Philosophie

Imagination and Harmony in Leibniz's Philosophy of Language

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Introduction

The aim of the work is to inquire into Leibniz's conception of natural languages from a particular angle: his theory of the cognition of finite minds. Two basic theses structure his theory of human cognition. The first thesis can be labelled as cognitive necessity of signs and states that finite minds necessarily need signs or some other kind of characters to reason. The second thesis is what I call imagination thesis and claims that finite minds tend to represent through the imagination what is not subject to it.

An analysis of Leibniz's theory of human cognition must answer the question of why finite minds' thinking activity needs languages or other kinds of characters. The result of my inquiry is the demonstration of a more substantial thesis directly derivable from *cognitive necessity of signs* and *imagination thesis*: a mutual development between language and thought. Finite minds cannot reason without a language intended as a syntactically and grammatically ruled system of signs. The developments of natural languages support a mind's cognitive stages of development of its reasoning capacity. A consequence of this view is that language and thought develop mutually. Languages are expedients of the human mind to overcome its cognitive and metaphysical limitations. Languages and in general any ruled system of signs enable a rational cognitive subject to evolve and develop its inborn cognitive skills. Given this function of language and assuming the *imagination thesis*, it follows that languages and thought evolve through cognitive stages: first minds acquire notions and express thoughts concerning sensible knowledge domain. Once they learn to manage this domain, minds reflect on sensible knowledge, develop more abstract notions, like knowledge about morality and metaphysics; motivated by cooperation with other peers, they learn to use their language figuratively, via tropes, to express knowledge of what is not subject to imagination. It is the aim of the present work to inquire into the complex epistemology and metaphysics that underpin this prima facie very comprehensive and shareable theory of human linguistic and conceptual development.

There are two major difficulties in conducting this inquiry. The first is a hermeneutical matter: Leibniz never dedicated himself to writing a systematic analysis of this topic. I first ask whether the epistemological question on the role of language is present in Leibniz texts. Through a survey of the issues that occupy Leibniz during his life, I argue that the appearance of Locke's *An Essay Concerning Human Understanding* forces him to re-endorse old solutions presented to issues raised by the Cartesians in order to confront with the question posited by Locke: "what *can* we know?" It is at this level that the thesis of the mutual

development of language and thought faces a more substantial theoretical challenge: how can Leibniz argue for this thesis whilst endorsing a metaphysics that maintains substances to not communicate, to be immaterial, and to derive everything from their own depth? In specific, how can Leibniz argue for an evolution of human mind's conceptual apparatus if he claims everything to be innate to a mind?

It is at this level that a fourth substantial thesis of Leibniz need to be made clear: moderate innatism. Innatism is compatible with the thesis that we need experience to form concepts. In contemporary terms we would say that nature and nurture are not mutually exclusive.

Part II of the work deals with Leibniz's moderate innatism; part one tries to answer the question of why signs are required for thinking (*cognitive necessity of signs*); part III systematically fleshes out *imagination thesis* and *mutual development*.

In the rest of the introduction, I offer to the reader a synopsis of the work. Considering the interconnections between epistemology, metaphysics and theory of cognition, I was forced to analyze and discuss a vast range of topics that at first glance were not directly related to Leibniz's analysis of language; every problem discussed in the work substantially contributes a small piece to complete the full-picture.

The aims and questions that underlie the work can be subsumed under the more general question—not new in the history of philosophy—of the relation between thought and language. And indeed, the first part of the present work aims at analyzing thought while the third part deals with language. The second part represents in a certain sense the mediation between thought and language and aims to determine which cognitive structures single out the human finite mind and allow it to develop language and reasoning.

In the development of this work, I argue that the assumption of innate ideas and principles plays a key role in Leibniz's philosophy of mind. Innate ideas essentially participate in thought. In *Nouveaux Essais*, Leibniz maintains that a mind can possess innate ideas and think in compliance with those ideas without needing to be aware of them. Innate ideas are necessary for the acquisition of general notions, for the development of language and for the use of signs to represent thought. Therefore, an answer is urged by the question of how they can influence and structure the mind's thinking activity without a mind being aware of them. Since the most extended and explicit text on the topic of innateness of ideas is *Nouveaux Essais*, our analysis of human cognition starts with an analysis of the reasons for Leibniz's controversy with Locke.

In 1.1., I present reasons why the appearance of *An Essay on Human Understanding* generates and compels Leibniz to face a new body of problems. This confrontation pushes him to review his conception of ideas and knowledge. The question he has to answer is how the mind is structured in order to be able to acquire knowledge.

His contention with Locke's empiricism, which is based on a refusal of innate ideas, leads Leibniz to work out a distinction already present in his works: that between concepts and (innate) ideas. Moreover, Locke's theory leads Leibniz to give a more fine-grained phenomenology of a mind's operations, distinguishing between a mind's conscious operations, what he calls actual thoughts, and perceptual activity in general, which is the topic of 1.2.

In 1.2., I inquire into the mereological nature of thought and point out that Leibniz understands Locke's ideas as judgments (what in the text Leibniz calls "actual thoughts"): a judgment is a complex act of the mind which connects diverse terms, in the simplest case a subject and a predicate through the copula, with the aim of saying something true or false about the subject. An inquiry into the structure of judgments leads to the general topic of Leibniz's distinction between perceptual activity and thinking activity and how these activities connect to Leibniz's distinction between perception, apperception, reflection, and *conscientia*. In a nutshell, judgments actually performed by a mind must be initiated by some perceptual stimulus: a change that happens on a subject's perceptual level. Thinking and perceptual activities, though distinct, are strictly interrelated in a mind's cognitive processes.

A general point of part I is that Leibniz's answer to the question of the relation between thought and language is interesting due to his theory of a mind's cognition. Two metaphysical assumptions ground his conception of human cognition (i) perceptual omniscience: any perceiving substance constantly perceives the whole universe; and (ii) perceiving substance embodiment: any perceiving substance is always in an organic body.

Perceptual omniscience is the basis of Leibniz's metaphysics and theory of substance that leads him to acknowledge the existence of different kinds of substances. *Perceiving substance embodiment* leads to the problem of the limits of human cognition. Since minds, qua special kind of perceiving substances, are in a body, they represent the world from their points of view. Hence, they tend to represent those notions that are beyond the senses by the imagination. These latter two thesis are necessary components of Leibniz's theory of harmony: a perceiving substance's perceptions always harmonize with the perceptions of other perceiving substances.

With the term "substances," however, Leibniz does not designate only rational substances but all kinds of substances in general. Every substance is a substance insofar as it can be said to be a bearer of actions. Only substances act, and their basic activity is constituted by minute perceptions, which are of two sorts: perceptions and appetites. Minds or spirits hence belong to a specific kind of substances, substances capable of thinking. By adhering to a classical tradition, Leibniz too thinks that *only* minds can use signs to express their thoughts because *only* minds are capable of thinking.

The acknowledgement of different kinds of substances within a metaphysics that ascribes a kind of activity to every substance commits Leibniz to accounting for a distinction between substances' kinds based on their different cognitive capacities. Whereas simple souls are capable only of minute perceptions—and sensitive souls, like animals, can have sense perceptions and a shadow of reasoning—rational souls can further think. Thought distinguishes minds from other souls' kinds, question that leads to an inquiry into Leibniz's distinction between apperception and reflection, subject of section 1.3.

Section 1.3. focuses on the distinction between human and non-human animal cognition. The question of this section is why human beings can develop thought and languages while other souls' kinds cannot.

Notwithstanding the traditional Aristotelian flavor of Leibniz's account of souls' kinds, the articulation of this distinction is more complex and sophisticated than that of Aristotle. Its complexity is due both to Leibniz's assumption of minute perceptions and to the role he attributes to his doctrine in criticizing others' philosophical positions, Descartes' and Locke's above all.

The assumption of minute perceptions implies that minds are unconsciously omniscient. This contrasts perceptual activity and thinking activity. Minds perceive the whole universe and express it from their points of view. However, they cannot be aware of most of their mental activity. This observation could lead us to think that thoughts equates with a mind's conscious activity, and indeed this is the mainstream interpretation within studies of Leibniz. In this framework, reflection is equated with consciousness and the assumption that all thought is conscious is considered as accepted by Leibniz too. Section 1.3. argues against this general assumption and points out that a mind's activity is not completely transparent and always accessible via introspection. Furthermore our "conscious" thoughts are determined by mental processes and operations of which a mind is not and/or cannot be aware: what Leibniz calls innate ideas and principles.

In *Nouveaux Essais*, innate ideas distinguish humans from animals. Moreover, Leibniz denies that animals can reflect. Section 1.3. focuses on these aspects of the difference between human and animal cognition and underlines the importance of reflection for thinking. The analysis of Leibniz's claim that animals are merely empiric and that reflection is connected to intellect and general distinct notions enables us to interpret reflection not as an act of self-awareness but more generally as the capacity of the intellect to *express* perceptual activity through general distinct concepts connected in propositions.

This interpretation leads us to the question of the distinction between apperception and reflection and to the related question of whether reflection is the act that makes a mind aware of its thoughts. The more general problem lying behind this issue is whether consciousness is necessary to thought. Even if this is only the introduction, I would like to anticipate part of my thesis in order to underline the importance of part I.

I maintain that reflection does not equate with self-consciousness of a mind's mental states. Acts of reflection are acts of knowledge and connection of distinct concepts in judgments. The ascription of mental states to the self is not the only act of reflection thereof. The acts that make a mind aware of the self are only a subclass of all reflective acts. Judgments such as "I think" or "I am" are acts of reflection because, like all other acts of reflection, they require the perceptual activity of the substance, the retention of a previous perceptual state, and its consideration under the perspective of a general notion: the I. Since "I" is a notion, an act of ascription of this notion to a subject (the one who is thinking, for instance) is a subclass of all reflective acts. This is what I call I-Perspective.

The I-Perspective assumes a different relevance in Leibniz's philosophy that emerges when considering the relation between reflection and *conscientia*, the subject of section 1.4. Roughly, when a mind conceives of itself as I, it is committed to conceive of other minds similar to her as *entitled to say "I."* The acknowledgment of the I-perspective leads a mind to believe in the existence of other minds similar to it. The acknowledgment of the similarity to other minds, along with a mind's capacity to reflect and figure out possible scenarios as consequences of its actions, enable a rational being to ascribe propositional attitudes to other minds and to imagine that what she thinks and feels in correspondence to a particular perceptual environment is what other beings it considers as similar to itself do perceive and think. The harmony between perceivers is the basis for cooperation. As we will see in part III, this harmony is essential to the acquisition of metaphysical, logical, and moral notions: once rational beings learn to establish linguistic conventions concerning the sensible domain, *peu à peu* they start a bootstrapping process that leads them to use linguistic conventions

figuratively and in so doing, to find new expressions for subject matters which are not subject to the imagination.

Part I is dedicated to human cognition and represents the theoretical basis of my approach to language. Part II enquires into those issues that emerged in the first part and that turned out to be essential for explaining the human capacity of thinking: innate ideas and the capacity of forming distinct notions and general knowledge.

Section 2.1. deals with Leibniz's conception of innate ideas and argues that Leibniz cannot be considered an extreme innatist. Passages where he claims that the substance has no windows and that everything comes from a substance's depth incline scholars to assume that Leibniz's epistemology denies that experience can contribute to concepts and knowledge acquisition and that Leibniz is committed to an extreme innatism. In my view, this interpretation does not consider that Leibniz distinguishes between two kinds of innateness: innateness and virtual innateness. All concepts and thoughts of a subject can be said to be virtually innate because they have their conditions of possibility in what is really innate: innate ideas and principles. In my view, innate ideas and principles are the conditions of possibilities for thinking in general. Because of this, I must consider them neither as innate contents of a mind nor as "bare faculties". Innate ideas in my view are constraints on thought: They delimit what can be thought from what is impossible to be thought. It follows that Leibniz distinguishes between innate ideas and concepts or notions. Innate ideas are constraints on thought; concepts or notions are what Leibniz calls possibilities.

Section 2.2. enquires into Leibniz's theory of concepts as possibilities. In particular, I deal with the question of Leibniz's intensional approach to concepts and the role of intensionality in his conceptualism about truths. From an analysis of Leibniz's conceptualism it results that concepts must be interpreted as possibilities: a "mathematization" or "idealization" of beings' nature that enables minds to deal with the complexity of the actual world as if it were simple. With idealization Leibniz means that although there might be a great difference between a chihuahua and a great dane, the human mind has the capacity to think of an essence fixing the common nature of those beings and to express it via a concept DOG. The concept DOG expresses the possibility of an essence. With the assumption of concepts as possibilities, I argue, Leibniz tries to overcome the risk of a private language entailed in Locke's theory of ideas.

