therefore the actual receiving of *Ideas* from without, that gives us notice of the *Existence* of other Things”⁹⁴⁶. Anderson argues that Hume clearly regards our impressions and perceptions of things to represent those things, as existing outside of ourselves. “Hume allows that a perception and an external object may be specifically identical but numerically distinct that he can say that a perception may *represent an* external object. Their specific identity and numerical difference make the perception an

⁹⁴³ Cf. HUME, THN, 1.1.1.6-7; 1.1.3.2; 1.1.7.5; 1.2.3.1-3; 1.2.3.11, as cited by WESTPHAL, K.R., «Hume, Empiricism and the Generality of Thought», in *Dialogue*, 52 (2013) 2, 238.

⁹⁴⁴ YOLTON, J.W., «The Concept of Experience in Locke and Hume», in *Journal of the History of Philosophy*, 1 (1960) 1, 54-55.

⁹⁴⁵ HUME, THN, 1.3.13.11, as cited by WESTPHAL, K.R., «Hume, Empiricism and the Generality of Thought», 260.

⁹⁴⁶ LOCKE, EHU, 4.11.2, as cited by ALLEN, K., «Locke and Sensitive Knowledge», in *Journal of the History of Philosophy*, 51 (2013) 2, 256.

adequate representation of the object"⁹⁴⁷. Existence of things outside of ourselves is evidently clear for empiricists, even if *how* things exist can be problematic in their explanations or metaphysics.

Within the empiricist tradition, the bundle theory has gained much credibility among empirical scientists. This is quite understandable, since scientists wish to observe and measure certain empirical phenomena, without getting lost in philosophical arguments regarding deeper structures. This is a choice on a methodological level, so as to carry out experiments properly. However, when they go beyond their method and assert that no deeper source of unity exists beyond the bundle of properties, they must provide a philosophical argument. Much of this bundle theory is based on the 17th-century aversion to such terms as "substance", which we see in Locke and Hume. Scholastic metaphysics is often the target of Locke's, Hume's and Leibniz's criticism, as well as Kant's. Does the empiricists' bundle theory explain things as we observe and interact with them?

Locke is clear in distinguishing between which aspects of things pertain objectively to them, and which are more subjective and present only in ourselves. His distinction between primary and secondary qualities creates an initial rift in things, which then sets the stage for Berkeley and Hume. If secondary qualities do not have any clear grounding outside of ourselves, neither would primary qualities, such as shape and size. True to his skeptical method, Hume does away completely with the concept of substance; all we ever perceive our colors and shapes, as intermittent, dispersed and disconnected. Our mind's habit of joining them together into a united and enduring whole (as substance) has no further ground than our mind's habit. "Every quality being a distinct thing from another, may be conceiv'd to exist apart, and may exist apart, not only from every other quality, but from that unintelligible chimera of a substance"⁹⁴⁸. Following the bundle theory, Hume considers human beings as "nothing but a bundle or collection of different perceptions, which succeed each other with an inconceivable rapidity and are in a perpetual flux and movement"⁹⁴⁹. With such a view of our sensed perception, it is no wonder that Kant has little consideration for the value of our senses. Hume leaves us with nothing stable in the senses, beyond a mere flow of impressions, and so Kant seeks to base sensed appearance purely in ourselves. Things themselves are left in darkness as far as our knowledge of them.

⁹⁴⁷ ANDERSON, R.F., «Hume's Account of Knowledge of External Objects», in *Journal of the History of Philosophy*, 13 (1975) 4, 477-478.

⁹⁴⁸ HUME, THN, 1.4.3.7.

⁹⁴⁹ *Ibid.*, 1.4.6.4.

2. Rationalist elements in Kant: Leibniz and the *Critique of Pure Reason* on determining thought

Due to their conception of reality outside of ourselves, the empiricists distinguish clearly between the mental realm and the physical realm; their metaphysics is based on bodies existing outside of us. The rationalist current of thought dedicates much more importance to our mind's conceptual power, and comes to regard outer existence as secondary to rational thought. Rather than assuming that bodies exist because we sense them, Leibniz asserts: "By no argument can it be demonstrated absolutely that bodies exist"⁹⁵⁰. True, metaphysical certainty in knowledge can only come from rational standards within conceptual thought. This current of rationalist thought is based on the 14th-century traditions of metaphysics and knowledge. "According to 14th-century Ockhamistic thought, what makes knowledge true and objective is that such knowledge be non-contradictory, that is, possible; it may lack an immediate, extramental object"⁹⁵¹. This non-contradictory standard of knowing and truth relies only on the mind's concepts and inner coherence, with no dependence on outer reality. What exists outside of us is secondary to each thing's conceivability, that is, the non-contradictory state of its concept as possible. Existence comes to be seen by Leibniz as what is demanded by the concept's internal coherence. No longer do we rely on our senses to tell us what exists; existence follows on rational conceptualizing⁹⁵².

Leibniz's rationalist view of the world is based on his vision of God as the conceiving Mind that first considers all possible things, and then chooses the best possible series of things to exist.

Existence is seen as a certain relation among possible things – the most harmonious set, the best, the most perfect, the one with the most reality. Existence in this sense is a relation that involves compossibility and the highest perfection among a subset of possible things, which God perceives. Such a relation arises, in Leibniz's metaphysics, as God conceives and

⁹⁵⁰ LEIBNIZ, *De modo distinguendi phaenomena realia ab imaginariis*, AA VI, 4, 1502, as cited by LEDUC, C., «Leibniz and Sensible Qualities», in *British Journal of the History of Philosophy*, 18 (2010) 5, 814. "Nullo argumento absolute demonstrari potest, dari corpora".

⁹⁵¹ DE MURALT, KDO, 41. "Une connaissance vraie et objective, mais privée d'un corrélat objectif extramental immédiat est définie par l'occamisme du 14th siècle comme non contradictoire, c'est-à-dire comme possible".

⁹⁵² Cf. Nachtomý cites Leibniz as placing existence clearly dependent on conceivability and possibility: "If existence were anything other than what is demanded by essence (*essentiae exigentia*), it would follow that it itself would have a certain essence, or would add something new to things, concerning which it might be asked, whether this essence exists, and why it and not another". (LEIBNIZ, AA 6.4 1443; GP VII 195), in NACHTOMY, O., «Leibniz and Kant on Possibility and Existence», in *British Journal of the History of Philosophy*, 20 (2012) 5, 955.

compares all possibilities as candidates for creation. In this context, the existence of creatures presupposes God's existence as the perceiver of all possible individuals and their relations⁹⁵³.

In his critical period, Kant rejects such use of God for the conceivability of things, and places all such conceivability within the *Ich denke*. Reality can exist, not because of the deciding act of God, but because of transcendental apperception's determining what is possible to experience. "Kant is placing the conception of possibilities not in God's understanding, as Leibniz does, but rather in the human understanding. According to Kant in the CPR, the empirical content available to the human understanding is constrained by its subjective conditions of sensibility"⁹⁵⁴. Rationalism takes on a more powerful role in Kant: Conceivability no longer depends on God's mind, but on *our* minds. For any object to exist, as an object of *our* experience, it must agree and be thoroughly determined by the a priori categories. The principle of our experience is the a priori form, as what allows the synthesis in cognition to take place. Experience is thanks to the *I think's* capacity of synthesis according to the a priori categories:

The possibility of experience is what provides all our a priori cognitions with objective reality. Now experience rests on the synthetic unity of appearances, i.e., on a synthesis performed according to concepts of an object as such of appearances. Without such synthesis, experience would not even be cognition, but would be a rhapsody of perceptions. Such a rhapsody of perceptions would not fit together in any context conforming to rules of a thoroughly connected (possible) consciousness, and hence would also not fit together to agree with the transcendental and necessary unity of apperception. Hence at the basis of experience there lie, a priori, principles of its form⁹⁵⁵.

The unity and structure of the object of experience belongs solely to the *I think*, as what gives unity to the rhapsody of sensations. The senses only provide the matter, to which the forms are applied. Far from telling us anything about the outside world, sensed intuition provides a sufficient amount of quantity that tells us *that* things exist outside of us. The world's structure and connections-relations are all attributed to the a priori forms. The a priori categories override and inform all of our cognition. It is no wonder that Kant concludes that appearances are left severed from things; such appearances in sensed intuition are completely determined by the self.

⁹⁵³ NACHTOMY, «Leibniz and Kant on Possibility and Existence», 959.

⁹⁵⁴ *Ibid.*, 970.

⁹⁵⁵ KANT, CPR, A156/B195-196. "Die Möglichkeit der Erfahrung ist also das, was allen unsern Erkenntnissen a priori objective Realität giebt. Nun beruht Erfahrung auf der synthetischen Einheit der Erscheinungen, d.i. auf einer Synthesis nach Begriffen vom Gegenstande der Erscheinungen überhaupt, ohne welche sie nicht einmal Erkenntniß, sondern eine Rhapsodie von Wahrnehmungen sein würde, die sich in keinen Context nach Regeln eines durchgängig verknüpften (möglichen) Bewußtseins, mithin auch nicht zur transscendentalen und nothwendigen Einheit der Apperception zusammen schicken würden. Die Erfahrung hat also Principien ihrer Form a priori zum Grunde liegen, nämlich allgemeine Regeln der Einheit in der Synthesis der Erscheinungen, deren objective Realität als nothwendige Bedingungen jederzeit in der Erfahrung, ja sogar ihrer Möglichkeit gewiesen werden kann".

In chapter 4 we considered the absolute idealistic currents present in the CPR, brought to their logical consequences in the OP. Two quotes from the CPR recall the Copernican revolution regarding object and subject. “Everything intuited in space or time, and hence all objects of an experience possible for us, are nothing but appearances; i.e., they are mere presentations that – in the way in which they are presented, viz., as extended beings, or as series of changes – have no existence with an intrinsic basis, i.e., outside our thoughts”⁹⁵⁶. Here Kant clearly states the separation between appearances and things: Appearances have no basis in things outside of us. Things themselves certainly do exist beyond appearances, at least in some parts of the CPR. A251-252 considers it relevant that we speak of appearance as different from things, pointing to such things existing. However things are said to exist only as something related to the senses⁹⁵⁷. Appearances’ relation to such things is determined completely by the *Ich denke*. This means that the *I think* determines or posits the appearances in the CPR. Within the transcendental system of Kant, he must also justify physical bodies and forces, and so the OP holds the original apperception as positing things too, not just appearances.

Being and reality for Kant have a very particular meaning. Being signifies the “presentation” much along the lines of the empiricists and Berkley’s *esse est percipi*. However Kant’s Copernican revolution consists precisely in no longer relying on empirical, outwardly-dependent sensation. “The one who makes present is for Kant at root the subject himself according to the functions in descending order of the *Ich denke*: the categories, internal experience (the “I” in time) and the external world (space) by means of which the a priori synthesis is to be activated. The meaning of being as a positing in the *active sense* is, therefore, quite on the side of the subject”⁹⁵⁸. Kant tries to save objectivity and avoid absolute idealism by referring the categories to sensed intuition. The one link between the two is supposed to be time, but the self can have no empirical intuition of itself in time. And so the self is left as positing being in appearance as the object’s “presentification”. Being for Kant is left is quite empty and meaningless. “Being as presentation is thus an act of ‘presentification’ that can be called a projecting of the ego towards the world and being is neither the ‘I’ nor the world strictly. Being does not have content, is not a real predicate, but it is, in the end, given by the same self-actuation

⁹⁵⁶ KANT, A490-491/B518-519. “Alles, was im Raume oder der Zeit angeschauet wird, mithin alle Gegenstände einer uns möglichen Erfahrung nichts als Erscheinungen, d.i. bloße Vorstellungen, sind, die so, wie sie vorgestellt werden, als ausgedehnte Wesen oder Reihen von Veränderungen, außer unseren Gedanken keine an sich gegründete Existenz haben”.

⁹⁵⁷ Cf. Ibid., A285/B341. “Such a thing, however, also is mere appearance and cannot be thought at all through pure categories; the thing itself consists in the mere relation of something as such to the senses”.

⁹⁵⁸ FABRO, TEE, 400.

of the transcendental subjectivity in view of the constitution of an object⁹⁵⁹. Appearances have consistency inasmuch as they are presented by the *Ich denke* as consistent, enduring and with certain properties; appearances' structure is determined by the *I think*, not by things.

In conclusion on rationalist thought, we see that metaphysics is absorbed into epistemology, since mental conceivability is what decides both what we can think and what can exist outside of ourselves. Despite his interests in empirical science, in the CPR and throughout his critical period Kant reveals himself to be a rationalist, to the point of an absolute idealist. Schelling's interpretation of Kant's position is revealing: "If [Kant's doctrine of the transcendental synthesis of imagination] had been understood, the chimera that has tormented our philosophers for so long – viz. the things in themselves [...] would have disappeared like mists of the night dispelled by the light of the sun. It would have been recognized that nothing can be real unless there is a spirit to know it"⁹⁶⁰. Our mind determines reality to such a degree that to think is to make things be, according to Kant.

3. Reality and intentional knowing, according to Aquinas and Fabro

This thesis wishes to provide some grounding for empirical science and its theories and laws. Kant's basis for laws is purely rationalist and internal to ourselves, with no basis beyond ourselves. Popper attempts to provide science with a rational basis, by placing the onus of scientific theorizing in falsifiability. We are supposed to prefer one theory over another, based on the verisimilitude that one has to the facts over the other⁹⁶¹. However, within Popper's system there is no *fact* or things outside of ourselves that we may point to as a clear standard. Everything is theory-laden, even our observation of empirical events. Science is left with just unclear a standard for judgment as Kant's theory.

Scott describes the basic attitude of empirical scientists: "The scientific task in theory development is to formulate specialised systematic conceptualisations that

⁹⁵⁹ Ibid.

⁹⁶⁰ SCHELLING, F.W.J., *Historisch-kritische Ausgabe*, vol. I, 4, 75–76, as cited by FINCHAM, R.M., «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal of the History of Philosophy*, 23 (2015) 6, 1053–1054.

⁹⁶¹ See MUSGRAVE, A., «How Popper (might have) solved the problem of induction», in Catton, P. – MacDonald, G. (eds.), *Karl Popper: Critical Appraisals*, Taylor and Francis e-Library (Routledge) 2004, 21–22.

account for particular extant phenomena in precise loci of the cosmos. Conceived in this manner, scientists should constantly be ‘bumping up’ against being to encounter and hypothesise about the particular contents of the existent”⁹⁶². Kantian-based approaches to empirical science, such as Popper’s falsifiability, go against basic epistemological criteria in science. Scott attributes philosophy’s distancing from the “hard” sciences as based on this Kantian view of human knowing. He follows Hawking’s invitation to philosophy to return to a certain level of realism, if it hopes to maintain contact with human scientific endeavor. “This necessitates a metaphysical accession to the real as primary to the secondary cognitive construals of real entities by the thinking subject. Without a return to the extant, philosophy will remain — as Hawking admonishes — glaringly irrelevant to empirical knowledge”⁹⁶³. Rather than proposing an overly-simplistic empiricism as the basis for science, I propose Aquinas’s and Fabro’s theory of knowledge as allowing for a proper interaction between things and ourselves, while keeping each level distinct.

3.1. *The unity of the human subject in knowing*

Kant does not consider that any information stems from the senses except for the object’s existence, which is left as an unknown factor *x*. In order to address the problem of perception properly, we should consider how reliable our external senses are, regarding telling us about the outside world. Such sensed qualities are presented to us as already structured, according to Aristotle’s position on common sensibles. “Through external sensibility and the ‘primary organization’ that makes it explicit (the sensibles per se, proper and common) the subject is in direct relation with the world – be it the natural or social world – as the constant reference point for his knowledge and action”⁹⁶⁴. Things themselves are what determine our senses in perception, because our senses are entirely passive in receiving such information. How can we be sure we know *things*, and not just the creation of our own imagining? We recognize when a given perception is an optical illusion; this points to our ability to recognize things objectively, as adequate perception. We certainly do not know things in all their inner details and workings; however we do naturally arrive at a sufficient knowledge and grasp of things in knowledge.

⁹⁶² SCOTT, C.D., «Facing being: The significance of Thomist ontological epistemology to realism in post-Kantian philosophy», in *South African Journal of Philosophy*, 33 (2014) 3, 347. He refers to HAWKING, S.W. – MLODINOW, L., *The Grand Design*. Bantam Press, London 2010, 5.

⁹⁶³ *Ibid.*, 348.

⁹⁶⁴ FABRO, TMTT, 548. “*Mediante la sensibilità esterna e la «organizzazione primaria» che la esprime (sensibili per sè, propri e comuni) il soggetto è in rapporto diretto col mondo sia della natura come della società come punto di riferimento costante del suo conoscere e agire*”.

The bridge between ourselves and things outside of us receives a solid grounding in Aquinas's doctrine on the cogitative. We can know things because the cogitative allows for a real communication and interaction between the senses and the intellect. Aquinas's consideration of the cogitative goes far beyond Kant's theory of the *Einbildungskraft* (the imagination) in explaining how we come to know and recognize things. Through experience and the perceptual schemas, the cogitative is able to make sense of things on a higher level than colors and shapes. This secondary, higher organization is what allows for our intellectual minds to know things. "The cogitative's role is to form the phantasma or concrete representation, from which the intellect abstracts and in which it comprehends the essence of material things (the doctrine of the *conversio ad phantasmata*)"⁹⁶⁵. The senses draw in real information regarding things, which the cogitative distills and preserves as phantasmata.

If sensed perception regards concrete singulars grasped by the cogitative, what does our intellectual knowledge consist in? The medieval debate regarding universals is hardly an obscure one, limited to secondary interests of the time period. Kant's justification of the possibility of synthetic judgments a priori is arguably a continuation of the medieval debate regarding physical, singular bodies on the one hand and universal, necessary knowledge in thought on the other. Kant's approach to the problem was essentially Platonic, as he gave priority to the mind over the senses and material individuals. Aristotle's teaching on universal knowledge through induction and abstraction allows us to give a much more solid basis for our intellectual knowledge.

If universals are not a "separate" reality, insofar as universals by definition would remain "separated" from the singulars of which they are predicated, then it follows that universals are only "mentally separate". They are universal inasmuch as they are brought out by the mind from the singular, as far as it can abstract (tractus - abs). Universality is therefore not a mode of real being, but it is the result of "intellectual abstraction", and such is the natural manner of knowing for human beings⁹⁶⁶.

Only by considering the basic unity of the human subject, and the corresponding participation of the faculties involved in our knowing, can we arrive at a proper grasp of how we know. The teaching of abstraction of universals from the cogitative's phantasmata allows for real knowledge of material bodies. This is thanks to the substantial unity of our

⁹⁶⁵ Ibid., 549. "In generale si può dire che alla cogitativa spetta la formazione del phantasma o rappresentazione concreta dalla quale l'intelligenza astrae e nella quale comprende l'essenza delle cose materiali (dottrina della *conversio ad phantasmata*)".

⁹⁶⁶ Ibid., NMP, 127. "Se l'universale non è un «separato» reale, in quanto è universale resta per definizione «separato» dai singoli di cui si predica, ne consegue che è soltanto un «separato mentale»; è universale in quanto è dalla mente «cavato fuori», tratto fuori, dal singolare, in quanto è astratto (tractus-abs). L'universalità non è quindi un modo di essere reale, ma è un effetto dell'«astrazione intellettuale», e questo è il modo naturale di conoscere per l'uomo".

soul and body. Our intellects are initially blank, as pure capacity to know; we turn towards the senses in order to receive information in perception. Our senses only present us with material, concrete things, which the intellect cannot consider directly. The cogitative's phantasms or species form the mirror from which the intellect can draw the essential traits of things, as we achieve knowledge of the outside world. The cogitative attains perception of concrete bodies, as well as providing a basis for our universal knowledge.

The faculty of the cogitative allows our minds to turn outwards, towards the world of reality. Fabro calls the cogitative our faculty of a "living life" (*vita vissuta*). Whereas faculties such as the imagination and even abstract thought can remain on an inner, subjective level, the cogitative turns continuously towards real bodies. In his work *Dall'essere All'esistente*, Fabro embarks on a long study of faith. While he arrives at such supernatural, religious faith as Kierkegaard, Fabro remains mostly on the level of our "natural" faith. Hume deals with our beliefs, as he skeptically disbelieves them. Fabro counters Hume's critique with arguments taken from our real, continual and ever better grasp of reality. This interaction is undoubtedly based on faith: I believe there is a paper and a pen actually performing what I intend as I am writing. Proving or demonstrating my belief in reality as true would be impossible according to Hume's high standards. Is such faith in reality so illusionary as Hume asserts? The cogitative acts according to this underlying belief in things existing outside of ourselves.

We have seen the primary organization of the common sense, together with the further organization of the cogitative, as it grasps the meaning of the object. Our senses are passive in receiving information from objects outside of ourselves; the content and structure of the object are perceived as determined by the object, and not subjectively structured: neither haphazardly by association, nor a priori by the categories a priori. The several objective levels and structuring in perception tell us something important about how we interact with the world around. "Natural faith appears as it is put into action, as the different areas in intentional knowing converge and unite in the way described. Such faith is not simply the result or effect of an [intentional] act, but rather comes prior to such perception. Faith is the synthesis that arises from deep within the subject, by means of such converging and uniting"⁹⁶⁷. Our faith in external reality and our perception of it does not come as a consequence or logical conclusion of the act of perceiving, but just the opposite: Our perception comes as a result of our natural faith regarding the world around

⁹⁶⁷ FABRO, *Dall'essere All'esistente*, Morecelliana, Brescia 1957, 498. Future reference to this work as DEAE. "La fede naturale si manifesta nella «messa in atto» e quindi nella convergenza e unificazione dei vari settori intenzionali di cui si è detto: essa tuttavia non è il semplice risultato o effetto, ma prima piuttosto è la sintesi che scaturisce dal profondo del soggetto per quella convergenza e unificazione".

us. As we have seen, our vital need for survival turns us outwards towards reality. Such interaction must develop toward a mature understanding of things and their essential structure and meaning for us. This natural faith in reality reveals a basic element that must be kept in mind, if we are to understand our perception properly. Hume's skepticism taken to an extreme prevents our living and thinking altogether. The reader may judge by his own experience just how misguided a belief he has as he senses the world around him, or just how disconnected things around him actually are.

3.2. *The metaphysical structure of things outside of ourselves*

After having considered the participation of the senses in the cogitative and the intellect, it would appear that we have a solid shore on the subject's side of the bridge. At the very least, Aquinas and Fabro's consideration of our perception provides a better description and explanation of our sensed perception than Hume and Kant's. We now turn towards outer reality, aware of this natural faith that motivates us to look outwards. Here our theory of knowledge becomes more metaphysical, as we consider the structure of material being.