In section 2.3., I shall focus on the distinction between concepts and innate ideas and what innate ideas properly are. My first aim is to show that innate ideas cannot be interpreted as dispositions: They are tendencies to truths and notions, and I propose to interpret them as

constraints on thought. From the analysis conducted in section 2.1., a distinction between a logical and a psychological approach to truths and concepts emerges. Leibniz seems to distinguish between the problem of why a mind thinks of a certain thought at a determined time *t* and why a mind can believe in the truthfulness of a proposition. Because of this, in this chapter I shall return to the question of the contribution of perceptual activity to thinking and point out that innate ideas must account not for the reasons why a particular mind has an actual thought but rather for the conditions of possibility for minds to have thoughts in general. Due to this distinction I shall reject the notion that innate ideas are innate dispositions that equate to minute perceptions, and I shall argue that they are constraints on thought that determine why a mind can structure its thoughts as it does and why it can think of concepts as possibilities.

After the analysis conducted in parts I and II, I can move to analyse an as-yet lesser-known writing of Leibniz: *Epistolica de historia etymologica dissertatio*, and explain Leibniz's theory of language as presented in this later writing (1712?).

As emerged in section 2.3., innate ideas can participate in the process of thinking thanks to the use of blind thought. *Cognitiones caecae* enable minds to reason and think of notions which minds do not yet have or will never have. Section 3.1. argues that due to this function of blind thoughts, minds can make implicit thoughts explicit, and, in so doing, sounds produced by their vocal tract gain meaning. In addition, language is structured according to the historical order: Minds denominate and express first things that fall under the senses and subsequently more abstract thoughts. This aspect of language, along with the role of tropes for the expression of notions that are beyond the senses allow me to show why the structure of language as a semantically and grammatically ruled system of signs depends on the cognitive structure of finite minds.

The core of 3.2 focuses on Leibniz's distinction between the natural and the historical order of the acquisition of knowledge. According to the historical order, minds acquire first notions of sensible qualities and subsequently notions of things that are beyond the senses and the imagination. This order, however, is opposed to the natural order of knowledge, according to which all notions of the senses depend on innate ideas such as ideas of "I", "time" and "space", "similarity", and principles like the principles of contradiction and sufficient reason. Therefore, there is no contradiction in Leibniz's assumption of the two orders and why innate ideas can participate in the thinking process without a mind's explicit knowledge of them. The analysis conducted in 1.3. and 1.4. on the passage from the I- to the I-Thou-perspective shows its relevance for the present part. In particular, the acknowledgement of a similarity to other

minds along with a mind's dependence on what Leibniz calls "blind thoughts" become essential to Leibniz's theory of the shareability of concepts and language.

A last methodological point has to be made. In the development of the present analysis I will consider Leibniz as interpreter of other philosophers such as Locke, Descartes, and Hobbes. Often, Leibniz develops his own conception through discussing and criticizing other philosophers' theories; understanding the reasons why Leibniz rejects, criticizes, or accepts someone else's point of view represents an important step in reconstructing his own point of view. Nevertheless, his interpretation of another theory may be erroneous or not do justice to another philosopher's point of view: Sometimes Leibniz oversimplifies a philosopher's perspective or uses terminology in a vague way, attributing Leibniz's own meaning to terms which have a different meaning in the other philosopher's mouth, as it is evidently the case with Locke's concept of "substance" or "idea." For the purposes of the work, I am not primarily interested in answering the question of whether Leibniz's interpretations of Locke, Hobbes, or Descartes truthfully represents their theories. This would be an important and interesting perspective, but it is not the aim of this work, and it would have taken me too far away from the focus of my analysis. More fruitful for my reconstruction is understanding how Leibniz reads a philosopher. In reconstructing his understanding of Locke, Descartes and Hobbes, we can understand why he is arguing in a determined way and why he returns to one objection and not another, why he brings on the table one issue and not another, and so on. Even if his interpretation may sound naïve or incorrect to expert scholars of those philosophies, without this reconstruction some of Leibniz's texts— the *Nouveaux Essais* in particular— would appear like an inhomogeneous, eclectic, or incoherent presentation of unrelated topics and issues. Through such a reconstruction—aware of all the limits it presents—I would be able to show the intrinsic coherence and consistency of Leibniz's philosophy of language.

Thought and Judgment

1.1. Sketching the Problems of *Nouveaux Essais*: Some Preliminaries

Texts dealing with the question of the use of signs and language in reasoning are tackled from different angles through all Leibniz's corpus of edited and unedited papers and letters. His writings dedicated to a *characteristica universalis*, a rational grammar and the discovery of formal signs capable of representing thought attracted the attention of scholars already at the end of the 19th century. After almost a century of research on the topic, it is now common knowledge that what motivated the project of a *characteristica* is Leibniz's commitment to the dependence of reasoning from signs. A well-suited system of signs, he believes, in which signs express the structure and complexity of concepts, modelled on the arithmetical calculus will greatly improve human reasoning and the art of discovery.

My work aims to develop the thesis of the cognitive role of signs from a particular angle: the development of natural language. My aim is to get at the root of why human finite minds need signs for reasoning. Therefore, after having developed the cognitive model according to which Leibniz believes the human mind functions, I want to understand the role natural languages plays in the development of human reasoning. If I may put it in jargon more comprehensible to the reader, I want to show that the thesis of the cognitive role of signs is stronger than it is usually assumed to be. Thought is dependent on language; we may understand it in the sense of a continuous bootstrapping process between the as-yet reflexively-unknown notion which is firstly reached thanks to a figurative use of the words of a language and the reflexive knowledge that requires more efficient and "clear" expressions. Signs are central in this bootstrapping process because when, based on a figurative use of the word, we form a reference relation between the word and the new domain we need to clarify, the mind can pay attention and recall the notions it needs to clarify. But clarification can be achieved only after the invention of a system of reference to the domain. This I call the bootstrapping process.

It is this kind of analysis of the natural languages we are looking for and it is hard to say where we can find it. There may be no text of Leibniz's which "systematically" deals with this matter. I say "maybe" because as a matter of fact we do not know what is present in Leibniz's intensive research on natural languages, since many writings remain unedited manuscripts in Hannover Archive: Reihe V of the Academy Edition, dedicated to Leibniz's research on natural language, has not yet begun. What I mean by systematic analysis is that to me no writing of Leibniz is known where he systematically deals with the question of the connection between his metaphysics of substances, human cognition and languages. His

reflection on languages seems to be an interest disconnected from metaphysical questions. To put it another way, at the metaphysical level substances do not communicate and have no windows, but at the phenomenological level minds communicate—they have thoughts and need signs to express them. Languages, both natural and artificial, are essential tools for gaining knowledge as well as for the everyday living together of individual minds. Leibniz has never refused both a naturalistic and pragmatic dimension of human language. As I shall try to show, both metaphysical and pragmatic issues underpin Leibniz's conception of the establishment and evolution of natural languages.

If we wish to search a work by Leibniz where issues of languages are combined with metaphysical and epistemological issues, we must examine *Nouveaux Essais*. In this text, metaphysical issues are brought to the table in order to address epistemological issues. Given this particular status of NE, an influential Leibniz scholar, Nicholas Jolley, has argued that NE is a book about metaphysics rather than epistemology. I think that the following reasons suffice to convince the reader that there are substantial epistemological issues concerning Leibniz in NE and that these do not succumb under Leibniz's metaphysics of immaterial substances.

In my understanding of Leibniz's philosophy and of the issues that concern Leibniz scholars, the thesis of a mutual development of language and thought relies on the epistemological view that individual subjects, during ontogenetic development, also change their conceptual apparatus on the bases of their experience of the world. It is precisely this view which is controversial. Leibniz seems to explicitly deny that experience can relevantly contribute to our knowledge. Moreover, despite the claim of a dependence of reasoning on signs, Leibniz objects to the nominalist position, à la Hobbes, that the connection between concepts is totally independent from the signs we use to designate concepts.

Given these difficulties, to show the consistency and coherence of the thesis of the mutual development of language and thought one must fulfill the following tasks. First, one must show how the thesis of the cognitive role of signs is required by the metaphysical constitution of what Leibniz calls "spirits": rational minds. From this inquiry it results that signs are required by the harmony between body and soul, on one hand, and by the harmony among perceivers' perceptual states. Languages are a necessary component of Leibniz's intersubjectivism or "commercium mentium". On the other hand, however, one need to show that experience can contribute to the formation and development of a finite mind's conceptual apparatus consistently, but not without the postulation of some innate ideas. It is here that imagination plays an essential role. The title of the present work reflects the awareness of the

tasks we need to fulfill to coherently develop my understanding of Leibniz's philosophy of natural language. In what follows, I will show that the theoretical ground for developing both tasks is to be found in the *New Essay*.

As is well known, both Locke's and Leibniz's *Essays* concentrate on the question of whether there are innate ideas and, if there are any, what role they play in knowledge acquisition. Locke's answer to the question is surely known: there is no need to postulate innate knowledge to explain how human beings form ideas. Leibniz tries to convince Locke (or better Locke's counterpart in the *New Essay*, since the book has been published only in 1765, after both Locke and Leibniz death) that there might be a way to understand innate ideas which does not lead to the criticism Locke has levelled, or at least, this is what I will argue in part II. It is remarkable that the importance of innate ideas is brought up by Leibniz in book III, exactly where he discusses Locke's theory of the formation of general words.

Locke's Essay follows a "classical" distinction between the three operations of the mind: *notio*, *enuntiatio*, and *oratio*. According to this distinction, the first and second books handle the questions of whether there are innate ideas and if so, what they are; the fourth concerns how human beings acquire knowledge and therefore what the truth of an assertion or a discourse depends on. The third book represents, in contrast, an anomaly, as we will see, since it is dedicated to how ideas are expressed through words. Schematically, the *Essay* outlines the way from ideas to words to propositions and knowledge. In commenting on Locke's *Essay*, Leibniz follows the structure of the four books, and he is compelled to answer a question that assumed a marginal role in his reflection until 1690, i.e. the acquisition of concepts via experience and their expression through language.

But why is this question new? In his papers on logic and artificial language (*characteristica universalis*), Leibniz focuses on the rules that govern our thought. The bricks of thought, i.e. concepts, are innate, and the problem is to understand how they combine and connect truthfully. Although in my view the problem of signs and languages is omnipresent—considering that Leibniz repeats several times that our thought does not function without a language or other sorts of signs and that the aim is to devise a system of signs, a *characteristica universalis*, that should enable us to operate with concepts mechanically and without errors—the focus is not to explain how rational beings form concepts and express them through a natural language. Of course, in those texts Leibniz also draws particular attention to the role played by some aspects of languages, in particular rational grammar, for the connection among concepts. This research, however, focuses on the intuition that the rational aspects of grammar reflect the logical operations of the mind in establishing

knowledge. It also relies on linguistic analysis of the role of figurative expressions, but it does not posit questions related to core metaphysical issues about the cognitive structure of the mind. The question of the origin and the reasons for the relation between concepts, names, and things has never been raised explicitly. It is not completely absent, but it stays in the background.

With the appearance of Locke's book, Leibniz needs to reconcile a body of problems that he has never systematically handled before: the limits and origin of human knowledge. I specified that he never dealt systematically with the issues before because he addressed them partially in the past. In one paper written prior to his reading of Locke's *Essay*, the *Meditationes de cognition, veritate et ideis* (henceforth MCVI), Leibniz raises against Descartes' theory of clear and distinct ideas a criticism that some years later he would level against Locke again. As we will see, MCVI shares some theoretical points with the epistemology Locke presents in his *Essay* (henceforth EHU) and at the same time entails the core of Leibniz's criticism against Locke.

Still, in dealing with Locke, Leibniz faces a new challenge: the role played by experience and innate ideas in concept acquisition. Locke aims to show that the mind is free from innate ideas since all the concepts and principles supposed to be innate can be acquired via experience. In his *Notes* to Locke's book, Leibniz is quite disturbed by Locke's philosophy: while he seems to be attracted to Locke's account and to agree that the English philosopher dealt with a hot topic, he is also convinced that Locke has gone too far with his criticism (NE 6). Locke hits the target by criticizing some philosophers' continual appeals to innate principles, but he is not able to see that he cannot move forward without any innate ideas. Therefore, Leibniz's aim is to convince Locke that innate ideas are necessary to explain how we acquire concepts. But what does Leibniz mean by innate ideas, and how can he suggest that Locke's account can be compatible with innate ideas?

As is well known, according to most of Leibniz's scholars, the problem of knowledge acquisition in NE is only apparent, since for Leibniz everything is innate in the soul, as shown also from his notes to EHU where he adamantly declares to consider as innate "only" the principles of contradiction, of identity *and* experience (NE 5-6). A reason for the innateness of all thought is the theory of pre-established harmony. Roughly, according to Leibniz's theory of harmony, there is no causal relation between bodies and souls. Translating that on a cognitive level, it means that the mind has a perception—for example red—or an idea of an object as the idea of that object because exactly at the moment in which a red thing or an object affect the body a correspondent perception of red or an idea RED express in the mind

what happens in the body. The consequence is denying that the idea or the perception are the effects of the affections of the body. Perceptions and ideas are the spontaneous activity of the mind that emerges by virtue of the previous states that characterized the mind itself. But if this is true, ideas and perceptions, as well as all a mind's mental states, must be innate. Because of this, Leibniz suggests that minds draw everything from their depth; they do not need experience, for if the entire world has been annihilated and only a mind and God existed, this mind would represent the world exactly as it is (GP IV 484).

If everything is innate in the soul, it follows that the mind cannot acquire anything via experience. This brief sketch aims simply to show that Leibniz's philosophy is interpreted as a form of extreme innatism. My aim is to show that this interpretation is faulty; Leibniz's point is that not everything is innate in the same way in the mind—only some principles are really innate while others are only virtually innate: they depend on some innate principle to be *conceivable*, but need experience to be formed. The raising of metaphysical issues does not mean that Leibniz is focusing on them because he wants to affirm the immortality and immateriality of souls. On the contrary, metaphysical issues are raised because Leibniz thinks that only a different metaphysics can support the thesis that minds form concepts only on the basis of their experience, i.e., the point of view proposed by Locke (at least as Leibniz understands and presents Locke's philosophy). Put differently, Leibniz is convinced that if ideas are framed by every mind in compliance with their own experiences and this process is supported only by bare faculties, i.e. reflection and senses, we cannot explain how minds come to share concepts and languages. In his own view, we cannot come to use words and concepts in compliance with other minds if our knowing process is underpinned only by a multitude of particular conceptions "closed" in each mind. The consequence would be a form of private language unable to allow communication (2.2.1). Because of this, other metaphysical assumptions concerning the structure of the mind are required.

Leibniz is a complicated philosopher who clearly has in mind something that a contemporary reader tends to forget: levels and perspectives. Metaphysical and epistemological/phenomenological levels are neatly distinguished in his philosophy, and nevertheless we cannot state that they are two closed systems that do not have consequences on one another. This is clear if we try, for example, to answer the question of what reality is according to Leibniz. For Leibniz, we really do not know what reality actually is, but, if we move from observing what appears to us and try to explain why things are how they are we have to grant that the phenomenological plane does not offer all the reasons we need to satisfy our questioning. Consequently, we need to postulate a metaphysical plane which, according

with the principle of our reasons, can satisfy our questioning. This meta-physical plane can also be called the onto-logical plane, the plane of the being of things. It is on this level that substances do not communicate, have no windows, and draw everything from their own depth. So, *in rigore metaphysico*, the phenomena we are used to experiencing—the striking of two billiard balls or me typing on my computer now—are only appearances of what happens at the metaphysical levels. This way of thinking brings nothing but the misleading image that there is a neat opposition between the real—namely the metaphysical—and the appearances—namely the phenomenal levels—an unperceivable *Ding an sich* opposed to the *Ding für uns*, if I may use Kant's terminology. But, granted that it is true that there is this opposition, does it mean that phenomena are not real? Do we really have to pick out only one of the two alternatives and consider only this as reality? I will leave this question open for now. But my point is that even if there is a distinction between the metaphysical and the phenomenal level, the phenomenal level has its own degree of reality and has its own rule of explanation that must harmonize with metaphysics. I can reliably believe in the cups, books and tables I see, though I can believe that to give a metaphysical explanation of what I see, I need to presuppose a different grounding.

So spelled out, the question sounds naïve, but it helps in pointing out how the problem is connected to language. Languages are part of the phenomenal level. Nonetheless, they are related to the metaphysical level. The word "cup" refers to my idea of cup which has an extension in the world. But how can one frame the concept CUP? Why does she perceive a cup like a unity determined by multiple conceptual features like having a grip, being used for drinking, and so on? This is a central topic both for Locke and Leibniz: Our epistemology is connected with ontology, but to which extent? At the same time, one could suggest that these kinds of problems are certainly related to the metaphysical level, but they are not related to the use of language. Does one need to know what a cup metaphysically is in order to be able to use a language? I would say no, one does not, according both to Leibniz and Locke. In my opinion, however, Leibniz clearly has in mind something that Locke considers less important: the distinction between the question of how languages originated (or what conditions make languages possible) and the phenomenal level concerning the description of the use of languages. This distinction seems to operate within both NE and EHU. But whereas Locke seems to be more concentrated on the latter question, Leibniz seems to waver between the two, privileging the former. Put differently, in his opinion the question is how people can establish a common language, and his answer is that people can devise a common system of signs because of innate ideas. However, this does not mean that people already have innate in

their soul the contents of their thoughts and since these contents are the same in all minds people can use words to express them. For Leibniz the question of the origin and the question of the use of languages are strictly interwoven, though the former question implies metaphysical issues, while the latter concerns the phenomenology or pragmatics of language. Consequently a challenge in this analysis is to determine the metaphysical and pragmatic conditions for the origin of languages. Language evolution, as we will see, is explained both by metaphysical and pragmatic reasons.

Leibniz maintains against Locke that Locke's philosophy cannot answer questions like why people share concepts and a system of signs or how they can establish linguistic conventions. I submit that Leibniz insists on a metaphysical approach against Locke not because he outright refuses Locke's theory according to which concepts are acquired by virtue of our experience, and that therefore people represent the world in very different way; on the contrary, Leibniz is convinced that minds represent the world with very different degrees of perfection. However, Leibniz sees an immeasurable gap between Locke's account of the abstraction process and his theory of ideas, on the one hand, and the conclusion that language and meaning are fixed by the common use of a language in a society, on the other. Because of this, he is convinced that Locke's assumptions are not correct: If we want to maintain that language is determined by the common use, we have to grant that people *can* acknowledge conventions, i.e. they are in the epistemological and metaphysical condition to be able to accept conventions. In his opinion, Locke's theory does not give sufficient epistemic conditions to satisfy the thesis that every individual mind frames ideas only in compliance with its experience *and* minds share knowledge and ideas. General faculties are not sufficient to explain how people can share concepts and language; therefore, more specific faculties, i.e., innate ideas, are required.

Because of this, I think we cannot say that in NE Leibniz simply maintains a rationalist position against an empiricist one; rather, he tries to mediate between rationalism and empiricism. In this sense, we can say that if logic aims to explain how we can connect concepts in proposition truthfully, NE fleshes out (partially) how we acquire concepts and how we express them through language. Precisely, NE addresses the question of why reasoning requires not simply signs but rather a syntactically and semantically structured system of signs (i.e. languages). Moreover, here we can find the basis to outline a passage from epistemology to metaphysics (through logic). Thoughts need signs to be performed, and signs are perceivable bodies; speaking is an action according to Leibniz, and this means that it

responds to metaphysics of the action of substances. This first point is addressed in the first part and exploited through an analysis of Leibniz theory of judgment.

Before moving to analyzing this point, it is worth recollecting Leibniz's conception of ideas before his discussion with Locke. In particular, I want to point out to what extent the body of problems he previously faced in dealing with Malebranche's and Spinoza's theory differ from the epistemological question posited by Locke.

1.1.1. About Ideas before Locke: Old Solutions to New Problems?

In Leibniz's time, philosophical inquiries on what ideas *are* needed to deal with their ontological status. After the Malebranche-Arnauld controversy, indeed, this question had a metaphysical and an epistemological dimension. While Malebranche maintained that ideas are only in God's intellect and that finite minds simply see ideas in God, Arnauld contended that ideas must be modifications of a mind's state if the mind is said to know something. Leibniz does not endorse a clear position on the ontological status of ideas. He argued against Malebranche's conception of the vision of ideas in God that the mind itself needs to possess its own ideas to think, however, he has never completely reduced ideas exclusively to their psychological dimensions: He also maintained that ideas are present in God's mind.[1] Interpreters have found Leibniz's position puzzling.

Locke is not the first philosopher with whom Leibniz discusses the nature of ideas. We can even say that the nature of ideas interested him since his youth. Before Locke's, he grapples with the philosophies of Descartes, Malebranche, Arnauld, and Spinoza. But in none of those circumstances did he have to face up to the problem of ideas as presented by Locke. And nonetheless, against Locke he proposes elements of solutions already developed in those critiques. In this sense, he is (re)proposing old solutions to "new" problems.

However, the difficulty for Leibniz in facing Locke is to clarify what is exclusively and what is simply virtually innate. Indeed, I think that in NE Leibniz is carving out a distinction that could already be found in some passages of his texts but that was not outlined as clearly: the distinction between merely innate and virtually innate. This distinction also channels the metaphysical/epistemological tensions present in the debate with Arnauld and Malebranche; at the same time, however, it discloses the problematic consequences of Descartes'

[1] On Leibniz's conception of the ideas in God's mind, see: Mugnai (1990, 153-168); Nachtomy (2009, 73-82).

introduction of a new term in the philosophical vocabulary: i.e. the term 'idea' to designate the object of the perception.

The term "idea" was a fluid term at Leibniz's time. In the 17th century the scholastic vocabulary dominated philosophy, and there were other words to indicate the contents of the mind: *terminus*, *conceptus*, *notio*. With his *Meditations*, Descartes introduces the term ideas in oper disagreement with the Schoolmen. Ideas, in the scholastic tradition, signify the archetypes of things in God's mind according to which God created the world; transitively *genus* and *species* or what expresses the similarities among things (*similitudo rei*) can be said to be ideas. Although the use of ideas as general representations of an individual mind can be traced back to other contemporaries of Descartes (such as Rabellais or Montaigne), the metaphysical implications that Descartes' use of the term generates are completely new. These consist in the denial that there is a distinction between God's intellect and will. God does not act like human beings, i.e. figuring out ideas and deciding to act according to them. In God, the intellect and the will are the same. Therefore, ideas are representations or the objects of perceptions in the human mind.[2]

So, the dispute over ideas goes beyond epistemological issues and concerns the ontological-metaphysical level. Descartes' new use of the term was controversial among his contemporaries. Malebranche tried to bring the term back to its original use. According to him, ideas are exclusively in God's mind and human beings can know them only through a vision in God. As substances, ideas must have some ontological properties, as permanence and being present to the mind. According to Malebranche, there is no other substance which is more present to our mind as God; moreover, for God is eternal, only God can possess ideas, and human beings see ideas in God's mind. Against Malebranche's account, Arnauld pointed out that ideas are modifications of the soul. Now, according to a common narration of the dispute, Malebranche and Arnauld personify the two opposite main streams of the period regarding ideas. The English tradition inaugurated by Locke and Leibniz's hybrid position do not fit in either of those mainstream.[3]

Let's set aside the discussion of Leibniz's position for the moment, and let us concentrate on the body of problems that emerge from the two mainstream positions. This operation will have the merit to focus on the questions that constrained Leibniz to formulate another theory of ideas.

[2] For a discussion of this historical aspects of the word "idea", see Halbfass (1976, 103-5); See also (Jolley, 1990); (Hight 2008); Perler (1996: 207-32).

[3] For a reconstruction of the debate over ideas see Hight (2008).

As Jolley points out, Malebranche pinpoints a problem in the Cartesian account of ideas. According to Descartes, ideas are at the same time the object of perception and the act of perception. This raises some difficulties because ideas would be at the same time the ideas in a single mind, i.e. the perceptions of the mind, and the object that should be the same in every mind. The consequences of Descartes' account would be that ideas are different in different minds (Jolley, 1990, 56-58). Malebranche is rejecting ideas being perceptions or actual thoughts of the mind. The consequence of the refusal is the conclusion that there is no such a thing as innate ideas. The reason is that the mind has perception insofar it presently is in the state of perceiving; if innate ideas were perceptions, then innate ideas should persistently be perceived by the mind; since it is impossible that ideas persists in the mind as perceptions, it therefore follows that there are no innate ideas (Jolley, 1988, 76)[4]. This is one of the arguments Malebranche uses against the Cartesian account, and it is quite interesting because Leibniz follows this line of arguing against Locke and maintains that innate ideas cannot be identified with actual thoughts (I will say more about this soon, in 1.2.). Contrary to Malebranche, however, Leibniz's aims is to argue in favor of innate ideas as ideas *in* the mind.

Malebranche's account has some merit according to Leibniz. It makes clear that ideas cannot be identified with actual thoughts. Ideas must be everlasting and present to the mind but not in the way Malebranche thinks of them.[5] In my view, Leibniz's solution to Malebranche's worry is to consider ideas as constraints on thought, which will be the subject of part II.