In answer to Kant's denial of our knowledge regarding things themselves, what do Aristotle, Aquinas and Fabro propose as a metaphysics that could explain the relation between our phenomenal images – the object's sensible appearance – and things themselves? What do we perceive: things or appearances? Aristotle sees qualities and quantity – color, shape etc. – as existing in the objects, accidents of a substance. Scientists tend to hold secondary qualities as subjective, and rely only quantity as truly objective⁹⁶⁸. Fabro argues for the objective value⁹⁶⁹ of both primary and secondary qualities, as the presentation of the thing in perception. He takes “the data of consciousness according to the content form and objective value [as] revealed in their ‘givenness’ or ‘appearing’”. Any judgment that eliminates the value of such immediately experienced attributes would have to provide some other, until now unknown, ground or cause⁹⁶⁹. Fabro appeals to the process of assimilation that occurs in intentional knowing. The object determines the subject, as it appears to the subject; at the same time, the process of assimilation implies the subject's involvement in knowing the object intentionally, that is,

⁹⁶⁸ Cf. Ibid, PP, 348. Fabro alludes to Galileo following Democritus's lead in regarding qualities as purely subjective.

⁹⁶⁹ Ibid., 352. “*Il principio dell'analisi fenomenologica è quello di accettare i dati di coscienza secondo le forme di contenuto ed il valore di oggettività che si rivelano nel loro «darsi» od «apparire». Il giudizio che sopprime il valore di questi apprezzamenti immediatamente vissuti non si sa per quale via potrebbe esser fondato*”.

internal to the subject. Such assimilation maintains objectivity by the *conversio ad phantasmata*. Our reference point is the species or phantasm, as the object's presentation in perception. We refer to such images based on the conviction or faith that such appearances have a corresponding, underlying structure in things. Qualified-quantified appearances are expressions of things.

To overcome Kant's a priori idealism, Aristotle's teaching of hylomorphism is helpful. Where Plato leaves material things to the world of not-being, more apparent than real, Aristotle sees that material things are not as fleeting as Heraclitus proposes. He discovers matter as remaining throughout change, while substantial forms are matter's perfecting, defining principle. It is only through experience of material things that we arrive to knowledge of them on a formal level. Such knowledge gained by experience means a reversal in Plato's vision of reality; Plato sees material things as not existing and the Ideas as true being, which means that our knowledge is the place of true being and contains it perfectly. Aristotle places reality in material, concrete being, requiring a much more arduous path for our knowledge, through experience (ἐμπειρία, *experimentum*). "Objectivity is the soul's hard-earned achievement, a result of an ever-deeper insight carried out by the mind, in dependence on the senses and the real content of experience. What truly is, therefore, is the singular, called precisely primary substance"⁹⁷⁰. The qualities and quantity presented in sensed perception are the phenomenal appearance-form of substance; what is real, what *is*, beyond such external, ephemeral traits, is the concrete singular. Singular individuals can be fully known only on the level of the cogitative. In such judgment, reality is seen to determine our knowing, not the other way around. Our mind distinctly recognizes what is simply its own creative doing, and what is objective and real, that is, what *is*. Reality determines our knowledge in perception, and precisely because it is outside of us, being *transcends* us.

This natural faith reveals the truly transcendental nature of our knowledge, as different from Kant's understanding of "transcendental". As human beings we are fundamentally oriented towards being and reality. Through our perception we interact with the world, and we gradually find or make our place in that world. We place the object within the sphere of meaning on a subjective level, but as based on objects' real aspects and structure. This placing involves natural faith because, as we have seen, we assume that things are as they appear to be. Kant and Hume are right to place the limit of our real

⁹⁷⁰ Ibid., NMP, 126. "L'oggettività è un acquisto dell'animo, conseguente ad un progressivo approfondimento fatto dalla mente, in dipendenza del sentire e del contenuto reale dell'esperienza. Ciò che è veramente reale, è quindi il singolare, detto appunto sostanza prima".

knowing at sensible images; however such images are appearances *of things*, insofar as they have a real, objective basis in things. Our continual survival, shown in our ever greater control of our surroundings, points towards this real correspondence between things and appearances. This can never be absolutely proven to be so, and so natural faith presented by Fabro is important to keep in mind. In order to appreciate better Aquinas's metaphysics as underlying his theory of knowledge, we compare his transcendentals with Kant's understanding of what transcendental means.

4. "Transcendental" for Kant and for Aquinas

In this conclusion we wish to reach some grounding for our perceptual knowledge of material being. A theory of knowledge includes a theory of reality, or metaphysics. In order to appreciate the difference in their metaphysics, we now consider what Kant and Aquinas understand by the term *transcendental*. This term is far from secondary in either one's philosophy. Kant calls his entire system "transcendental idealism"⁹⁷¹ and a glance at the table contents of the CPR reveals how much Kant considers his to be *transcendental* philosophy. Aquinas too places much importance on the transcendentals: his derivation of the transcendentals in *De veritate* q. 1, art. 1 is considered by Fabro as perhaps the densest piece of speculative philosophy in Western thought⁹⁷². The transcendentals were important enough in Scholasticism that 500 years later Kant felt he needed to mention them, even if changing their meaning⁹⁷³. The meaning each author gives to "transcendental" reveals their view of the interaction between mind and reality in knowing.

What does each author refer to by the term *transcendental*? Both authors use the term in reference to certain notions or substantives, and not simply as an adjective. Fabro sees both Kant and Aquinas as enumerating six transcendentals. For Kant, the transcendentals are space, time, the twelve categories of the *I think*, and the three transcendental ideas of the soul, the universe and God. Aquinas proposes as transcendentals *ens*, essence, one, something, true and good in Fabro's presentation⁹⁷⁴. When we compare the two sets of transcendentals, we are struck by the difference in their

⁹⁷¹ KANT, CPR, A491/B519.

⁹⁷² Cf. FABRO, TMTT, 551.

⁹⁷³ See KANT, CPR, B113-114. "In the transcendental philosophy of the ancients, however, we find an additional chapter containing pure concepts of understanding. [...] *quodlibet ens est unum, verum, bonum*".

⁹⁷⁴ Cf. FABRO, TMTT, 553. Fabro here reads *essentia* for *res* in the original DV 1,1. Also, some Thomists would include *pulchrum* as a transcendental.

inner unity and coherence. “In Kant the transcendentals are placed on such different levels of knowledge that they are irreducible to the type of unity that modern thought has placed as the foundation and expression of truth”⁹⁷⁵. We have already considered Kant’s basic separation between sensed intuition (space-time) and the understanding’s categories. He thus fails to unite the first three transcendentals (space, time and the twelve categories), while he leaves the last three as illusional. Thus Kant’s transcendentals lack unity, and so must be assumed to be held together somehow by the *Ich denke*. Aquinas’s transcendentals on the other hand relate coherently to *ens*, and are discovered thanks to the human soul’s openness to reality. We now turn to consider Kant’s metaphysics of reality, as apparent from his transcendental philosophy.

4.1. *The supremacy of synthesis and possibility in Kant*

To begin we recall Kant’s rationalist conception of reality, as inherited from Leibniz, Descartes and Ockham⁹⁷⁶. This rationalist view of the world distinguishes sharply between our inner mental, conceptual world on the one hand, and the world of material beings on the other. The bridge between the two is possible by the power of God, at least for rationalist philosophers before Kant. Leibniz’s doctrine of pre-established harmony is a clear example of such rationalist explanation based on divine intervention and power. What makes rationalism attractive is the power of our minds (*ratio*, reason) to penetrate and conceptualize things perfectly. This penetrative power of the mind is lost in Kant’s version of rationalism in the CPR: The noumenon is left as completely unknowable⁹⁷⁷. Kant’s concepts can never reach things themselves, but can only apply to appearances. Hence while rationalism beforehand could rely on our mind’s capacity to know things thoroughly on a conceptual level, such objectivity takes on a new meaning in Kant. The *Ich denke*’s spontaneity in concepts becomes isolated from things. In this isolation we appreciate the radically subjective nature of the transcendentals. By the OP, Kant sees the *Ich denke*’s spontaneity extending over to things themselves, in the ether.

De Muralt sees Kant’s Copernican revolution centered on the subject as a direct consequence of Ockham and 14th-century debates. If the principle of non-contradiction is the highest law governing our thoughts and concepts, there is no connection necessary with the outside world.

⁹⁷⁵ Ibid. “In Kant essi si dispongono a livelli diversi del conoscere che non può essere ridotto a quell’unità alla quale il pensiero moderno ha attribuito la fondazione e l’espressione della verità”.

⁹⁷⁶ See DE MURALT, KDO, 44.

⁹⁷⁷ Cf. FABRO, TEE, 397.

What makes knowledge true and objective, even if deprived of any mediately corresponding extramental objects, is that such knowledge should be non-contradictory, that is, possible. This possibility is linked to the hypothesis that God's almighty power can rightfully decree an order of knowledge such that it is or is not dependent on its object. [...] The question remains always open as to whether the obvious and true knowledge that human reason has regarding the extramental object is formally determined by that object, or by omnipotent divine power⁹⁷⁸.

Four centuries before Kant, nominalists already suppose the mental realm to be completely distinct from the physical world. Given his religious belief in God's omnipotence, Ockham considers God as the guarantor of the truth-value of our mental concepts and images. The only criterion for our mind's concepts is internal to the mind: that it be non-contradictory with itself. Our concepts' relationship with and basis on extramental material is suspect and ungrounded. We discover in the nominalists an initial suspicion of the senses and their objective perception; the mind remains the fundamental criterion, by considering concepts that are non-contradictory. They are the first to doubt the truth-value of the species or image of things.

When the possibility of our concepts becomes the determining factor in cognition, over and above objective being and reality's structure, existence then becomes a modality of the subject's concepts. Since Kant does not allow for any data-content stemming from empirical intuition, he must attribute all content of our knowledge to the intellect. In the table of categories (CPR, A80/B106), the fourth group refers to modality in judgment, and contains the categories of possibility, existence and necessity. These three are the "Postulates of Experience", as what a priori allows for our experience of objects. These categories are the subject's doing, not the object's. Following Heidegger's critique in *Kants These über das Sein*, Fabro provides the following description of these three Kantian categories:

(a) The possibility (*Möglichsein*) of an object consists in the being-positing of something so that it is in "agreement with" what is given in the pure forms of intuition, namely space and time, and thus allows itself to be determined according to the pure forms of thought, that is, according, to the categories.

(b) The reality (*Wirklichsein*) of an object is the being-positing of a possible object in such a way that what is posited is "bound up with" sense perception.

⁹⁷⁸ DE MURALT, A., «Kant, le dernier occamien. Une nouvelle définition de la philosophie modern», in *Revue de métaphysique et de morale*, 80 (1975) 1, 41-42. Future reference to this work as KDO. All translations of de Mural's texts are the author's. "Une connaissance vraie et objective, mais privée d'un corrélat objectif extramental immédiat est définie par l'occamisme du 14th siècle comme non contradictoire, c'est-à-dire comme possible. Cette possibilité est liée à l'hypothèse selon laquelle la toute puissance de Dieu peut de droit décréter un ordre de la connaissance tel que celle-ci soit ou ne soit pas indépendante de son objet. [...] Pour la raison humaine des nominalistes du 14th siècle, la question restera toujours ouverte de savoir si la connaissance qu'elle a, évidente et vraie, de l'objet extramental, est déterminé formellement par cet objet ou par la toute puissance divine, c'est-à-dire si la toute puissance divine s'este décidée dans tel ou tel sens, si elle s'est substituée à l'objet ou non".

(c) The necessity (*Notwendigsein*) of an object is the being-positing of what is "connected with" the real in accordance with the universal laws of experience⁹⁷⁹.

In order for us to experience something, it must agree with the pure forms of space and time (the category of possibility); it must then be associated with sensed perception in order for it to be real (the category of reality); and to reach necessity it must connect with and function according to universal law. We thus see how the subject sets all the conditions according to Kant's philosophy, and it is hard to say what content the object itself contributes. The mental elements in cognition dominate the sensed elements completely, and outer reality is lost to subjective conceptual possibility.

If extra-mental things do not provide information in perception and cognition, then all such knowledge is immanent to the self. "The spirit can only live on its own [...]. [The Kantian principle sees] thought as necessarily mediating reality; in other words, knowing is the absolute autonomy and spontaneity of the *Ich denke*"⁹⁸⁰. Now what type of *objective* certainty can we draw from immanent knowledge? If knowledge only deals with our own concepts and the appearances within ourselves, then we can only be certain of our own existence. The world outside of us remains completely unknowable: "Knowledge is no longer anything other than the certainty of having in oneself the *esse obiectivum* or the objective appearance of the thing, independent of whether it in fact is or is not"⁹⁸¹. This unknowability of things is openly professed by Kant himself⁹⁸². And despite his "Refutation of Idealism" in B274-279, Kant's transcendental philosophy presents the self as only knowing itself spontaneously in perception; outer sensation is merely the occasion for the *Ich denke* to spring into action. "Kant agrees that the sensible contents are pure matter, simply given. He is not concerned with the way in which they present themselves; he takes them as orderless and formless, a 'dust' that solidifies only thanks to the coagulating powers that spring from the soul"⁹⁸³. Does this in fact describe what happens in our sensation? Are we not interested, on a biological-instinctive level, with knowing the real world around us? Piaget's studies in the development of a child's perceptual schema, as

⁹⁷⁹ FABRO, C., «The Transcendentalism of Ens-Esse and the Ground of Metaphysics», in *The International Philosophical Quarterly*, 6 (1966) 3, 396. Future reference to this article as TEE.

⁹⁸⁰ Ibid., PP, 358. "È questo il principio dell'immanenza, per cui lo spirito non può vivere che di se stesso ed è caratteristico della filosofia moderna. Mi pare che essa vi sia arrivata, quasi per confluenza, per doppia via: a) dal principio fenomenistico locke-berkeley-humiano, e b) dal principio kantiano della mediazione necessaria del reale da parte del pensiero, vale a dire dell'autonomia o spontaneità assoluta dell'io penso".

⁹⁸¹ DE MURALT, KDO, 42. "La connaissance n'est désormais plus autre chose que la certitude d'avoir en soi l'esse obiectivum ou l'apparentia objective de la chose, que celle-ci soit ou ne soit pas".

⁹⁸² Cf. KANT, CPR, A256/B312.

⁹⁸³ FABRO, PP, 308. "[Kant] accetta i contenuti sensibili come puri dati e materia pura: non si preoccupa circa il loro modo di presentarsi; li ritiene senza ordine, senza forma, una «polvere» che si solidifica solo per la virtù coagulante che si sprigiona dall'anima".

going from purely subjective to objective-subjective, point towards such a real interaction with our surroundings.

Kant grants more importance to unity in synthesis than external being and existence. While the *Ich denke* is supposed to simply accompany (*begleiten*) the representations in sensed intuition, Kant must then change the role of the *I think* to a much more active role of synthesis. “Kant explains that this reference [to sensed appearance] does not take place due to the fact that I accompany consciously each representation, but more because I *add* (the italics are Kant’s) one representation to another, and am aware of their synthesis”⁹⁸⁴. Where initially the *I think* was supposed to arise only from synthesis, Kant must found all unity in the object to the *Ich denke*’s power of synthesis. Similar to Descartes’s founding the mind on its own power to think, Canals sees Kant as basing the mind on its own power to apply the categories. “Descartes confused the ‘I think myself’ as ‘I experience myself’. [...] But we must repeatedly declare that they are not the same thing. They are inseparable, for one is founded on and emanates from the other. I do not experience myself as existing because I think myself, but rather I can think on myself, because I experience myself as existing”⁹⁸⁵. Kant has placed the *Ich denke* and its thought as the positing of itself and its object. If the object depends on this subjective synthesis, then the existence of the thing itself is hardly important. Any unity found in the object in appearance depends on the synthetic functions of the apperception; the object’s being as independent of the subject amounts to little more than the realization that there is something out there. What does such “being out there” amount to for Kant?

If knowledge in rationalist philosophy is concerned more with concepts than with things, then understanding *what* a thing is its essence, definition or concept – holds more value than the fact that it *is*. Existence is secondary and defined as “*positio rei extra causas*”⁹⁸⁶. The concept or essence takes precedence in time and in importance. Such Scholastic rationalism is key in Kant’s theory of knowing. Even as he strives to keep objectivity by reference to sensed intuition, the presentation in sensed intuition and its subsequent objectifying in the categories are thanks to the *Ich denke*. The “positing” of things relies on the spontaneity of the *I think*; existence becomes of secondary

⁹⁸⁴ Ibid., TMTT, 543. “Kant osserva che questo riferimento non ha luogo per il fatto che io accompagni con la coscienza ogni rappresentazione, bensì per il fatto che io aggiungo (corsivo di K.) una rappresentazione all’altra e sia cosciente della loro sintesi”.

⁹⁸⁵ CANALS, F., «Criticismo Trascendental», in *Anuario Filosófico*, 43 (2010) 3, 497. “Contra Descartes, quien confundió e interpretó como “yo me pienso” el “yo me experimento”; ... Son inseparables, pero una cosa emana de otra y fundamenta a otra. Yo no me percibo existiendo porque piense en mí, sino que puedo pensar en mí porque me percibo existiendo”. Author’s translation.

⁹⁸⁶ FABRO, TEE, 396.

importance, since appearance becomes the outermost limit or boundary of our knowing. Rationalism is centered on the mind and its concepts, with less need to find truth in material bodies. Truth comes to outer appearances, thanks to the mind and its concepts' ability to synthesize and bring together.

Kant's rationalism comes out clearly in the case of the hundred thalers (A599 / B627). The difference between the concept or idea of one hundred thalers (a monetary unit) and their reality, or actual existence, lies in the difference between what is possible and what is real. Our idea of one hundred thalers gains nothing by actual existence: Existence is external to the concept. By analyzing the concept "one hundred thalers" we cannot reach existence, but only by synthesis, that is, by referring to sensed affection. Here Kant's rationalism rules out his empirical leanings; the concept is what comes first, as the possibility or non-contradictory status of our ideas. Existence is secondary, as a simple observation that such a concept really only exists outside of ourselves. Conceptual possibility precedes real being. "It is clear, therefore that Kant knows no other concept of being (existence) than that Scholastic-rationalist concept expressed by the couplet *possible-real*. And he knows the act of existence only as a fact, by which the one hundred thalers are not in the least increased, because existence stands outside the concept"⁹⁸⁷.

Conceptual possibility is what determines our experience and objects in experience. Truth becomes subjective, conceptual coherence for Kant: the object can only be experienced, inasmuch as it conforms to the subject's conditions. Otherwise, how could it possibly be experienced?

For experience has its unity solely from the synthetic unity that the understanding confers, originally and on its own, on the synthesis of imagination by reference to apperception; appearances, as data for a possible cognition, must a priori already have reference to, and be in harmony with, that synthetic unity. Now, these rules of understanding not only are true a priori; but, by containing the basis for the possibility of experience as the sum of all cognition wherein objects may be given to us, they are even the source of all truth, i.e., the source of our cognition's agreement with objects⁹⁸⁸.

Here we see the full weight of Kant's Copernican revolution: Objects conform to the subject's conditions. Why does Kant see such a drastic revolution as necessary? IN order to justify the necessary and constant synthesis we discover in our experience and

⁹⁸⁷ Ibid, TEE, 394.

⁹⁸⁸ KANT, CPR, A237/B296. "*Denn diese [die mögliche Erfahrung] hat ihre Einheit nur von der synthetischen Einheit, welche der Verstand der Synthesis der Einbildungskraft in Beziehung auf die Apperception ursprünglich und von selbst ertheilt, und auf welche die Erscheinungen, als data zu einem möglichen Erkenntnisse, schon a priori in Beziehung und Einstimmung stehen müssen. Ob nun aber gleich diese Verstandesregeln nicht allein a priori wahr sind, sondern sogar der Quell aller Wahrheit, d.i. der Übereinstimmung unserer Erkenntniß mit Objecten*".

cognition. Such necessity in experience cannot be based in things for Kant, but only in the self.

When we perceive something external to us, the concept of body makes necessary the presentation of extension, and with it the presentations of impenetrability, shape, etc. Any necessity is always based on a transcendental condition. There must, therefore, be a transcendental basis to be found: a transcendental basis of the unity of consciousness in the synthesis of the manifold of all our intuitions; and hence a transcendental basis also of the concepts of objects as such, and consequently also of all objects of experience—a transcendental basis without which it would be impossible to think any object for our intuitions. For this object is nothing more than that something whose concept expresses such a necessity of synthesis⁹⁸⁹.

Objects are posited as enduring, extended and impenetrable, only because of our a priori conditions. Conceptual possibility determines and combines things thoroughly; their autonomous existence has minimal importance for our knowledge. Kant's rationalism comes out further in the statement already addressed in chapter 4, "being is not a predicate"⁹⁹⁰. Since that section of the CPR deals with the transcendental idea of God and Anselm of Canterbury's ontological proof, Kant uses the example of being for the concept of God.

The word "is" does not express a predicate by itself, but is only what puts the predicate in relationship to the subject (*beziehungsweise aufs Subjekt*). And Kant has stacked the cards for his pure formal analysis. If, he continues, I reunite the subject (God) with all its predicates (to which omnipotence also belongs), and I say, "God is", or "There is a God", then I do not add any new predicate to the concept of God, but only posit the subject in itself with all its predicates, and precisely as the object in relation to my concept⁹⁹¹.

Thus conceptual possibility takes priority over actual existence and being, and since such conceptual possibility is to be applied only to sensed intuition, Kant denies any valid use of our concepts for non-sensed "things" such as God; the possibility of our concepts only function in relation to objects in sensed intuition. The deciding factor is the apperception's conditions of possibility; things in appearance must conform to our conditions. Possibility takes precedence over reality. "It is clear now that all of being, possible being as well as real, has slipped into transcendental subjectivity, insofar as

⁹⁸⁹ Ibid., A106. "So dient der Begriff vom Körper nach der Einheit des Mannigfaltigen, welches durch ihn gedacht wird, unserer Erkenntniß äußerer Erscheinungen zur Regel. Eine Regel der Anschauungen kann er aber nur dadurch sein, daß er bei gegebenen Erscheinungen die nothwendige Reproduction des Mannigfaltigen derselben, mithin die synthetische Einheit in ihrem Bewußtsein vorstellt. So macht der Begriff des Körpers bei der Wahrnehmung von Etwas außer uns die Vorstellung der Ausdehnung und mit ihr die der Undurchdringlichkeit, der Gestalt etc. nothwendig. Aller Nothwendigkeit liegt jederzeit eine transscendentale Bedingung zum Grunde. Also muß ein transscendentaler Grund der Einheit des Bewußtseins in der Synthesis des Mannigfaltigen aller unserer Anschauungen, mithin auch der Begriffe der Objecte überhaupt, folglich auch aller Gegenstände der Erfahrung angetroffen werden, ohne welchen es unmöglich wäre, zu unsern Anschauungen irgend einen Gegenstand zu denken: denn dieser ist nichts mehr als das Etwas, davon der Begriff eine solche Nothwendigkeit der Synthesis ausdrückt".