An influential Leibniz's scholar, Nicholas Jolley, offers a different interpretation. He maintains that Leibniz is convinced by Malebranche's argument of the permanence of ideas and therefore consider innate ideas to be minute perceptions: perceptions that do not reach awareness [(Jolley, 1988, 87-90); (Jolley, 1990, 161-172)]. With this identification Leibniz would solve the problem of the permanence of perception, since a substance always perceives, but it must not be conscious of all its states and therefore won't face the inconsistency presented by Malebranche's criticism of Descartes. I do not feel comfortable with this interpretation. Leibniz has never equated ideas and perceptions. I cannot see how little perceptions can be identified with innate ideas. According to Leibniz's definition, little perceptions express all the details of external reality which cannot be clearly and consciously

[4] On Malebranche's theory of ideas see also Perler (1996).

[5] For a discussion of permanence and presence as the two attributes which debate over the ontological status of ideas concentrate on see Hight (2008, 11-34).

expressed because of the limitations of our mind.[6] Let us use an example. If I move my arm to take my cup on the desk, I can actually perceive only my hand that moves and the cup. Now, I express this action by saying that "I want to grasp the cup". According to Leibniz, this representation is a sort of reductionism as well as my linguistic description of the movement. Indeed, the movement of my arm is composed of the movement of muscles, nerves, and an infinity of other tiny parts that I do not consciously perceive; moreover, the linguistic description of what happens at the body level through a mental intention (the aim is to take the cup for drinking) is also a reduction of past, present and future endeavours which constitute my actual tendency to move, but these endeavours cannot be consciously perceived by the subject. In this sense, little perceptions seem to play an epistemological and metaphysical role. I cannot understand how minute perceptions can play the role of innate ideas, if these ideas are needed to explain *why* someone can think of CUP and DRINKING when she perceives coffee and cups. We will discuss this problem later in part II; now let's turn back to Malebranche and Leibniz.

As Jolley himself points out, Malebranche's account is characterized by the aim to distinguish between logical and psychological role of ideas and the refusal of psychologism.[7] This is an important point for our research. Psychologism is a problem of Locke's account, according to Leibniz. In this sense, Malebranche's distinction between logic and psychology, i.e. between having an idea of *x* and having a thought or actually thinking of *x* is a precious hint. But it makes the problem of the ontological status of ideas arise. Now, Leibniz is not really a strict anti-psychologist, and this explains his problem with Malebranche's account. He cannot grant that the mind has no ideas because it would signify, as Malebranche showed, that only God is the real actor. In another sense, even if he agrees with Malebranche and with

[6] NE 53-54: "il y a mille marques, qui font juger qu'il y a à tout moment une infinité de perceptions en nous, mais sans apperception et sans reflexion, c'est à dire des changements dans l'ame mème, dont nous ne nous appercevons pas, parce que ces impressions sont ou trop petites et en trop grand nombre, ou trop unies, en sorte qu'elles n'ont rien d'assez distinguant à part, mais jointes à d'autres, elles ne laissent pas de faire leur effect, et de se faire sentir au moins confusément dans l'assemblage. C'est ainsi que la coutume fait, que nous ne prenons pas garde au mouvement d'un moulin ou à une chùte d'eau, quand nous avons habité tout auprés depuis quelque temps. Et pour juger encore mieux des petites perceptions, que nous ne saurions distinguer dans la foule, j'ay coutume de me servir de l'exemple du mugissement ou du bruit de la mer dont on est frappé quand on est au rivage. Pour entendre ce bruit, comme l'on fait, il faut bien qu'on entende les parties, qui composent ce tout, c'est à dire le bruit de chaque vague, quoyque chacun de ces petits bruits ne se fasse connoitre que dans l'assemblage confus de tous les autres ensemble, et qu'il ne se remarqueroit pas si cette vague, qui le fait, estoit seule. Car il faut qu'on en soit affecté un peu par le mouvement de cette vague, et qu'on ait quelque perception de chacun de ces bruits, quelques petits qu'ils soyent; autrement on n'auroit pas celle de cent mille vagues, puisque cent mille riens ne sauroient faire quelque chose. D'ailleurs on ne dort jamais si profondement, qu'on n'ait quelque sentiment foible et confus; et on ne seroit jamais eveillé par le plus grand bruit du monde, si on n'avoit quelque perception de son commencement, qui est petit, comme on ne romproit jamais une corde par le plus grand effort du monde, si elle n'estoit tendue et allongée un peu par des moindres efforts, quoique cette petite extension, qu'ils font, ne paroisse pas. Ces petites perceptions sont donc de plus grande efficace qu'on ne pense."

[7] Jolley (1988, 73).

the claim that ideas are not perceptions, he cannot accept that ideas are not in the mind. The view of the minds as bearers of actions is central to Leibniz's metaphysics. As is well known, the marginal note to Spinoza's conception of the mind as "idea corporis" is "ideae non agunt; mens agit".[8] In this sentence, the critique to Malebranche is condensed: since the mind acts and it acts according to some contents (perceptions), the mind itself must possess ideas. But how does Leibniz resolve the problem of the permanence of ideas and their presence?

The thesis that should be proved in 2.1. is that Leibniz accepted Malebranche's distinction between metaphysics and logic about ideas. Because of this, Leibniz recalls Scholastic vocabulary and distinguishes between the contents of the mind—or the contents of reasoning—and the faculties of the mind which frame those contents. Put another way, Leibniz makes a distinction between concepts or the bricks of thoughts, according to which minds express their states, and the metaphysical disposition according to which different minds frame concepts in a similar way, i.e. ideas. It follows a distinction between what is exclusively a priori and can be known only via reflection, i.e. ideas, and what is only virtually a priori and need the support of experience to be known, i.e. concepts. Another consequence of this distinction is the contingency of what is known via experience and hence the necessity of cognizing of the world in an analogically similar way to other minds. The result of this inquiry is that ideas are permanently present in the mind because they are a mind's constraints on thought.

We have seen that there are some metaphysical implications that lead to Leibniz's conclusions about the nature of ideas. This metaphysical reason can be concentrated in the fact that minds are the bearer of their actions. In this sense, the reason why a mind thinks of a GLASS in front of a glass must be found in the mind itself. If the mind, not God, acts, then the reasons of its actions must be found in itself. With Malebranche and Spinoza, Leibniz must face up the ontological and metaphysical side of ideas. Locke's philosophy compels him to face up the epistemological consequences of the metaphysical theses held against Malebranche and Spinoza. In NE he has to discuss questions like how the mind must be structured in order to explain what a mind can know and how action is connected with epistemological question. Another topic will be the limit of human knowledge and the reason why a mind is able to acquire knowledge. This being said, the dispute with Locke brings to the table a new body of problems; nonetheless, Leibniz is proposing old solutions to new

[8] GP 1 150-151. Leibniz writes further: "Totus mundus revera est objectum cujusque mentis. Totus mundus quodammodo a quavis mente percipitur. Mundus unus et tamen mentes diversae. Mens igitur fit non per ideam corporis, sed quia variis modis DEUS mundum intuetur, ut ego urbem." Where he recalls his theory of little perceptions since the whole world of thingsa is the object of each mind.

problems. It follows that Leibniz discusses metaphysical issues, but in NE these issues are discussed for their epistemological consequences.

Why does Leibniz waver between Malebranche's and Arnauld's accounts? Because both accounts allow him to solve some problems. To consider ideas as modifications of the soul means to affirm their psychological character. Ideas are parts of the mind's activity and, according to Leibniz, minds are substances because they act. In this sense, every single mind has its own ideas, and it acts in compliance with its level of clarity. Limiting ideas to psychological modifications means, however, reducing them to private possessions of a single individual mind. If ideas only have a psychological dimension then minds do not share concepts, i.e. concepts are private conceptions of each mind (2.1.). This is the problem that Leibniz pinpoints in Locke's theory of ideas. Hence, Malebranche's doctrine of ideas as separated entities in God's mind could preserve the objectivity of concepts, i.e. their permanence and immutability, despite the multitude of conceptions that minds can have. The problem of the multitude of conceptions in every single mind—though the generality of concepts—is a problem originated in NE. One of Leibniz's critiques of Locke claims concepts to be not arbitrary because it is beyond the power of a single individual mind to decide which features a concept is made of. Concepts have a permanence that depends on the possibilities they express, and these possibilities depend on God's minds. However, Leibniz is not prepared to grant to Malebranche that ideas are real in a third realm. What does he mean by claiming that ideas are in God? (Monad. §43.)

From this analysis, two things follow. First, an ontological distinction between ideas in God's intellect and ideas in finite minds. This doctrine is essential for Leibniz's theory of human knowledge, as we shall see in 2.2.5. The second thing is a distinction between ideas, concepts and actual thoughts. This distinction structures Leibniz's criticism against Locke and it constitutes the focus of the next section.

1.2. Leibniz's Arguments Against Locke

We have already seen that Leibniz's critique to Malebranche's theory of ideas presents some challenges that also apply to Locke's. Moreover, Leibniz's reading of Locke's philosophy has some analogies to his interpretation of Hobbes's ultra-nominalism as well. A first critique of Hobbes can be found in his Preface to *Marii Nizolii Antibarbarus* (1671) and later in a brief *Dialogue* (1677). Roughly, in those writings Leibniz accuses Hobbes of reducing truth to combinations of words.[1] Since the relations between words and ideas are arbitrary, definitions are arbitrary too. A nominalist account, indeed, denies the existence of abstract entities. Ideas like HEAT or MAN do not exist independently in the world. Only something being hot or individuals like Peter or John do exist.[2] However, as we are not capable of forming ideas for each particular, we gather together many particulars under the same general idea (EHU 402). Consequently, that we use HOT and the word "hot" to designate different hot things is in such a sense a fiction[3] of the intellect or a device necessary in order to communicate. Through words, we designate our general conceptions of those particular things for the sake of communication. Language is then just the result of a convention created by rational beings in order to communicate.

Now, these are the characteristics we can use to describe nominalism in general, albeit there are many differences between the nominalism of Hobbes[4], Locke, and Leibniz. Indeed, Leibniz does refer to himself as a nominalist *par provision*: He agrees that *entia non sunt multiplicanda praeter necessitate* and that nothing but individuals with particular qualities do exist. General terms are only a fiction conceived by human beings in compliance with their faculties because of communication. So, in principle Leibniz agrees both with Locke and

[1] A VI 6 4 22: "quidam viri docti putant veritatem oriri ab arbitrio humano, et ex nominibus seu characteribus."

[2] In *Prefatio Nizolii* Leibniz acknowledges Hobbes's merits; however, he criticizes the radical character of his nominalism designed as *plusquam* nominalism, which is not to be identified with Ockam's nominalism: A VI 2 417: "recordor quidem acutissimum Hobbesium abstractis aliquam utilitatem tribuere, eo potissimum argumento quod exempli causa aliud sit duplicare calida, aliud duplicare calorem"; VI 6 2 428: "ex hac iam regula Nominales deduxerunt, omnia in rerum natura explicari posse, etsi universalibus et formalitatibus realibus prorsus careatur, qua sententia nihil varius, nihil nostri temporis philosopho dignius, usque adeo, ut credam ipsusm Ockamum non fuisse Nominaliorem, quam nunc est Thomas Hobbes, qui, ut verum fatear, mihi plusquam Nominalis videtur." However, Leibniz agrees with the principle that: "entia non sunt multiplicanda praeter necessitate."

[3] I would like to draw attention to the fact that even if "fiction" and "fictional" regarding our general ideas might sound negative—a reading also suggested by the fact that I refer to our conceptual apparatus as a trick of the intellect—the meanings of fiction and fictional are not completely negative. Concerning Leibniz's philosophy, it refers to the dependence of human (finite) minds on sensation and imagination. Moreover, as I am going to explain by considering the role of imagination in human cognition, imagination and fiction can assume a positive meaning, designating human capacity to use signs instead of ideas and therefore, to improve human reasoning ability. This is the function assigned by Leibniz to its *cogitatio caeca*. I will come back to this topic in 2.3. and 3.1.

[4] See (Paganini 2016); for a discussion of Paganini, see Oliveri (2015); Hübner (1977).

Hobbes, but he is not ready to grant that this fiction is an arbitrary one. Even if nothing like HOTNESS does exist, what we comprehend under the word "hotness" is a true expression of the phenomena in the physical world—namely, the way in which we categorize and assign names to things represents something "natural" to all minds.[5] We cannot decide how we connect ideas, even if the name we assign to those ideas could be said to be arbitrary. This is the main argument Leibniz uses against both Locke and Hobbes; before analyzing it, I would like to delineate how Leibniz interprets Locke's philosophy and why he thinks that Locke's philosophy leads to the same extreme nominalism as that of Hobbes.

1.2.1. Leibniz as Interpreter of Locke

An Essay concerning Human Understanding has a clear target: innate knowledge. Locke's main aim is to clear the mind of innate ideas, and a consequence of Locke's refusal is the characterization of a mind's activity as consists in conscious processes: An idea is a mental representation presently perceived by a mind. Locke's main argument against nativism is that (A) if some principles are innate, like the principle that "it is impossible for something to be and not to be", then everybody—including children and 'idiots' (in Locke's words)—must recognize it as true; since it is not the case, there are not innate principles (EHU 48-49). This argument is supported by two sub-arguments, both based upon the innateness status of ideas.

(Aa) The first suggests that in order for something to be innate in the mind it should have been at some point already present in the mind, but innatists suggest that a mind has ideas of which it has never perceived or that it does ignore to possess.[6]

(Ab) It could be objected—and this is the second sub-argument—that knowledge is innate due to the fact that it is latent in our soul; only because ideas are already unconsciously

[5] Since one of the aims of this work is to determine what is "natural" or "innate" to all minds, I will characterize the adjective "natural" further in the work. For the moment, I would like to recall here Schepers's article on Leibniz's conceptualism (Schepers 2014) I will discuss Schepers's reading of "naturaliter" in 2.1.

[6] EHU 49: In commenting on the claim that there is universal assent to principles like *Whatever is, is* and *'Tis impossible for the same thing to be and not to be*, Locke discusses what it means to be imprinted on the mind: «It seeming to me near a contradiction, to say, that there are Truths imprinted on the Soul, which it perceives or understands not; imprinting, if it signify any thing, being nothing else, but the making certain Truths to be perceived. For to imprint any thing on the Mind without the Mind's perceiving it, seems to me hardly intelligible […] to say a Notion is imprinted on the Mind, and yet at the same time to say, that the Mind is ignorant of it, and never yet took notice of it, is to make this Impression nothing. No proposition can be said to be in the Mind, which it never yet knew, which it was never conscious of».

present in the mind can we know them when we come to use reason. But if this is the definition of innate, everything can be said to be innate, even ideas of sensible qualities.

(Aa) As Locke points out, to state that we have knowledge of which, however, we are not conscious of is to make that knowledge equivalent to nothing. Indeed, assuming that one can come to know something because he already has a latent knowledge of it leads to the conclusion that everything is innate in the mind, even simple qualities like colors or smells, but this is obviously implausible. If it were so, we could not make any distinction between innate and acquired knowledge.[7] As we will see, these arguments are based on two questionable assumptions, according to Leibniz: The first is that all ideas equate to actual thoughts or mental representations, and the second is that something can be in the mind if and only if the mind was already aware of it. In other words, Leibniz is questioning the fact that the main definition of an idea is to be a *conscious thought*. By criticizing these assumptions, Leibniz constructs his answer to Locke with the aim of showing that empiricism is not completely incompatible with the assumption of innate ideas; actually, I believe his conclusion is more drastic, for he maintains that empiricism even necessarily presupposes innate ideas.

Turning back to Locke, the refusal of innate ideas implies that all our knowledge and ideas are acquired via experience, or more specifically, that all our knowledge and ideas originate in sensory representations due to the operations of two faculties: senses and reflection. I will call this thesis, following Lenz (2009), Locke's entry criteria for ideas (*Eingangsbedingung der Ideen*).[8] The entry criteria for ideas poses a hierarchy among perceptions. The first things we experience are simple ideas or ideas that derive from one and only one sense: colors, smells, tastes, and so on.[9] Beyond these ideas, there are others which derive only from the contemplation of the operations of the mind, i.e. the ideas of reflection: perception, thinking, doubting (EHU 105). These are the two stocks of ideas and from their combinations we build all other complex ideas.[10] Now, we have ideas, according to Locke,

[7] EHU 51: discussing the possibility that men come to know already imprinted truths by the use of reason, Locke writes: "If they mean that by the Use of Reason Men may discover these Principles; and that it is sufficient to prove them innate; that whatever Truths Reason can certainly discover to us, and make us firmly assent to, those are naturally imprinted on the Mind; […] all must be equally allow'd innate."

[8] I would like to specify that (Lenz 2009) considers the entry criteria for ideas being unable to fix the meaning of words, since words are public. Because of this, the meaning is fixed by the use of words in a society and then by the deference to that use. As we can immediately understand, this interpretation of Locke will escape the charge of privateness of the language and solipsism which are Leibniz's criticisms; I am going to discuss this in 3.1. since for him the question of the origin of language is in Leibniz's opinion interwoven with the framing of ideas.

[9] EHU 105: "First, Our Senses, conversant about particular sensible Objects, do convey into the Mind, several distinct Perceptions of things […]: And thus we come by those ideas we have of Yellow, White, Heat, Cold, Hard, Bitter, Sweet and all those which we can call sensible qualities."

[10] EHU 105 these two "are to me the only Originals, from whence all our Ideas take their beginnings."

only when we perceive of those ideas, i.e. when we presently think of those ideas or when we are able to remember an idea, since it has been at some point in the past already present to the mind. So for an idea to be in the mind means that a mind must be or have been aware of an idea in the first place at some point *t* of its conscious temporal life. If fire is burning my body I have no idea of it until the idea of pain is produced in my mind and I am conscious of it. Put differently, I have ideas when I perceive of them.[11]

By the combination of those simple ideas and the work of reflection, a mind generates complex ideas, like the ideas of substances or modes. Since ideas of substances and modes result from combinations of ideas produced by the mind, Leibniz tracks some affinities in the views of Locke and Hobbes. Therefore, he reads some aspects of Locke's philosophy as arguments for the arbitrariness of complex ideas. While we can have certainty about simple ideas, ideas of substances are not abstracted from something real in the world, i.e. they are not based on knowledge of real essences of things.[12] They are the workmanship of human minds.[13] According to Locke it is beyond the human mind's power to know the real constitution of things; what we can only know are the affections caused by things on the senses and our inner experiences of those things by reflecting upon them. Consequently, what minds know from experiences are only the different qualities the things cause on the senses and present to their attention. By abstracting from place and time, a mind abstracts qualities which are similar among individuals and on the score of similarities, it gathers together those qualities and gives a name to that cluster of ideas. The result is a complex idea, e.g. MAN, designated by a name, "man."[14] So, correctly speaking, we experience only qualities that *we*

[11] EHU 108: "To ask, *at what time a Man has first any* Ideas, is to ask, when he begins to perceive; having *Ideas*, and Perception being the same thing. […] This is certain, that whatever alterations are made in the Body, if they reach not the Mind; whatever impressions are made on the outward parts, if they are not taken notice of within, there is no Perception." Fire may burn our body, but if no Ideas of pain is produced in our mind it has the same effect of a Billet. EHU 144: «*So that where-ever there is Sense, or Perception, there some Idea is actually produced, and present in the Understanding*».

[12] EHU 439: "The measure and boundary of each Sort, or Species, whereby it is constituted that particular Sort, and distinguished from others, is what we call its Essence, which is nothing but that abstract idea to which the name is annexed […]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 from distinguish it from that real Constitution of Substances."

[13] EHU 415: "We may say, the sorting of them [things L.O.] under Names, is the workmanship of the Understanding, taking occasion from the similitude it observes amongst them, to make abstract general ideas, and set them up in the mind, with names annexed to them, as patterns, or Forms, (for in that sense the word Form has a very proper signification,) to which, as particular Things existing are found to agree, so they become to be of that Species, have that Denomination, or are put into classis. […] So that the Essences of Species, as distinguished and denominated by us, neither are, nor can be any thing but those precise abstract Ideas we have in our minds. And therefore the supposed Real Essences, if different from our abstract Ideas, cannot be the Essences of the Species we rank Things into."

[14] EHU 462-463: "Nature makes many particular Things, which do agree one with another, in many sensible Qualities, and probably too, in their internal frame and Constitution: but 'tis not this real Essence that distinguishes them into Species; 'tis Men, who, taking occasion from the Qualities they find united in them, and

bound up in an idea which is expressed by a name. The name is what keeps together all those qualities and refer to the general idea they define. This is what Locke calls the idea of substance, an "I do not know what" which "lies under" the qualities and keeps them together.

Locke's criticism concentrated on the idea of substance. We imagine that this "I do not know what" is the very essence of a thing, e.g. of man, and that therefore HUMANITY exists in the very thing and makes it what it is, i.e., a man. Therefore, we imagine that there are essential qualities, like rationality, which inform a thing in reality. However, it is not that way according to Locke. Every individual thing has a real constitution which is the reason of the qualities we can come to know, albeit the constitution itself, i.e. the organization of each parts of matter that make up a thing, is unknowable for us. Consequently, since we can be sure only of the simple ideas we perceive, e.g. that I am perceiving this piece of gold as gold-colored, the connections between qualities making up the idea of substance are arbitrary. I can do some experiment and prove that this piece of gold is malleable, heavy, and so on. But the idea of GOLD as a bond of GOLD-COLORED *AND* MALLEABILITY, i.e. the assertion of a *necessary* coexistence of those properties in a substance GOLD is something I cannot be certain of (Priarolo 2005, 127–142). The coexistence of the ideas which make up the substance is something produced by the mind based on its way of knowing, on the limits of its senses, and on reflection. Because of this, a subject cannot be sure that every piece of gold should have all the properties that GOLD has. It could be that there is no necessary connection between the property of being gold-colored and malleability; for example, there could be a piece of gold which presents all the properties of gold except malleability.[15] Could it be said to be GOLD? The problem assumes more concreteness if we consider the case of monsters. How should we categorize beings born from human beings but which do not present human shape or reason? Should we consider them MAN or not?

Pursuant to Locke's *Essay*, knowledge assumes another connotation (and here is his nominalism): General words do not refer to any knowledge about real essences of things. HUMANITY or GOLDNESS do not exist in things; they are only nominal essences: abstractions operated by human minds in order to categorize things and to be able to refer

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wherein, they observe often several individuals to agree, range them into sorts, in order to their naming, for the convenience of comprehensive signs; under which individuals, according to their conformity to this or that abstract Idea, come to be ranked as under Ensigns: so that this is of the Blue, that the Red Regiment; this is a Man, that a Drill: And in this, I think, consists the whole business of Genus and Species."

[15] EHU 545-6: "in vain therefore shall we endeavor to discover by our ideas; (the only true way of certain and universal knowledge,) what other Ideas are to be found constantly joined with that of our complex Idea of any Substance: since we neither know the real constitution of the minute Parts, on which their qualities do depend; nor, did we know them, could we discover any necessary connexion between them, and any of the secondary Qualities: which is necessary to be done, before we know their necessary co-existence."

quickly and smoothly to them. Without this the establishment of general names based on general ideas, human beings would never be able to speak and live in a society.

Generality is essential to communication because if we had names only for individuals, speaking would be impossible (EHU 410). Having names for particular things means having names only for transitory entities; it would be as if we had only new indexical terms for each particular at each moment and this would make it impossible to use words. Words are, thus, marks of ideas which we use in order to express them to other people; put differently, we can say that words (as parts of a complex system of signs, i.e., of a language) are what allows human beings to share a world and to reason. Yet, because the generality of words depend on the generality of ideas, this communicative function is guaranteed by ideas. Words are not general per se, but because we use them as marks of general ideas, i.e., because we use them to designate quite a few particulars that fall under the characteristics which we comprehend under those ideas.[16] Roughly, "man" is general because it refers to the idea of MAN which refers to all individuals which can be identified as "men" because they present some properties which define what "humanity" (the essence of "man") is.[17] Although we have to assume that ontologically the world is made up only of different, particular things, human beings can inhabit this world in the way they do only because they create this fictional world in which they cannot but see MAN, CHAIR, TABLE, and so on. And this is the reason why they have language.[18]

Ideas represent the building blocks of propositions which can be true or false. Knowledge, hence, concerns propositions and is defined by Locke as the perception of agreement or disagreement between two ideas (EHU 525). But if one perceives the agreement of ideas, it follows from what we said that what we know is not a real connection between the properties of a thing but rather a connection established on the score of rational beings' way of knowing and on the score of the knowledge a society shares about the world. If we would like to express it in contemporary terms, Leibniz believes that such an account of knowledge allows human beings to know *de dicto* but not *de re* ascriptions, since reality conforms to our

[16] EHU 414: "To return to general Words, it is plain, by what has been said, that General and Universal, belong not to the real existence of Things; but are the Inventions and Creatures of the Understanding, made by it for its own use, and concern only Signs, whether Words, or Ideas. Words are general, as has been said, when used, for Signs of general Ideas; and so are applicable indifferently to many particular Things."

[17] For the moment, let us assume that things stay that way for Locke; as is well known, he criticizes this point of view, but only as long as we believe that real essences correspond to our ideas and that those essences make things what they are. The consequences would be that our ideas are the expression of the knowledge of real essences.