⁹⁹⁰ Ibid., A598/B626. "Sein ist offenbar kein reales Prädicat".

⁹⁹¹ FABRO, TEE, 392-393.

possible being is only what is thinkable, but merely to the extent of the a priori synthesis⁹⁹². The possibility of concepts is the formal condition, while sensed intuition is supposed to provide the matter. Such sensed intuition is also determined by conditions a priori, space and time, and so sensed intuition becomes subjective positing or determining as well. Kant only considers the conditions of possibility, and remains completely within the subject in what Heidegger calls “reflection on reflection”⁹⁹³. Kant’s metaphysics becomes completely conceptual, as the mind comes to determine things rationally:

The object of metaphysics is not the *ratitudo* of the actually existing, fully definite being in itself: insofar as such being can be experienced by us by means of sensed intuition, it is trivial; and regarding such being’s relevance for metaphysics, it is not possible for us to experience it. Rather the object of metaphysics is the *ratitudo* which the concept grasps when it grasps the inner possibility of the object as the possibility of the synthesis of its determining points⁹⁹⁴.

Being has become “ratitudo”, or rational determining. “Kant is thus wholly taken up with the foundation of objectivity as content and leaves in the dark the ground itself that is being, the ‘making itself present’ of reality as act and actuality. What results [...] concerning the content is that the possible and the real do not differ at all”⁹⁹⁵. Concept’s content, or their possibility, is what determines being. Truth loses its objective bearings, if only conceptual coherence is required. As Hume rightly declared, “whatever we can imagine, is possible”⁹⁹⁶. If conceptual coherence only requires non-contradiction within the concept⁹⁹⁷, then things outside of us have lost any importance, as standards for judgment and knowledge.

Aristotle’s teaching on induction takes our concepts from experience of things outside of us; Kant’s conceptual system is a priori to all experience, as what allows such experience. However, unless there is “a moment prior to the specification of the real, which constitutes the foundation and presence of the real in act, and of thought in act, the philosophical problem of truth has no *raison d’être* nor could it have a solution”⁹⁹⁸. Kant’s problem of the bridge and his search for the ground for our intentional knowing comes to be a pseudo-problem, because Kant sees our mind as setting the conditions for all objects. The bridge is set only in one direction: from the subject outwards. Like Popper’s

⁹⁹² *Ibid.*, 398.

⁹⁹³ HEIDEGGER, *Kants These über das Sein*, Frankfurt 1963, 31, as cited by FABRO, TEE, 398.

⁹⁹⁴ HONNEFELDER, ST, 444. “*Gegenstand der Metaphysik ist nicht die ratitudo des aktuell existierenden vollbestimmten Seienden an sich selbst — sie ist, sofern im Medium der uns möglichen sinnlichen Anschauung erfahrbar, trivial und, sofern für die Metaphysik relevant, von uns nicht erfahrbar — sondern die ratitudo, die der Begriff erfaßt, wenn er die innere Möglichkeit des Gegenstandes als Möglichkeit der Synthesis seiner bestimmenden Momente erfaßt*”.

⁹⁹⁵ FABRO, TEE, 393.

⁹⁹⁶ HUME, THN, 1.4.5.35.

⁹⁹⁷ Cf. HONNEFELDER, ST, 432-433.

⁹⁹⁸ FABRO, TEE, 396-397.

theories as nets cast out towards reality, we must determine for ourselves what and how things exist. All that matters is the *content* of ideas, not their reality.

In conclusion on Kant's failure to justify our knowing the world around us, we must consider what we mean by "being". Here Fabro adopts Heidegger's critique of modern philosophy. For both scholastics and rationalists, being is seen as the most generic concept. In order to include all forms of being as the supreme genus, being itself is seen as empty, plain and of little interest, analytically speaking. Such a concept of being distorts any metaphysics that seeks to ground our knowledge. Heidegger sees being as the presence of what is present (*Anwesen des Anwesendes*)⁹⁹⁹. Being is admittedly presented always as some *thing*, that is, as a concrete content or essence; being is the act or presence that makes such content *be*.

Foundational thinking indicates that "awareness of presence" of the real to consciousness which is absolutely first and underivable, by means of which consciousness is, and is called, an act. And thus it is the foundation, the *prius constitutum* of every further act of consciousness. Not by chance, then, was *ens* the first term to be called a "transcendental", and, at the same time, one can understand how the turning upside-down of this term by Kant and Idealism has led modern thought to the final form of its resolution¹⁰⁰⁰.

Where Kant bases his theory of knowledge and metaphysics on the ground of conceptual possibility, Aquinas grounds both in the concept or notion of *ens*. Such *ens* does have content, but its being – independent of ourselves – is what grounds all our knowledge of things. We now turn to consider how Aquinas manages to ground our knowledge in reality.

4.2. Aquinas's transcendental ens

Fabro's lifelong study of Aquinas's metaphysics brought him to realize the importance that *esse*-being has in the Angelic Doctor's thought. Aquinas centers both his metaphysics and his gnoseology around the notion *ens*. The English translation "being" is equivocal, since that it is used to translate both the participle form *ens* and the infinitive *esse*. *Ens* is concrete being, while *esse* is its act of being, its presence. I will use the Latin terms for greater precision and clarity. I follow Fabro's reading Aquinas's metaphysics as intensive participation of being-*esse*, which I consider to be his greatest contribution to

⁹⁹⁹ Cf. *Ibid.*, DEAE, 499. "Si chiarifica sul piano fenomenologico quel ch'è l'essere in quanto essere ovvero «la presenza del presente» nella terminologia di Heidegger".

¹⁰⁰⁰ *Ibid.*, TEE, 390.

Thomistic thought; classical Thomistic philosophy has a different reading of Thomas that agrees more easily with rationalist conceptualism¹⁰⁰¹.

Aquinas states clearly the first object or notion that we come to know as humans: “That which intellect first conceives as, in a way, the most evident and to which it reduces all its concepts, is being (*ens*)”¹⁰⁰². What we know, and all that we come to know, refers to *ens*; this is the initial and constant reference point for our knowledge. The notion of *ens* includes both the content-essence (which modern, rationalist philosophy heavily favors) and the act-esse (as what Heidegger seeks to bring back to the fore in philosophy).

The expression “ens” takes its power and consistency from its two-fold aspects of *essentia* (essence) and *esse*, where *esse* – unlike in scholastic and modern philosophy – is not simply the “fact” of existence, but rather is the emerging beyond essence, as essence’s grounding act. *Ens* expresses the real composition of *esse* and essence, at least in finite *ens*¹⁰⁰³.

We cannot go into a comparative study between Aquinas’s *ens-esse* and Heidegger’s *Seiende-Sein*, but we see Fabro’s use of Heidegger’s terminology in explaining Aquinas’s *ens*. What is important to grasp in the two-fold notion *ens* is that *ens* is concrete substance for Aquinas. It has being in itself, in that it truly *is*; it has its act of being as participated (*per participationem*). *Esse* is what makes the concrete *ens* be: “*Esse* is the perfection of all other perfections and the actuality of essence, as living, understanding and willing. *Esse* stands thus on its own, while all other actuality and perfection presuppose the act of being-esse”¹⁰⁰⁴. This “standing on its own” is precisely what substance means: having being in itself. Things are because they have their own act of being. Thanks to the Judeo-Christian doctrine of creation, Aquinas arrives at a view of all things as being-*ens* by participation, caused ultimately by that Being which is perfectly (*per essentiam*), not by participation. It is *ens*, involving a specific essence and act of being-esse, that is the first notion that comes to our minds; *ens* enfolds all other concepts and thought. Aquinas’s verb “*cadit*” reveals the passive, receptive manner in which our mind depends on outer things – as being-*ens* – to arouse our minds. *Ens* “constitutes the first and lasting origin of the intelligibility of contents, [...] not just for representations and cognition, but also for the first principles of thought and all that derives

¹⁰⁰¹ Cf. FERRARO, «La interpretación del esse en el “tomismo intensivo” de Cornelio Fabro», 13-17.

¹⁰⁰² AQUINAS, DV, 1,1 [Regnery, 5]. “*Illud autem quod primo intellectus concipit quasi notissimum, et in quod conceptiones omnes resolvit, est ens*”.

¹⁰⁰³ FABRO, TMTT, 553. “*La vis e consistenza del semantema ens proviene dalla sua duplicità di essentia ed esse dove l’esse — a differenza della Scolastica e del pensiero moderno — non è il semplice «fatto» della existentia, ma emerge sull’essenza come il suo «atto» fondante ed esprime (come ens finito) la composizione reale di esse ed essentia*”.

¹⁰⁰⁴ Ibid., 554. “*L’esse è l’atto di tutte le perfezioni e attualità dell’essenza come vivere, intelligere, velle... Pertanto l’esse sta in sé, mentre tutte le altre attualità e perfezioni presuppongono quella dell’esse*”.

from them in the grounding and development of knowledge”¹⁰⁰⁵. Beings, insofar as things that are, are what constitutes the gambit of our knowledge.

Fabro gives credit to Kant for seeing knowing as synthetic; but Kant fails to place the basis of such synthesis outside of ourselves. “Knowing is at the same time presence and interior increase: As presence it follows upon the absence and emptiness that is ignorance; and as interior increase it nourishes the life of the spirit that advances in the world in order to fulfill its possibilities”¹⁰⁰⁶. The interior increase of content allows us to grasp *what* and *how* things are; *that* they are – their presence – is due to their own, autonomous act of being. *Ens* is the true synthesis that grounds knowing.

Only with the basis of *ens* does Aquinas then proceed to derive the other transcendentals. Kant’s citation of those transcendentals in B113-114 is an 18th-century scholastic reduction of the original; Aquinas’s *De veritate* is far richer in meaning and consequence. From the notion of *ens* we realize that it is some *thing*, of a specific type; it has a specific essence, or way of being. This is what Aquinas calls *res* (thing), as referring to the content-aspect of being-*ens*. *Unum* (one) is the third transcendental, and refers to the fact that there is no substantial division within *ens*. *Aliquid* (something) applies the notion of division to *ens*, as something separate from other beings. These three transcendentals – *res*, *unum*, *aliquid* – derive from *ens* as intrinsic and constitutive of all being; they make explicit aspects that the notion *ens* implies or entails.

Of greater interest for this thesis are the remaining two transcendentals. The first three are derived or added to *ens*, as they make explicit what the notion *ens* contains implicitly. The following two transcendentals, *verum* and *bonum*, are added to *ens*, as being comes into relationship with the rational soul. *Ens* does not simply awaken and determine our knowledge by presenting objective information; the relationship is mutually enriching. As *ens* comes into contact with the soul and its two principle faculties of the intellect and the will, being itself acquires a higher dignity, portrayed in *verum* and *bonum*. For example, universal scientific laws arise only in the intellect (*verum*); the usefulness or good of certain materials is discovered and put to use thanks to the rational soul (*bonum*). The transcendentals *verum* and *bonum* imply that all being stands in intrinsic, fundamental relation to the soul. This is based on the Aristotelian principle cited by Aquinas in his *De*

¹⁰⁰⁵ Ibid., NPE, 501. “[L’ens] costituisce la prima origine permanente della intelligibilità dei contenuti stessi secondo la gamma dell’analogia: non solo però delle rappresentazioni e conoscenze, ma anche degli stessi primi principi e di quanto ad essi fa capo nella fondazione e struttura del sapere”.