[18] Nonetheless, Locke clarifies that the fiction is not a fancy of the human mind and that we cannot put ideas together without any similarity in nature. Otherwise the consequence would be to be not understood (EHU 456). We will return to this passage.

knowledge and not knowledge to reality (I will come back to this in 2.2.). When we say that "gold is malleable", we say that in our idea of gold there is an agreement with the idea of malleability and this is true insofar as the piece of gold of which malleability is predicated is malleable. If it is not, it is false. But it remains questionable on Locke's view if there is also an agreement *de re*, i.e. if our concepts of gold is adequate, since there is not such as thing as an essence of gold in reality.[19]

In Locke's view, nonetheless, rejecting the existence of something like real essences permits to avoid the unpleasant consequence of the rigidity of designation of names. If a particular being is considered an instance of a general essence, e.g. Peter as an instance of MAN, and MAN refers to a real essence informing Peter, then Peter cannot lack the essential property of being rational. To say that a particular man lacks that essential property of MAN means to deny something necessary, like "man is rational". If one assumes ideas to be only nominal, however, one rejects that there is a necessary connection between MAN and BEING RATIONAL, and hence, she does not face the consequence of stating something necessarily false. The denial of real essences assumes this epistemological and modal dimension both for Locke and Leibniz. We will return on this point in 2.2.

Locke wants to embed the establishment of languages within its historical and practical dimension. The institution of words to designate some ideas is not only the result of how things are; it depends also on the praxis of a society. As Locke points out, if we have a special name for the killing of a man (a murder) but not for the killing of a sheep, and, therefore, we do not have an idea for the letter act, it is only because the society in which we live due to moral and juridical reasons probably has to refer faster and smoothly to the former act in order to distinguish it from others.[20] It follows that the categorization of a society and the words used to refer to it cannot exclusively depend on what we called the entry criteria for ideas. In my opinion, this is the most problematic aspect of Locke's philosophy, and I would like briefly to explain why.

Given this theory of ideas, the use of language faces some problems. When we use a word, Locke argues, we can refer neither to the ideas in the mind of another subject nor to the

[19] As well known, Locke distinguishes between an idea's truth-conditions and an idea's adequacy. The truthfulness of an idea depends on whether there exist instances of that idea: "gold is malleable" is true if there is in fact something I call "gold" which is malleable; ideas of substances are nonetheless never adequate. Adequacy indeed depends on agreement with what Locke calls "archetype". Being the archetype of gold outside the mind and something the mind can never know; those ideas are inadequate. Other ideas, as the ideas of modes and relations, are in contrary always adequate because the archetype coincides with the ideas of them in our mind. See book II chapter 29-32 and book IV chapter 4 of Locke's *Essay*.

[20] EHU 431: "the Mind searches not its Patterns in Nature, nor refers the Ideas it makes to the real existence of Things; but puts such together, as may best serve its own Purposes, without tying itself to a precise imitation of any thing that really exists."

very thing in the world. Words can refer only to ideas in a speaker's mind. Making them marks for ideas in the mind of another subject would make them marks of nothing.[21] The consequence is that when two people speak, the hearer can only presume to understand exactly what the speaker is saying due to the fact that she can refer only to her own ideas—what she understands is her own idea.[22]

According to Leibniz's understanding, Locke's philosophy offers an arbitrary position towards human knowledge, as well as an account of language and cognition characterized by privateness. Interestingly, the problem for Leibniz is not that each subject can rely only on his own ideas. On the contrary: According to his principle of harmony the soul draws everything from its own depth; it follows that it can only know the ideas it has and not the ideas it has not. As we have seen, this is a point he also makes against Malebranche: Ideas are in minds because minds act. Moreover, the fact that for Locke a mind can act only according with its own "power" is a point that makes him believe that Locke could have understood his philosophy. Therefore, the problem with Locke's account lies rather in the conditions that should define what ideas are.

As we shall see in 2.2.1., if we assume that ideas can be in the mind only at the condition of what Lenz calls "Locke's entry criteria" —i.e. general faculties as senses and reflection and the mind as being actually aware of perception—and that there is no objective reality we represent because we cannot know the real constitution of things, we cannot explain how people come to share concepts and knowledge. Put differently, if neither our inborn apparatus nor external things can provide the rules according to which human beings come to categorize in an analogically similar way then how can we explain the fact that we share concepts and language? The problem is not that we cannot know the real constitution of

[21] EHU 405-406: "Words in their primary or immediate Signification stand for nothing, but the Ideas in the mind of him that uses them […]. A man cannot make his Words the Signs either of Qualities in Things, or of Conceptions in the Mind of another, whereof he has none in his own. Till he has some Ideas of his own, he cannot suppose them to correspond with the Conceptions of another man; nor can he use any Signs for them: For thus they would be the Signs of he knows not what, which is in truth to be the Signs of nothing. But when he represents to himself other Men's Ideas, by some of his own, if he consent to give them the same Names, that other Men do, 'tis still to his own Ideas; the Ideas that he has, and not to Ideas that he has not."

[22] EHU 407: "They [men L.O.] use the Word, as they imagine, in the common acceptation of the Language; in which case they suppose, that the idea, they make it Sign of, is precisely the same, to which the understanding men of that Country apply that Name». Another interesting quotation is the following from EHU 479 "'Tis true, common Use, that is the Rule of Propriety, may be supposed here to afford some aid, to settle the signification of Language; and it cannot be denied, but that in some measure it does. Common use regulates the Meanings of Words pretty well for common Conversation; but no body having an Authority to establish the precise signification of Words, nor determine to what Ideas any one shall annex them, common use is not sufficient to adjust them to philosophical Discourses; […]Thought the Names Glory and Gratitude be the same in every Man's mouth, through a whole Country, yet the complex collective Idea, which every one thinks on, or intends by that name, is apparently very different in Men using the same Language."

things according to Leibniz. Another point of contact, at least formally, with Locke's philosophy is that there is a real constitution of things that we cannot know via perception, which corresponds for Leibniz to the monadic one. But this does not mean that our knowledge is not real, though in such a sense we are able to know only the level of phenomena. Leibniz aims to show that, although our conceptual apparatus is a construction of human cognition, it does not mean that it is a mere fiction (assumed as having a negative meaning). In order to make clear to Locke that definitions are not arbitrary, Leibniz deploys metaphysical arguments. It is clear to him that if Locke could have seen the consequences that a nominalist position bears on knowledge, he would have been convinced that this point of view cannot explain the origin of the *status quo* of human knowledge; it could only offer a description of the *status quo*. To be able to convince Locke of this would mean to show that Leibniz's philosophy of harmony can better explain phenomena than Locke's philosophy.[23]

In order to do this, Leibniz develops a series of arguments aimed at undermining Locke's main assumption, starting from the assumption that ideas cannot be identified with perceptions. The first move is to deny that everything which is in the mind, must have been previously consciously perceived by a mind. The connection between thought and consciousness is therefore the subject of this first part.

After this first criticism, Leibniz goes on to show that the entry criteria of Locke's theory of concept acquisition are too meager to explain the variety of knowledge (analyzed in 2.1.). Further steps then show why innate ideas are required in order to acquire ideas via experience (2.3.) and why they are important to guarantee the shareability of concepts and language (3.1. and 3.2.). From the analysis conducted in 2.1-2.2. it follows another approach to concepts: Concepts are not everlasting entities; they are possibilities inherent in the similarities, or putting it in another way, concepts express possibility and compossibility of things grasped from the point of view of finite human minds (an aspect central in 2.1.; 2.2.). The consequence of this account, as we will see, is another way to conceptualize of

[23] There is a way in which Leibniz's charge of privateness of language cannot concern Locke's philosophy. If we assume the interpretation offered by Lenz (2009, 437-519) the meaning of words cannot be fixed by the entry criteria only. In this sense, there would be a separation between the criteria according to which human minds can acquire concepts and a way in which they learn to use a language. Therefore, the learning of a language is grounded on deference to the common use of signs as signs *of* an idea and this deference is what fixes the real meaning of a word. Put differently, an individual's use of signs is dictated by social externalism. This possible interpretation of Locke's theory of the meaning of words merits special discussion because it allows us to discuss why Leibniz's philosophy of harmony represents a critique of mere social externalism about language. Leibniz aims at fixing some criteria that could explain how different subjects, despite a difference of perspectives, can still categorize in an analogically similar way, in a word: to put more constraints on a mind's capacity of conceiving possibilities. Only this analogical relation among minds can explain how a subject can acknowledge conventions and common uses of words and languages, although it could have been found other conventions to express and organize its knowledge, i.e. although signs and languages can always be said to be arbitrary.

knowledge. From this framework we can then deduce another way to interpret languages: neither as the simple explanation of innate knowledge, stored in a mind, nor simply as the result of the assumption of conventions but rather as a natural designation of our concepts which develops in compliance with our understanding of the world and our being in society (3.1.). In order to analyze language and understand why Leibniz thinks that Locke's philosophy cannot explain why human beings can have general knowledge, and, consequently share a language, I have first to focus on Leibniz's criticism of Locke's ideas as perceptions and its implication for Leibniz's theory of human cognition.

1.2.2. On the Distinction Between Ideas, Concepts, and Actual Thoughts

According to my reconstruction of Leibniz's interpretation of Locke, the first step for undermining Locke's arguments against innate ideas is to show that a mind's activity cannot consist exclusively in its conscious states. A mind's activity is underpinned by states of which it is not aware. This will lead to the conclusion that a mind can have ideas (and we will see what "ideas" mean) of which it was not aware in the past. Then the next step would be to show that if the mind can act according to states of which it is not aware, Locke's criticism does not concern innate ideas interpreted as constraints on thought. That does not mean, on the other hand, that innate ideas are little perceptions, as it has been suggested by Jolley.[24] Leibniz's argument is more subtle: If we have to admit that human beings do not act only according to conscious states, then we have to admit that there could be something unconscious. If there are things such as little perceptions, then there could also be innate principles the mind can follow without needing to explicitly acknowledge or think of them. The risk of this argument, as we will see, is to assent to Locke's conclusion that if something can be said to be latent innate in the mind and we come to know it when we start to use reason, then everything can be said innate in the mind, even perceptions. Leibniz has no problem in granting this point; however, he does not admit that everything is innate in the mind in the same way. Leibniz's solution is to distinguish between really innate (which cannot originate in experience) and virtually innate (innate because it cannot be thought without some innate principles but that nevertheless need experience in order to be reflexively known).

[24] Jolley (1988, 87-90); Jolley (1990, 161-172).

Leibniz's argumentation is based on the interpretation of Locke's ideas as actual thoughts, as Leibniz calls them. According to Leibniz, Locke's critiques of innate ideas are worthy as long as we identify ideas with actual thoughts or, in Leibniz's jargon, judgments. An actual thoughts is the act of presently perceiving an idea x at a particular time t while the mind is conscious of this thinking. Based on Locke's equation of ideas as having perceptions, Leibniz considers actual thoughts as bearing an essential relation to a mind's actual perceptual activity. It follows that (3) an actual thought is a judgment or the actual thinking of a proposition about something that draws a mind's attention. In other words, Leibniz interprets Locke's "having an idea" as the basic operation of rational souls, i.e. judgments, which have propositions as mental counterparts. According to Leibniz, rational souls can be aware of judgments or propositions, and not simply of ideas. When rational souls conceive of notions, they form propositions about those notions. Even when a mind intends an idea, it intends a judgment about the possibility of that idea: "x is possible" (NE 398). This being so, Leibniz agrees with Locke that ideas, intended as actual thoughts, cannot be innate. Nonetheless, his aim is to criticize the view that a mind's activity is tantamount to its conscious thoughts:

> Je diray que je demeure d'accord, que la connaissance ou bien l'envisagement actuel des idées et des vérités n'est point né avec nous. Et qu'il n'est point necessaire que nous les ayons connûes distinctement autrefois, selon la réminiscence de Platon. (A VI 6 11)

But why must what Locke calls ideas be understood in terms of judgments or actual thoughts? The problem lies in Locke's determination of perception as having an idea. As we have explained above, for Locke we start to have ideas when we start to perceive. It is perception, as activity, that presents some raw material the mind can think of. In this sense, perception, as content, is the first thing the mind is aware of. One has no specific content as long as she does not know *what* she is perceiving. Ideas tells her what it is. Therefore, having an idea and perceiving are the same thing.[25] According to this interpretation, there are no degrees of knowledge: The only discrimination between knowing and not knowing is being aware of the idea or not.[26] Locke makes a distinction between different kinds of ideas, as we have seen, and different degrees of certainty we can have of them, but the point is that for an idea being in the mind, every idea must have been at some point perceived. In NE, Leibniz

[25] See Yolton (1956); and Yolton (1984); Hight (2008, 79-85) holds a different view; Bolton (2004, 146-67) argues for a different view as Yolton and Hight.