¹⁰⁰⁶ Ibid., TEE, 417.

veritate text: “The soul is in a certain way all things”¹⁰⁰⁷. Our mind relies on being outside of ourselves as present in act, providing content that increases the soul’s knowledge. Beings themselves are ennobled in knowledge, as they come to be understood and appreciated more fully. The grounding of our knowledge remains solidly based in *esse*: The act of *ens* “does not just make it exist but is thus the principle of its intelligibility. *Ens* is the transcendent plexus of all intelligibility”¹⁰⁰⁸.

Kant leaves being as dependent on the synthesis of transcendental apperception. We might be led to see *ens* as dependent on the mind in the transcendental *verum*. In truly idealistic spirit, Schelling re-reads Leibniz on perception in monads: “Nothing can be real unless there is a spirit to know it. [...] Leibniz did not know of any other being other than one that knows itself or is known by a spirit [*das sich selbst erkennt oder von einem Geiste erkannt wird*]”¹⁰⁰⁹. Such rationalism places reason over being, as what gives things their existence. *Ens* does not rely on our intellect for its being per se, but only for it to be known, which *verum* signifies. “There is the essential (and mutual) interconnectedness of *ens* with consciousness and of consciousness with *ens*. [...] No circularity results, however, and the grounding priority of *ens* is, therefore, always preserved”¹⁰¹⁰. Not all thought is *ens*, at least not substantial being. There is not an exact parallel between our thoughts and being. As we saw with the order of emerging based on the participation of our faculties, our minds proceed in reverse order to real being: We first see and “know” the very outer aspects, and only gradually come to know things deeply and fully. Whereas Platonic thought sees the mental order as a perfect mirroring of the real order, Aquinas follows Aristotle’s inverse order:

It was Greek and Christian Neo-Platonism, as absolute realism (which is absolute idealism at the same time) that affirmed the direct and adequate correspondence between the intentional and real order; in the “dialectical realism” (it is a provisional term) of St. Thomas the correspondence between the mode of being and the mode of knowing, between being and truth, is only proportional, but always positive in virtue of the *primum apprehensum*, which is precisely what *ens* is¹⁰¹¹.

This inverse relation between our intellect and reality implies a constant reference to things themselves on the part of our minds. *Ens* remains the reference point throughout

¹⁰⁰⁷ ARISTOTLE, DA, Bk. 3, Ch. 8, 431b [Penguin, 210]. Aquinas’s citation as follows: “*Hoc autem est anima, quae quodam modo est omnia, ut dicitur in III de anima*”.

¹⁰⁰⁸ FABRO, NPE, 499. “*Per S. Tommaso invece l’ens «...dicit aliquid proprie esse in actu» [Summa theologiae, I, 1, ad 1], e l’atto non solo fa esistere ma è con ciò principio d’intelligibilità; perciò l’ens è il plesso trascendentale di ogni intelligibilità*”.

¹⁰⁰⁹ SCHELLING, F.W.J., *Historisch-kritische Ausgabe*, vol. I, 4, 75–76, as cited by FINCHAM, «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal for the History of Philosophy*, 23 (2015) 6, 1054.

¹⁰¹⁰ *Ibid.*, TEE, 414.

¹⁰¹¹ *Ibid.*

the process of knowing, and so *verum* relies on *ens*. Abstract, universal thought is of great importance in developing theory; yet the importance of the *conversio ad phantasmata* surfaces once again, when we consider the centrality of *ens* beyond conceptual essence.

The apprehension of *ens* leads us to affirm reality inasmuch as its complexity is present and given to the knower; knowledge of essence is of a specialized nature and presupposes *ens* as its enduring point of departure. This is true above all in Thomas's view that requires the *conversio ad phantasmata* in order to carry out abstraction. Such *conversio* is our referring to the singular existent, which is so precisely insofar as it is *ens*¹⁰¹².

It is the concrete *ens* that is, and *ens* remains the reference point for all our knowledge in the *conversio ad phantasmata*. Kant's sought-for grounding (*Grund*) arises from outside of ourselves in *ens*, as what both awakens and upholds our entire system of knowledge. The transcendental *ens* enables us to bridge the gap between the subject and the object, as the act of being (*esse*) manifested in and with a specific content (*res-essentia*). This content is expressed in the qualities and sensed properties. The senses give us direct experience of concrete things; the intellect is able to grasp the essence of such things, on a universal level. We know things according to their essence, thanks to the phantasmata present in the cogitative. We arrive to truth only by turning outward, towards *ens*-being. Being is the standard for our knowledge, not possibility. What is possible is the intellect's extrapolation on an abstract level; there *is* a real difference between one hundred dollars in my pocket and the idea of one hundred dollars. The difference is *ens*, as having its act of being in itself, and not merely in our mind. Given our state as human beings immersed in a material world, things' reality will always trump their mere possibility or conceivability. Our minds naturally look to reality-*ens* in order to understand more fully the structure present in it, as well as our place in that reality.

Aquinas's transcendentals *ens* and *verum* show the sort of entanglement that exists between our minds and reality. Such entanglement implies a mutual relation, as well as our dependence on being. However, such dependence does not imply lowering the mind; on the contrary, when *ens* comes to be known by our intellect, being itself is ennobled and enriched. Scientific laws such as Newton's, Maxwell's and Einstein's point to this enrichment of reality in the mind. In the opposite direction, the observation and testing involved in scientific theories shows our mind's dependence on reality-*ens* as the ultimate truth standard for scientific knowledge.

¹⁰¹² Ibid., NPE, 491. "L'apprensione dello *ens* porta sull'affermazione della realtà in quanto nella sua complessità è presente e data alla vita cosciente del conoscente; la conoscenza dell'essenza è di natura specializzata e suppone come sostegno e punto di partenza quella di *ens*. Questo vale soprattutto nella concezione tomistica che esige nell'attuarsi dell'astrazione la *conversio ad phantasmata* ossia il riferimento al singolare esistente che è appunto tale in quanto è *ens*".

In summary of Aquinas's transcendentals *ens-verum*, I quote at length from Fabro's *Dall'essere All'esistente*. The Heideggerian overtones are clear, but the doctrine is purely Thomistic:

Being-esse is transcendently constitutive in our knowledge of *ens*, and prior to that, *esse* is constitutive of *ens*'s reality. Possibility differs from reality in that reality has being, possibility does not. Being is at the very heart of the reality of *ens*, because *ens*'s ontic expansion, its constitutive drama and development towards natural perfection (τέλος), all of this arises from being-esse, as are based on being, and returning to being. Thus, being is at the heart of the very possibility of knowing. Being-*ens* is precisely understood as a subject that carries being-esse; the essence of knowing is to enlighten *ens* within being-esse by bringing it back to being. [...] Being-esse is precisely the reality of *ens*-being's act of presence, through which act each thing has being in this concrete manner, and so it is not nothing. [...] Being-esse is not a definite reality, but is the actuality of all reality. Being-esse is not content, but what inexhaustibly contains. Being-esse is not a concept, but the act of presence of *ens*, through which the truth of being appears in consciousness along with its content in concepts. [...] *Esse* is not a result, nor the arrival point or point of departure; *esse* is the absolute first, both of *ens* – which *esse* upholds – and of the spirit – which discovers *esse* in *ens*. *Esse* is not a concept, but is the act of all reality. If we understand this, we can say that we have reached the level of metaphysics. Otherwise we remain in the closed circle of containing and contents. *Esse* is the enlightening that makes *ens* appear, and so only the spirit has access to *esse*, since the spirit is defined specifically as an inexhaustible capacity for being: "to become all things and to bring all things about" (τῷ πάντα γίνεσθαι, τῷ πάντα ποιεῖν, Aristotle, *De Anima*, Bk. 3, Ch. 5, 430a). And so, even as being-esse grounds and confirms the reality of *ens*, it also sets its limits, and establishes the negation of being. Being-esse thus reveals its own transcendental by establishing what is transcendent¹⁰¹³.

Fabro arrives to true metaphysics by using Heidegger's terms of enlightening and revealing, based solidly in Aquinas's *actus essendi* – *esse ut actus*. Only by arriving at a proper understanding of what reality *is* and what things *are*, may we arrive at a proper understanding of our knowledge of those things. Things are substances, in that they have their own respective act of being, and so *are*. They are always invariably some concrete thing, as a concrete sort and essence. While the mind comes to understand such essence, its properties and characteristics, it does not lose sight of the grounding act of such things,

¹⁰¹³ FABRO, DEAE, 65-67. "L'essere è veramente il costitutivo trascendentale della nostra conoscenza dell'ente e, prima, della realtà dell'ente: il possibile differisce dal reale perché questo ha l'essere, quello no. L'essere sta quindi al fondo della realtà dell'ente; perché l'espansione ontica dell'ente, la sua trama costitutiva ed il suo sviluppo verso il τέλος della sua natura, partono dall'essere, si muovono dall'essere, e ritornano all'essere. Così l'essere sta al fondo della possibilità del conoscere stesso: anzitutto perché l'ente è concepito come il soggetto portatore dell'essere e soprattutto poi perché l'essenza del conoscere è quella d'illuminare l'ente nell'essere, riportando l'ente all'essere. [...] L'essere è precisamente la realtà dell'atto di presenza dell'ente, per il quale ogni cosa ha di essere quel che è e non è nulla. [...] L'essere non è quindi una realtà definita, ma è l'attualità di ogni realtà. L'essere non è un contenuto, ma l'inesauribile contenente. L'essere non è un concetto, ma è l'atto di presenza dell'ente per cui s'illumina nella coscienza la verità dell'ente dei suoi contenuti e concetti [...] l'essere non è un risultato, non è un punto di arrivo o soltanto di partenza: l'essere è il prius assoluto sia nell'ente ch'esso sostiene come nello spirito ch'esso illumina sull'ente. L'essere non è un concetto, ma è l'atto di ogni realtà. Se si afferra questo, si può dire che si è nella sfera della metafisica; altrimenti si resta nella cerchia chiusa dei contenenti e dei contenuti.- L'essere è l'illuminazione che fa apparire l'ente ed è quindi accessibile solo allo spirito che si definisce precisamente come capacità inesauribile di essere: τῷ πάντα γίνεσθαι e τῷ πάντα ποιεῖν (*De anima* III, 5, 430 a14-15). L'essere pertanto mentre fonda e attesta la realtà dell'ente, ne denuncia il limite e pone la negatività del limite: così l'essere, attestandosi nella sua trascendentalità, pone la trascendenza".

as being-esse. Such reference of the mind towards being-ens allows Aquinas to ground our knowing transcendently, as beyond ourselves. Kant's transcendental philosophy is unable to ground our knowledge, because he focuses only on the content-possibility within our concepts, without considering the grounding of being outside of us. Heidegger's accusation against modern philosophy is precisely its forgetting about being (*Vergessenheit des Seins*)¹⁰¹⁴. Aquinas's understanding of being as act is precisely what Heidegger calls for, since it provides a true grounding for our knowing.

5. Further areas to consider

In conclusion of this thesis, we have compared Kant's transcendentals with Aquinas's. The difference between conceptual possibility and actual reality is based on the concept of being. This metaphysical outlook of reality and ourselves determines the theories of knowledge or gnoseology of both philosophers. Kant straddles between Hume's skepticism and scholastic rationalism, as he proclaims his Copernican revolution by placing all conditions of knowing within the subject. The chasm between things and ourselves is permanent for Kant. A further gap appears in the apperception, when we consider the incompatibility of the senses and the understanding. A final split occurs in objects: Appearance has little or next to nothing to do with things in themselves. Fabro argues for an authentic knowledge of things, based on sensed perception and enhanced by the cogitative's participation in the intellect. Experience has real value for our knowledge, because we draw real, objective information-content from outside ourselves, by means of the senses. And that experience allows for transcendental knowing, as of things that transcend ourselves and determine our knowledge. Kant makes the important contribution of considering subjective involvement in knowing, which Fabro recognizes in Piaget's perceptual schema's and Stumpf's psychic functions. Fabro's following of Aquinas's gnoseology and metaphysics obtains a fuller explanation of how we know things outside of ourselves than Kant's theory does.

Numerous areas dealt with in this thesis remain open for further consideration. As I stated in the start of the second part, I chose not to go into detail on the three levels of objective content and perception, with the corresponding faculties of the external and internal senses, and the intellect. Further consideration and detail are provided in the works presented in the bibliography. Also Fabro's studies are dated, as Piaget's and

¹⁰¹⁴ FABRO, TEE, 389.

Stumpf's theories have certainly received due criticism and adaptation. A further field of study would be to bring up-to-date the psychological studies underlying Fabro's theory. The importance of the Gestalt theory lies in overcoming the associationist theory in perception. A critique of the limits of the Gestalt theory is another possible area of research, one which Fabro himself presents at length in *La Fenomenologia della Percezione*, but it too can be brought up to date. That being said, studies on the Gestalt in perception provide sufficient arguments against the opposing associationist theory, prominent in areas of empirical sciences. De Haan relates James J. Gibson's investigations on our perception; that would be a further development of the psychological studies that Fabro uses¹⁰¹⁵.

Another area of consideration is the development of scientific theory. The philosophy of science arose in the 20th century, and we considered Popper's proposal as ultimately Kantian. What would an Aristotelian-Thomistic philosophy of science look like? In *La Fenomenologia della Percezione* and *Percezione e Pensiero*, Fabro focuses on perception of the concrete; he does not investigate further into the development of universal laws. Aquinas's division of the sciences, as based on the dependence on physical matter, is presented in his commentary on Boethius's *De Trinitate*¹⁰¹⁶, and such a division of the sciences could certainly be brought up-to-date. Fabro's interests in science only took up the very first part of his career; he then went on to the metaphysics of Aquinas's *esse ut actus*, and the anthropology of existentialism and Kierkegaard. The area of philosophy of science is open for further investigation.

Fabro's place within Thomistic thought in the 20th century is another field of investigation that remains to be seen. Ferraro argues that Fabro broke with prominent Thomistic tradition early on in his career¹⁰¹⁷. Besides classical Thomistic tradition, as promoted by the Angelicum University in Rome, Fabro also took issue with the Jesuit school of Thomism, which tries to join Kantian and Thomistic philosophy. Examples of such attempts at this synthesis within Thomistic thought are J. Maréchal, J.B. Lotz, K. Rahner and B. Lonergan. A comparison between the theories of knowledge from all three currents in Thomistic thought – classical, transcendental and Fabro's – would reveal important differences and quite opposing views within Thomistic philosophy. This too goes beyond the scope of this thesis.

¹⁰¹⁵ Cf. DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», 407, 421, 427-248.

¹⁰¹⁶ Cf. GARCIA, CTA, 379-380.

¹⁰¹⁷ Cf. FERRARO, «La interpretación del *esse* en el "tomismo intensivo" de Cornelio Fabro», 13-17.

Another field of investigation is mentioned by Fabro himself, regarding the status of scientific studies in the physiological process of the human senses and the human brain¹⁰¹⁸. The immense progress of the neurosciences provides important information in this area. This thesis intends to provide a philosophical grounding for our knowledge; a more precise knowledge of the physiological process of sensation would provide better information for such grounding. Likewise, proper philosophical grounding is important in the neurosciences, in order to keep in mind what makes human knowing truly human: the human soul, as immaterial and so unobservable.

With these areas of further investigation besides many others, I conclude this thesis with the sincere hope that the principles laid down in Fabro's work might provide better understanding and explanation for human knowing. May this theory of knowledge give us enough solid ground to continue forward in discovering the virtually limitless capabilities of human thought in relation to the world around us.

¹⁰¹⁸ Cf. FABRO, PP, 455. *“Purtroppo siamo del tutto all'oscuro intorno alla natura di ambedue i processi che causano il primo risveglio della coscienza. Abbiamo però, in generale, la certezza del fatto; ed oggi sappiamo in particolare che il processo fisico va riferito — se è lontano, solo mediatamente — al corpo esteriore, immediatamente alle modificazioni che lo stimolo produce sulla superficie (di contatto) dell'organo di senso”*.

See also PP, 122-123. *“Si può riconoscere pertanto con sincerità che l'ignoranza in cui erano Aristotele e gli Aristotelici, ed in cui siamo ancor noi, circa i processi fisiologici che avvengono negli organi di senso, nelle vie nervose e nei centri lasciano ancora avvolta nel mistero l'intima natura della percezione sensoriale, considerata a parte ante, cioè nella sua prima (passiva) fase. Del mirabile prodigio di fecondità della natura qual è la percezione, possiamo osservare il frutto ed un po' — almeno in alcuni casi — anche il fiore, le foglie ed il gambo: la radice però resta sempre sotterra e a noi non è dato di poterla svellere per appagare la nostra curiosità”*.

BIBLIOGRAPHY

A) Primary sources for Part I

LOCKE, J., *An Essay concerning Human Understanding*. Nidditch, P.H. (ed.), Oxford at the Clarendon Press, Oxford 1975.

HUME, D., *An Enquiry concerning Human Understanding*. Beauchamp, T.L. (ed.), Oxford University Press, New York 1999.

HUME, D., *A Treatise of Human Nature*. Norton, D.F. – Norton, M.J. (eds.), Oxford University Press, New York 2007.

HUME, D., *An Abstract of a book lately published; entitled, A Treatise of Human Nature, &c.: wherein the chief argument of the book is farther illustrated and explained*. Norton, D.F. – Norton, M.J. (eds.), Oxford University Press, New York 2007.

KANT, I., *Critique of Pure Reason: Unified Edition (with all variants from the 1781 and 1787 editions)*. Pluhar, W.S. (translation), Hackett Publishing Company, Indianapolis 1996.

KANT, I., «Metaphysical Foundations of Natural Science», in Allison, H. – Heath, P. (eds.), *Theoretical Philosophy after 1781*, Cambridge University Press, New York 2002, 183-270.

KANT, I., «On a discovery whereby any new critique of pure reason is to be made superfluous by an older one», in *Theoretical Philosophy after 1781*, Allison, H. – Heath, P. (eds.), Cambridge University Press, New York 2002, 283-336.

KANT, I., *Opus postumum*. Forster, E. – Rosen, M. (eds.), Cambridge University Press, Cambridge 1998.

KANT, I., *Prolegomena to any Future Metaphysics that will be able to come forward as Science*. Hatfield, G. (translation), Cambridge University Press, New York 2004.

LEIBNIZ, G. W., *Die Philosophischen Schriften*. Gerhardt, C. J. (ed.), Georg Olms, Hildesheim 1960.

LEIBNIZ, G. W., *Philosophical Essays*. Ariew, R. – Garber, D. (eds.), Hackett Publishing Company, Indianapolis 1989.

LEIBNIZ, G. W., *Nouveaux essais sur l'entendement humain: Sämtliche Schriften und Briefe*. Series VI, Volume 6. Akademie-Verlag, Berlin 1990.

LEIBNIZ, G. W., *New Essays on Human Understanding*. Remnant, P. – Bennett, J. (eds.), Cambridge University Press, New York 1996.

LEIBNIZ, G. W., *Sämtliche Schriften und Briefe, VI, 4-B*. Berlin-Brandenburgischen Akademie der Wissenschaften und der Akademie der Wissenschaften in Göttingen. Akademie Verlag, Berlin 1999.

POPPER, K.R., *Conjectures and Refutations: The Growth of Scientific Knowledge*. Routledge, London 1991.

POPPER, K.R., *The Logic of Scientific Discovery*. Taylor & Francis e-Library (Routledge) 2005.

POPPER, K.R., *The Myth of the Framework: In defence of science and rationality*. Routledge, New York 1996.

POPPER, K.R., *Realism and the Aim of Science: From the Postscript to the Logic of Scientific Discovery*. Routledge, London 1994.

B) Primary sources for Part II

AQUINAS, T., *Aristotle's De Anima in the Version of William of Moerbeke and the Commentary of St. Thomas Aquinas*. Foster, K. – Humphries, S. (translation), Yale University Press, New Haven 1965. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *Commentary on the Metaphysics of Aristotle*. Rowan, J.P. (translation), Henry Regnery, Chicago 1961. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *Commentary on the Posterior Analytics of Aristotle*. Larcher, F.R. (translation), Magi Books, Albany, New York 1970. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *In librum B. Dionysii De divinis nominibus expositio*. Busa, R. – Alarcon, E. (eds.), Corpus Thomisticum, Opera Omnia, Fundación Tomás de Aquino. Published at <https://www.corpusthomicum.org/>, 2000-2000.

AQUINAS, T., *On Memory and Recollection*. Burchill, J. (translation), at *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *On the Unity of the Intellect against Averroists*. Zedler, B.H. (translation), Marquette University Press, Milwaukee 1968. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *Summa contra Gentiles. Book 2*. The English Dominican Fathers (translation), Burns, Oates and Washbourne, London 1923. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *Summa Theologiae*. Fathers of the English Dominican Province (translation), at *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *The Disputed Questions on Truth*. Mulligan, R.W. (translation of volume 1) – McGlynn, J.V. (translation of volume 2), Henry Regnery, Chicago 1952. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

AQUINAS, T., *The Division and Methods of the Sciences: Questions V and VI of his Commentary on the De Trinitate of Boethius*. Maurer, A. (translation), Pontifical Institute of Mediaeval Studies, Wetteren (Belgium) 1986⁴. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation, 1989-2020.

ARISTOTLE, *De Anima*. Lawson-Tancred, H. (ed.), Penguin, England 1986.

ARISTOTLE, *Metaphysics*. Ross, W.D. (ed.), *The Works of Aristotle*, Clarendon Press, Great Britain 1972.

ARISTOTLE, «On Dreams», in Barnes, J. (ed.), *The Complete Works of Aristotle. The Revised Oxford Translation*, volume 1, Princeton University Press, Princeton 1984, 729-735.

FABRO, C., *Dall'essere all'esistente*. Morcelliana, Brescia (Italy) 1957.

FABRO, C., «Idealismo e realismo nella percezione sensoriale», in *Rivista di Filosofia Neo-Scolastica*, 31 (1939) 2, 117–135.

FABRO, C., «Il nuovo problema dell'essere e la fondazione della metafisica», in *Rivista di Filosofia Neo-Scolastica*, 66 (1974) 2, 475–510.

FABRO, C., «Il problema della percezione sensoriale», in *Bollettino Filosofico*, 4 (1938) 1, 5–62.

FABRO, C., «Il trascendentale moderno e il trascendentale tomistico», in *Angelicum*, 60 (1983) 4, 534–558.

FABRO, C., «Knowledge and Perception in Aristotelic-Thomistic Psychology», in *The New Scholasticism*, 12 (1938) 4, 337–365.

FABRO, C., «La percezione intelligibile dei singolari materiali», in *Angelicum*, 16 (1939) 4, 429–462.

FABRO, C., *La Fenomenologia della Percezione*. Ferraro, C. (ed.), Opere Complete volume 5, Edivi, Segni (Italy) 2006.