[26] Indeed in NE IV 4 Leibniz suggests that the correct difference among the ideas is not the one proposed by Locke, i.e. between simple and complex ideas, but between confused and clear ideas. As we know from his *Meditationes*, this distinction envisages different degrees of knowledge. Interestingly enough in this paper, as we will see below, Leibniz explains that in such a sense our knowledge cannot be performed without some *cognitio symbolica* or the use of signs.

points out that we ought to draw another distinction between ideas: ideas as innate and ideas as actual thoughts.

In preparing his counterargument, Leibniz notices that only if we consider ideas as the actual mental activity of a mind, as the actual objects of perception, then these ideas can in no way be innate in the mind. But if innate ideas have another status as actual thoughts, then there can be ideas which are innate. In my understanding, what Leibniz calls innate ideas are not in the mind in the same way as concepts or thoughts. Innate ideas, as we will see in 2.3. are in the mind as constraints on thought. To argue for this view, Leibniz must distinguish between perceptions and notions (or concepts) and between the latter and ideas. Put differently, according to Leibniz only ideas are innate, and they do not identify with concepts or the components of thoughts or propositions. At the same time, however, he suggests that perceptions and concepts as well do not overlap.[27] We have to focus on this distinction in order to evaluate the consequences that it bears on Leibniz's criticisms of Locke. The distinction between concepts and ideas is clear if we consider a passage from the DM:

> Ainsi ces expressions qui sont dans notre ame, soit qu'on les conçoive ou non, peuvent estre appellés *idées*, mais celles qu'on conçoit ou forme, se peuvent dire *notions*, *conceptus*. Mais de quelque manière qu'on le prenne, il est toujours faux de dire que toutes nos notions viennent des sens qu'on appelle exterieurs, car celle que j'ay de moy et de mes pensées et par consequent de l'estre, de la substance, de l'action, de l'identité, et de bien autres, viennent d'une experience interne. (A VI 4 1572)

Notice that not everything which is in the soul is innate but rather only some ideas which can be drawn by a mind from an inner experience, like substance, being, action, and identity. However, the main point of the passage is that concepts are not innate in the same way as ideas are, since they must be conceived or constructed. My hypothesis is, thus, that whereas ideas are innate, we frame concepts by conceiving of possibilities based on the similarities among things shown by experience.[28] Nevertheless the capacity of conceiving possibilities is due to innate ideas. Therefore, in the process of forming concepts, an important role is played by the experience of the existing instances of those possibilities which a posteriori shows the possibility of a concept, though its possibilities per se do not depend on the existence of individuals, which is a matter of fact (2.2.). Before coming to explain what concepts and ideas are, we have to explain the reasons for that distinction.

[27] Mugnai (1999) and Bolton (2011) also hold that ideas and concepts must be distinguished according to Leibniz.

[28] "Possibilités dans les ressemblances" is Leibniz's definition of concepts of genus and species in NE 323.

The inquiry into this distinction will bring me to discuss different problems of Leibniz's philosophy, and in particular his theory of judgments and explanation of deceptive states, that is the object of 1.2.3. – 1.2.5.; his distinction between perception, apperception, reflection and conscientia, object of 1.3.; and its theory of intersubjectivity is the subject of 1.4. These topics, that at first may appear extraneous to a work that deals with the question of natural languages, represent the theoretical ground for my argumentation. Through this analysis, Leibniz's conception of human cognition emerges. By considering how rational minds can acquire knowledge, we can understand why languages are necessary to thought and why natural languages originate and develop historically.

1.2.3. Actual Thoughts and the Distinction Between Perceptions and Concepts

Although Leibniz proposes a distinction between actual thoughts, concepts and ideas, he has not systematically used the distinction between concepts and ideas in NE and sometimes the two terms overlap, like in the following passages:

> Si vous prenés les idées pour les pensées actuelles vous avés raison. Mais je ne voy point qu'il soit besoin d'appliquer vostre distinction à ce qui regarde la forme mème ou la possibilité de ces pensées, et c'est pourtant de quoy il s'agit dans le monde ideal qu'on distingue du monde existent. L'existence reelle des estres qui ne sont point necessaires est un point de fait ou d'Histoire, mais la connoissance des possibilités et des necessités (car necessaire est dont l'opposé n'est point possible) fait les sciences demonstratives. (NE 301)

> Je l'avoue pourveu que vous adjoutiés que c'est un objet immediat interne. Et que cet objet est une expression de la nature ou des qualités des choses. Si l'idée estoit la forme de la pensée, elle naistroit et cesseroit avec les pensées actuelles qui y repondent, mais en estant l'objet elle pourra estre anterieure et posterieure aux pensées. Les objets externes sensibles ne sont que mediats parce qu'ils ne sauroient agir immediatement sur l'ame. (NE 109)

As we can see, in both passages Leibniz uses the term "idea," but in the former he says that ideas are the very forms of thoughts, whereas in the second he suggests they cannot be forms. Therefore, at first glance the passages are puzzling. In my understanding, however, in the first passage he means innate ideas and in the second he means concepts. Since the reasons for arguing for a distinction between concepts and ideas depend on different aspects of Leibniz's criticism to Locke, I shall focus on this distinction in part II, after having prepared the ground for it; however we must bear in mind the terminological ambiguities; part

I deals with a first distinction between actual thoughts and what we can call ideas as mental states in general.

I have already pointed to Leibniz's definition of Locke's ideas as actual thoughts, i.e. a mind's complex operations, as a proposition or a judgment. This is clear considering he does not speak of "actual ideas" but of "actual thoughts." Even when he speaks of actual ideas he means an operation which connects concepts, like a judgment (NE 398). Being more meticulous, Leibniz uses the adjective "actual" together with a name expressing some operation of the mind—like thought, knowledge, statement, or conception—seven times in NE and only once together with "idea"; more precisely, he uses the expression "conceptions ou idées expresses et actuelles".[29] Thoughts are, namely, composed by concepts and so they are the mental side of sentences. The distinction between ideas and perceptions, thought and affection is spelled out in the well-known preface of *Quid sit idea*:

> Multa autem sunt in mente nostra, exempli causa cogitationes, perceptiones, affectus, quae agnoscimus non esse ideas, etsi sine ideis non fiant. Idea enim nobis non in quodam cogitandi actu, sed facultate consistit, et ideam vel habere dicimur, etsi de ea non cogitemus, modo data occasione de ea cogitare possimus. (A VI 4 1370)

This passage suggests that ideas have another ontological status as thoughts, perceptions, and affections. At the same time, it allows us to point out a difference in the role played by ideas in the cognitive processes that lead a mind's knowing something. The first thing to notice is that perception is indicated by Leibniz as something different from ideas, whereas for Locke having an idea has the same extension as perceiving. In addition, to Philalethe's claim that a man starts to have ideas when he has any sensation, Leibniz points out that:

[29] NE 355-356: "Et l'on peut dire que celuy qui aura vû attentivement plus de pourtraits de plantes et d'animaux, plus de figures de machines, plus de descriptions ou representations de maisons ou de forteresses; qui aura lû plus de Romans ingenieux, entendu plus de narrations curieuses, celuy là, dis je, aura plus de connoissance qu'un autre, quand il n'y auroit pas un mot de verité en tout ce qu'on luy en a depeint ou raconté. Car l'usage qu'il a de se representer dans l'esprit beaucoup de conceptions ou **idées expresses et actuelles**, le rend plus propre concevoir ce qu'on luy propose; et il est qu'il sera plus instruit, plus rompu et plus capable qu'un autre qui n'a rien vu ni lu ni entendu." ; NE : "Cependant je croy qu'on pourroit tendre l'appellation de la connoissance et de la certitude au delà des **sensations actuelles**, puisque la clarté et l'evidence vont au del que je considere comme une espece de la certitude;" NE : "C'est là où je trouve l'original des idées et des veritez qui sont graves dans nos ames, non pas en forme de propositions, mais comme des sources dont l'application et les occasions feront naître des **enonciations actuelles**;" NE 109 : "Si l'idée estoit la forme de la pensée, elle naistroit et cesseroit avec les **pensées actuelles** qui y repondent, mais en estant l'objet elle pourra estre anterieure et posterieure aux pensées;" NE 300 : "Car les idées sont en Dieu de toute eternité et mêmes elles sont en nous avant que nous y **pensons actuellement**; comme j'ay monstré dans nos premieres conversations. Si quelcun les veut prendre pour des **pensées actuelles** des hommes, cela luy est permis; mais il s'opposera sans sujet au langage receu;" NE 301.

> Je suis du même sentiment mais c'est par un principe un peu particulier. Car je crois que nous ne sommes jamais sans idées, jamais sans pensées et aussi jamais sans sensation. Je distingue seulement entre les idées et les pensées. Car nous avons tousjours toutes les idées pures ou distinctes independemment des sens, mais les pensées repondent tousjours à quelque sensation. (NE 119)

As the passage clearly states, only thoughts correspond to some sensation, but not ideas. We have to understand in what sense this correspondence obtains. If we hark back to *Meditationes de cognitiones, veritate et ideis* (henceforth MCVI), where Leibniz distinguishes among different level of ideas, we can observe that clear and distinct ideas differ from the clear and confused because we distinguish them by virtue of requisites (i.e. conceptual features). Moreover, a distinct idea can be either inadequate, if the features that compose the notion are simply clear but not distinct (like the color among the requisites of gold), or adequate. We cannot reach a perfect knowledge of this latter, though mathematical knowledge, like numbers, can be a good example. Since we cannot have an adequate knowledge of ideas, we need to express distinct notions with the help of signs (A VI 4 586). Therefore, it seems evident to me that since Leibniz speaks of distinct ideas in the passage just quoted, he means notions or concepts which have two important features: (i) they are composed of requisites, and (ii) they are necessarily thought of with the aid of signs.[30] A thought is always interwoven with some perception or sensation because by expressing concepts, finite minds appeal to signs to refer to the conceptual features that can be attributed to a concept truthfully.[31] By conceiving concepts, we think of what they are and in doing so we employ signs that are perceptible material tools. This remark allows me to point out that then for Leibniz actual thoughts cannot be innate because they connect to perceptions, intended as the actual perceptual activity of the mind. Actual thoughts are propositional attitudes or judgments. Further, he is pointing out that concepts and notions do not depend on the senses or the actual thinking, which hinges on perceptions. Concepts or notions can be actually envisaged because of perceptual experiences (what Leibniz calls occasions), but they are not *possible* because of the actual existence of beings, which is a matter of history. Concepts represent something's possibility based on a mind's capacity to understanding

[30] A VI 4 A 586-587.

[31] Both Bolton (2011) and Barth (2012, 315-6) discuss the passage: However, whereas Bolton argues that according to Leibniz thought must always have a sensible content, Barth denies that sensible contents are essential to thinking. Mugnai (1976) opens up an interesting view that I subscribe to as I argue for it in the work. If I understand Mugnai correctly, Leibniz's assertion that there is no thought without any sensation must be interpreted more radically: there is no actual thought that is not connected to the actual perceptual activity of the mind: minute perceptions. Consider the following passage from a letter to Pellisson (1691) A II 2 435: "Si Dieu me donne la santé et le loisir, j'espere de donner un jour quelque satisfaction au public sur une matiere si importante, qui a cela de curieux, que les pensées abstraites se verifient merveilleusement bien par les experiences [...]"

modalities (NE 301). Therefore, if we need concepts in order to think and form propositions in general, we need perceptions in order to be able to actually think of propositions in the particular.

In order to understand Leibniz's suggestion that minds can be conscious only of thoughts intended as propositions, we must recall the distinction between the three operations of the mind: the *notio* or conceiving of an idea, the statement (*enuntiatio*) or the conjunction among notiones, and finally the *oratio* or an argument. Moreover, in order to explain why Leibniz claims that only conscious thoughts depend on a mind's actual perceptual activity, we have to refer to Leibniz's theory of judgment.

The distinction between *notio*, *enuntiatio*, and *oratio* is also well known to Locke; as different scholars have suggested, the book seems to be structured according to it—the first and second chapters are dedicated to ideas, the fourth to assertion and argumentation. The third book represents, nonetheless, an anomaly in the structure because the problem of language and words gains more and more relevance only during Locke's preparatory drafts.[32] Leibniz acknowledges this distinction too, but he makes it "fit" in his theory of judgment and metaphysical system. This has two important consequences: the first is that it is only the *enuntiatio* that is explicitly known by a mind;[33] the second is that in order to think we need signs. Notions cannot be true or false per se. Consequently, only the judgment can be the subject of knowledge. This is clear if we consider Book IV of NE, where he clarifies that even if he has spoken of notions as true or false, he does mean the truth or falsity of the proposition that affirms the possibility or impossibility of the existence of the thing represented by the notion.[34] Leibniz is pointing out that we cannot conceive of a concept without embedding it in a proposition; when we actually think of something, we always think of that thing in a

[32] For a thorough discussion of the genesis of book III, see (Lenz 2009: 159).