FABRO, C., *La Nozione Metafisica di Partecipazione secondo S. Tommaso d'Aquino*. Ferraro, C. (ed.), Opere Complete volume 3, Edivi, Segni 2005.

FABRO, C., *Percezione e Pensiero*. Ferraro, C. (ed.), Opere Complete volume 6, Edivi, Segni 2008.

FABRO, C., «The Transcendentality of Ens-Esse and the Ground of Metaphysics», in *International Philosophical Quarterly*, 6 (1966) 3, 389–427.

C) Secondary sources for Part I

On John Locke

ALLEN, K., «Locke and Sensitive Knowledge», in *Journal of the History of Philosophy*, 51 (2013) 2, 249–266.

ANDERSON, R.F., «Locke on the Knowledge of Material Things», in *Journal of the History of Philosophy*, 3 (1965) 2, 205–215.

MENSCH, J., «Material Unity and Natural Organism in Locke», in *Idealistic Studies*, 40 (2010) 1, 147–162.

WILSON, A.B., «Locke's Externalism about 'Sensitive Knowledge'», in *British Journal for the History of Philosophy*, 22 (2014) 3, 425–445.

YOLTON, J.W., «The Concept of Experience in Locke and Hume», in *Journal of the History of Philosophy*, 1 (1960) 1, 53–71.

On G.W. Leibniz

LEDUC, C., «Leibniz and Sensible Qualities», in *British Journal for the History of Philosophy*, 18 (2010) 5, 797–819.

NACHTOMY, O., «Leibniz and Kant on Possibility and Existence», in *British Journal for the History of Philosophy*, 20 (2012) 5, 953–972.

On David Hume

ANDERSON, R.F., «Hume's Account of Knowledge of External Objects», in *Journal of the History of Philosophy*, 13 (1975) 4, 471–480.

BUTLER, A., «On Hume's Supposed Rejection of Resemblance between Objects and Impressions», in *British Journal for the History of Philosophy*, 18 (2010) 2, 257–270.

WESTPHAL, K., «Hume, Empiricism and the Generality of Thought», in *Dialogue*, 52 (2013) 2, 233–270.

On Immanuel Kant

ALLISON, H.E., «Things in Themselves, Noumena, and the Transcendental Object», in *Dialectica*, 32 (1978) 1, 41–76.

- CANALS, F., «Criticismismo Trascendental», in *Anuario Filosófico*, 43 (2010) 3, 477–503.
- DE BOER, K., «Kant's Multi-Layered Conception of Things in Themselves, Transcendental Objects, and Monads», in *Kant-Studien*, 105 (2014) 2, 221–260.
- DE MURALT, A., «Kant, le dernier occamien. Une nouvelle définition de la philosophie moderne», in *Revue de métaphysique et de morale*, 80 (1975) 1, 32–53.
- DI BELLA, S., «Kant's Reevaluation of Monadology: A Historical - Philosophical Puzzle», in *Estudos Kantianos*, 4 (2016) 2, 47–70.
- EDWARDS, J., *Substance, Force, and the Possibility of Knowledge: On Kant's philosophy of material nature*. University of California Press, Berkeley 2000.
- FINCHAM, R.M., «Reconciling Leibnizian Monadology and Kantian Criticism», in *British Journal for the History of Philosophy*, 23 (2015) 6, 1033–1055.
- FÖRSTER, E., «Introduction», in KANT, I., *Opus Postumum*. Cambridge University Press, Cambridge 1993, xv-lv.
- HAHMANN, A., «What Leibniz missed – or Kant misread? Kant's Critique of Leibnizian Metaphysics in light of two recent Interpretations», in *Estudos Kantianos*, 4 (2016) 2, 169–188.
- HALL, B., «A Dilemma for Kant's Theory of Substance», in *British Journal for the History of Philosophy*, 19 (2011) 1, 79–109.
- HONNEFELDER, L., *Scientia Transcendens: Die formale Bestimmung der Seiendheit und Realität in der Metaphysik des Mittelalters und der Neuzeit (Duns Scotus - Suárez - Wolff - Kant - Peirce)*. Felix Meiner, Hamburg 1990.
- KUEHN, M., «Kant's Conception of "Hume's Problem"», in *Journal of the History of Philosophy*, 21 (1983) 2, 175–193.
- OBERST, M., «Kant über Substanzen in der Erscheinung», in *Kant-Studien*, 108 (2017) 1, 1–18.
- PRIETO LÓPEZ, L., «El *Opus postumum* de Kant: la resolución de la física en filosofía trascendental», in *Alpha Omega*, 2 (1999) 3, 453–482.
- PRIETO LÓPEZ, L., «La Nueva Estética Transcendental del *Opus Postumum* de Kant», in *Pensamiento*, 65 (2009) 243, 79–116.
- TUSCHLING, B., «Apperception and Ether: On the Idea of a Transcendental Deduction of Matter in Kant's *Opus Postumum*», in Forster, E. (ed.), *Kant's Transcendental Deductions: The Three Critiques and the Opus Postumum*, Stanford University Press, Stanford 1989, 193–216.
- VILLINGER, R., «Recovering the 'True Meaning' of the Pre-Established Harmony: On a Neglected Key to Kant's Theory of Intuition», in *Kant-Studien*, 108 (2017) 3, 338–377.

WALKER, R.C.S., «Synthesis and Transcendental Idealism», in *Kant-Studien*, 76 (1985) 1, 14–27.

On Karl Popper

DRIESCHNER, M., «Popper and Synthetic Judgments A Priori», in *Journal for General Philosophy of Science*, 36 (2005), 49–61.

MUSGRAVE, A., «How Popper (might have) solved the Problem of Induction», in Catton, P. – MacDonald, G. (eds.), *Karl Popper: Critical appraisals*, Taylor & Francis e-Library (Routledge) 2004, 16–27.

PARVIN, P., «The rationalist tradition and the problem of induction: Karl Popper's rejection of epistemological optimism», in *History of European Ideas*, 37 (2011), 257–266.

D) Secondary sources for Part II

DE HAAN, D.D., «Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts», in *American Catholic Philosophical Quarterly*, 88 (2014) 3, 397–437.

DELBOSCO, H., «El problema de la “acción intencional” en el conocimiento sensible», in *Sapientia*, 45 (1990) 176, 105–122.

ECHAVARRIA, M.F., «Influencias de la psicología contemporánea en las corrientes pedagógicas», in Martínez, E. (ed.), *Actas del Congreso Internacional ¿Una sociedad despersonalizada?*, Balmes, Barcelona 2012, 58-70.

GARCÍA JARAMILLO, M. A., *La cogitativa en Tomás de Aquino y sus fuentes*. Eunsa, Navarra 1997.

KLUBERTANZ, G.P., *The Discursive Power. Sources and Doctrine of the vis cogitativa according to St. Thomas Aquinas*. The Modern Schoolman, St. Louis, Missouri 1952.

MOYA CAÑAS, P., «Intencionalidad y representación: comprensión de estos conceptos en la gnosología de Tomás de Aquino», in *Cuadernos de Teología*, 9 (2017) 2, 184–201.

PIMENTAL, S., «Formal Identity as Isomorphism in Thomistic Philosophy of Mind», in *Proceedings of the American Catholic Philosophical Association*, 80 (2006), 115–126.

SANGUINETI, J.J., «La cogitativa en Cornelio Fabro: Para una filosofía no dualista de la percepción», in *Studium. Filosofía y Teología*, 34 (2014), 437–458.

SCHMIDT, R.W., *The Domain of Logic according to Saint Thomas Aquinas*. Martinus Hijhoff, The Hague 1966.

SCOTT, C.D., «Facing being: the significance of Thomist ontological epistemology to realism in post-Kantian philosophy», in *South African Journal of Philosophy*, 33 (2014) 3, 347–364.

SCOTT, C.D., «Saint Thomas Aquinas' ontological epistemology as clarified realism: The relating of subject to object for ontological knowledge», in *South African Journal of Philosophy*, 35 (2016) 3, 249–260.

TELLKAMP, J.A., «Aquinas on Intentions in the Medium and in the Mind», in *Proceedings of the American Catholic Philosophical Quarterly*, 80 (2006), 275–289.

WHITE, A.L., «The Picture Theory of the Phantasm», in *Tópicos*, 29 (2005), 131–155.

E) Suggested reading

On Part I

Regarding John Locke and David Hume

MCCARTHY, C., «Lockean Limits: Knowledge of Essences and Internal Constitution», in *Dialogue*, 58 (2015) 1, 45–50.

SOMERVILLE, J., «'The Table, Which We See': An Irresolvable Ambiguity», in *Philosophy*, 81 (2006) 1, 33-63.

VAN DER SCHAAR, M., «Locke on Knowledge and the Cognitive Act», in *Grazer Philosophische Studien*, 78 (2009), 1-15.

WEINTRAUB, «Separability and Concept-Empiricism: Locke vs. Hume», in *British Journal for the History of Philosophy*, 15 (2007) 4, 729–743.

Regarding G.W. Leibniz and I. Kant

KANT, I., *Critique of Judgment*. Meredith, J.C. (translation), Oxford University Press, New York 2007.

AQUILA, R.E., «Things in themselves and appearances: intentionality and realism in Kant», in *Archiv fur Geschichte der Philosophie*, 61 (1979), 293-308.

CHANCE, B., «Locke, Kant, and Synthetic A Priori Cognition», in *Kant Yearbook*, 7 (2015) 1, 47–72.

COOKE, V.M., «Kant and substance», in *Proceedings of the American Catholic Philosophical Association*, 61 (1987), 143-150.

GANAPATHY, T.N., «The Kantian Approach to Reality», in *Kant-Studien*, 73 (1982) 4, 471-475.

LANGTON, R., *Kantian Humility: Our ignorance of things in themselves*. Clarendon Press, Oxford 1998.

MESSINA, J., «The Relationship between Space and Mutual Interaction: Kant contra Newton and Leibniz», in *Canadian Journal of Philosophy*, 47 (2017) 1, 43-65.

VAN CLEVE, J., «Substance, Matter and Kant's First Analogy», in *Kant-Studien*, 70 (1979), 149-161.

VANZO, A., «Leibniz on Innate Ideas and Kant on the Origin of the Categories», in *Archiv fur Geschichte der Philosophie*, 100 (2018) 1, 19-45.

On part II

AQUINAS, T., *Aristotle's On Interpretation and Commentary by St. Thomas and Cajetan (Peri Hermeneias)*. Oesterle, J. (translation), Marquette University Press, Milwaukee 1962. Part of *The Collected Works of St. Thomas Aquinas. Electronic Edition*, published at <http://pm.nlx.com> by IntelLex Corporation.

FABRO, C., *Introduzione a San Tommaso: La metafisica tomista e il pensiero moderno*. Ferraro, C. (ed.), Opere Complete, Volume 34, Edivi, Segni 2016.

FABRO, C., «L'esse tomistico e la ripresa della metafisica», in *Angelicum*, 44 (1967) 3, 281–314.

CANALS VIDAL, F., *Sobre la esencia del conocimiento*. Promociones y Publicaciones Universitarias, Barcelona 1987.

DE ANNA, G., «Aquinas on sensible forms and semimaterialism», in *Review of Metaphysics*, 54 (2000) 1, 43-64.

ECHAVARRIA, M.F., «El conocimiento intelectual del individuo material según Tomás de Aquino», in *Espiritu*, 63 (2014) 148, 347–379.

HALDANE, J., «The Metaphysics of Intellect(ion)», in *Proceedings of the American Catholic Philosophical Association*, 80 (2006), 39-55.