[33] This distinction was commonly used at that time. Worth noting is the re-elaboration of the three operations offered by by the *Logica Hamburgensis* of Joachim Jungius, a work that Leibniz thoroughly read and discussed also with Placcius, as testified to by the correspondence in A II 2-3. According to Jungius, we can distinguish three operations of the mind, namely: *notio*, *enuntiatio*, *oratio*. However, the first operation, which should be the nearest object of Logic, can be known only through the second operation, *enuntiatio*, an operation known, however, not as it occurs in a mental language (*oratio interna*) but as it occurs in natural languages, i.e., *oratio externa*. The consequence is that logic should analyze all parts of a language in order to determine what occurs at the level of the internal language. Jungius. *Logica Hamburgensis*, p. 3: "Quia Notionibus inter nos loqui non possumus, sed vocibus et sermone animi nostri sensa alter alteri explicamus, Logicus in nulla ante dictatrum partium orationem sive vocalem sive scriptam omninó neglegit, sed eam quoque quatenus mentis operationum signum, atque ita suo modo veritatis capax est, consideratione sua complecitur."

[34] NE 397-98: "Contentons nous de chercher la verité dans la correspondence des propositions qui sont dans l'esprit avec les choses dont il s'agit. Il est vrai que j'ai attribué aussi la verité aux idées en disant que les Idées sont vrayes ou fausses; mais alors je l'entends en effet de la verité des propositions qui affirment la possibilité de l'objet de l'Idée. Et dans ce mème sens on peut dire encor qu'un etre est vrai, c'est à dire la proposition qui affirme son existence actuelle ou du moins possible."

complex way, i.e. we connect concepts in a judgment.[35] When we think, we always judge. Judgment, as we will see soon, is connected to the perceptual activity of the mind, and Leibniz is eager to point out that though from a cognitive point of view minds need perceptual activity to perform judgments, perceptions alone cannot ground the possibilities and connections of concepts.

For Leibniz, hence, perceptual activity constraints minds to judge, or in other words, the mind's activity (i.e. thinking) is always situated in the perceptual activity that brings a mind to connect concepts and to use signs in order to express them. This process involves, further, the activation of attention and memory. Through the involvement of memory, attention and perception in the cognitive processes, minds are able to represent something consciously. In a nutshell, Leibniz argues against Locke that if (consciously) perceiving and judging have the same extension, the actual thoughts cannot be innate, as Leibniz states in NE 11. However, this does not mean that ideas cannot be innate, because having an idea and perceiving are not coextensional activities. Moreover, if actual thinking implies a judgment, i.e. connections of concepts, and concepts are expressed by *cogitatio symbolica* or signs, we cannot consciously or actually think of something without using some kind of signs.[36] That means that if actual judgments are not innate, then neither are signs and concepts; indeed, according to Leibniz, concepts depend on the cognitive structures of human minds, and signs are *ex instituto*, arbitrary. In this sense, only ideas are innate and we have to determine what they are.

That being said, our next step is to understand why for Leibniz the distinction between perception and concepts/ideas is of capital importance for guaranteeing the necessity of knowledge and, at the same time, to explain error and deceptive states. The core of the discussion seems to lie in Leibniz's conception that whereas the mind must be conscious of thoughts, it cannot be always aware of perceptions and ideas. The claim of an unconscious activity of the mind represents the main point against Locke's theory of mind and ideas.

Consequently, we are going to analyze Leibniz's theory of judgment in order to explain the distinction between perception and thinking activity.

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[35] On the propositional structure of thought see also Favaretti Camposampiero (2007).

[36] We will explain this passage in the next chapter. For the moment it is important to notice that this implication of Leibniz's theory of judgment can be traced back to Jungius' *Logica Hamburgensis*. As pointed out in Fn. 35, although Jungius assumes the distinction between *oratio interna* and *oratio externa*, he suggests that the first operation the mind can know is the *enuntiatio*; moreover, he makes clear that the mind knows the *enuntiatio* not as it is thought at the level of the mental language, but as it occurs at the level of the external language (*oratio externa*), that is only when it is expressed through signs. We will analyze the consequences that this conception bears on Leibniz's Theory of language, since he denies any mental language.

1.2.4. The Process of Judging

There are two reasons why Leibniz does not grant that general notions and perceptions have the same extension. One main reason is connected to the fact that if having ideas coextends with perceiving, a mind's states would equate to what he calls "actual thoughts." From here it would follow in Leibniz's view that we cannot necessarily predicate one thing of another. To flesh out this line of argument we need to analyse a further "attack" against Locke's theory of ideas.

Leibniz interprets Locke's account of "having an idea" as cognate with Descartes' theory of consciousness and transparency of thought. A mind's states are all conscious states: a mind is transparent to itself. This equivalence brings a confusion of epistemological levels: if we accept this equivalence we cannot distinguish between a mind's perceptual and a mind's conceptual levels. To flesh out this criticism we have in the previous section exhibit the reasons why Leibniz links Locke's "having an idea" and judgments. A further inquiry into Leibniz's understanding of the process of judging explains why it is essential that judgment depends on the perceptual activity of a subject, but implies general notions that cannot be equated to perceptual states: perceiving and thinking move in parallel without overlapping.[37] In a nutshell, the fact that the condition for actually thinking of an idea is to be conscious of a state which can be expressed by, e.g., "I feel pain", is no sufficient reason for claiming the identity of the concept of PAIN with the actual perception of pain. Perception and concept have different features. In what follows, I present Leibniz's theory of judgment; in 1.2.5., I bring a first case which, in Leibniz view, cannot be explained if we identify perceptions with concepts: deceptive perceptual states. In 1.3., I show how this distinction is essential in Leibniz's view to argue that animals perceive but do not think. This inquiry exhibits a further dimension of the cognitive role of signs: their connection to the perceptual activity of the mind. Let's look at the process of judging.

As already pointed out above, Leibniz equates Locke's ideas and actual thoughts. An actual thought is a judgment, and judgments correlate with perceptions and actions. A writing of 1679, *De affectibus* outlines the cognitive process that brings to judgment and to move from one thought to another. The paper begins with some remarks on Descartes' *Les passions*

[37] Descartes develops his theory of errors in the *Discours sur la Methode* and in his *Meditationes de prima philosophia* and in the *Objectiones*. Consider the following passage from *Meditationes* IV (AT VII 56): "ad me propius accedens, et qualesnam sint errores mei (qui soli imperfectionem aliquam in me arguunt) investigans, adverto illos a duabus causis simul concurrentibus dependere, nempe a facultate cognoscendi quae in me est, et a facultate eligendi38 sive ab arbitrii libertate, hoc est ab intellectu, et simul a voluntate." Leibniz criticizes Descartes' theory in a text called *Animadversiones ad Cartesii principia philosophiae*, See GP IV 356. For a discussion of Descartes' theory of error see Di Bella (2016/4) discussed in Oliveri (2015).

de l'âme, but it draws a series of definitions (with a Spinozan flavour) about action, determination to act, and power. An action is here defined as a judgment and the problem discussed is why a mind is determined to think of one judgment rather than another, i.e. the question is why a mind thinks of *x* rather than *y* at a given time *t* and why judgment *x* brings the mind to move to *z* rather than *w*, and so on. Thinking is represented as a line where each thought is a point of intersection of other possible lines; of these lines only one prevails. Each thought brings about a "chain" of thoughts, as Leibniz defines them, rather than another. The prevalence of one chain rather than another is called external action: an act that follows from a judgment (*sententia*) united to a *conatus* to act.[38] The source of judgment is an affect (*affectus*) that occupies the mind and leads its attention to something despite something other.[39] So, the judgment is caused or determined, as Leibniz said, by affects.[40] An affect can be interpreted as a perception that entails a first-level spontaneous interpretation in compliance with previous and future experience of a soul.[41] Facts occurring in the external world are expressed in our mind through affects like pain, fear, happiness, and so on, and these affects draw a mind's attention to concentrate on some perceptual states and from this attention the judgment arises.[42] Affects are more than a simple representation of something present in someone's perceptual environment since they incline to a sort of propositional attitude towards the thing which caused the affect. Fear is a kind of pre-reflexive cognitive state expressing that "what stays in front of me is dangerous." By pre-reflexive I mean that they are not yet conceptually articulated states; they are not propositions or opinions (see also NE 90; I will say more about this in 1.3.).

As Stefano Di Bella suggested, in *De Affectibus* Leibniz delineates a refusal of Descartes' theory of judgment and a phenomenalist approach to the question of what reality is.[43] According to Descartes, judgments can be voluntarily suspended by subjects. Roughly, in

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[38] A VI 4 1411: "Sententia est cogitatio ex qua sequitur conatus agendi ad externa. Voluntas est conatus agendi ad externa ortus ex cogitatione."

[39] A VI 4 1424: "Affectus est cogitatio animum occupans, vel si mavis occupatio animi a cogitatione."; "occupatio animi est determinatio ad aliquid cogitandum. [...] Affectus est status animi a cogitatione una ad aliam prae alia determinati; vel est animi occupatio."

[40] For a critical reading of Leibniz's *De affectibus* see Schepers, "»De Affectibus«. Leibniz an der Schwelle zur Monadologie. Seine Vorarbeiten zu, logischen Aufbau der möglichen Welten" in: (Schepers, 2014: 170-205); (Di Bella 2006); (Di Bella 2005: 95-111).

[41] I say a soul because, as we will see, animals also have feelings which play a role in animal cognition. However, animals do not judge. See 2.5.

[42] Leibniz discusses an "occasion", which can be a thought, a reason to consider something, or a perception, something which is presented to the senses: "Sententia est vel opinio vel perceptio, opinio a ratione, perceptio a sensu". A VI 4 1434: "Nulla mutandi seriem in qua sumus ratio est, cum nulla in ea praebetur *occasio* reminiscendi aliarum cogitationum, quas antea habuimus, quod fit cum id quod cogitamus, nobis videtur valde singulare. Atque haec animi determinatio vocari potest attentio".

[43] (S. Di Bella 2016/4), see (Oliveri 2015).

front of a stick lying underneath water that appears to be broken, a subject can suspend the judgment "the stick is broken" and consider it false. This act of abstension from judging is controlled ultimately by the will for Descartes.[44] Leibniz thinks that Descartes' theory leads to an unpleasant consequence: it is the will, and not the intellect, that decides to suspend the judgment. Ultimately it is the will that decides on the truth or falsity of a proposition. But the will is not the faculty apt to evaluate truth or falsity of propositions, a task more appropriately attributed to another faculty, the intellect. As Leibniz writes against Descartes, I cannot arbitrarily decide if honey tastes sweet or bitter. This is not an act of the free will.[45]

If suspending judgment is an act of the will, it is arbitrary and the will can do it without reasons; if the subject suspends a judgment as a consequence of a rational evaluation of the falsity of the judgment, then the will is subject to the intellect and can only indirectly cause something in a subject's mind. This latter position is what Leibniz tries to develop with his own theory of judgment which brings about a further question: how does a judgment arise in the mind and how is it causally related to other thoughts?

De Affectibus (published in 1679) attempts to answer this question and individuates in what I will call pre-reflexive states the source of propositional states. Pre-reflexive states are states that *per se* do not involve concepts or general notions and that can be equated to what Leibniz calls "clear but confused notions" in MDCVI. At the same time, however, these states 'confusedly' entail a certain attitude of the subject towards the perceptual content that causes a propositional state. These pre-reflexive states are called by Leibniz "affects".

The affect is described as a tendency that pushes a mind to consider something.[46] In this way, when the affect occupies a mind, this latter considers some thoughts before others and, based on this evaluation, forms a judgment about what is good or bad. This determination to judge is also involuntarily led by an unconscious element, i.e. minute perceptions and appetites. We will focus on Leibniz's theory of minute perceptions in 1.3. For the moment, it is sufficient to remark that minute perceptions are a mind's perceptual activity and tendencies which remain unconscious to the mind. In particular, Leibniz thinks that a subject retains all its previous states, as he writes in NE, and since there is a perfect bond between past and future states, past, present and future impressions jointly contribute to our present thoughts,

[44] See (Favaretti Camposampiero, Priarolo e Scribano 2016/4); (S. Di Bella 2016/4).

[45] *Animadversiones ad Cartesii principia philosophiae*, See GP IV 356: "Liberum arbitrium habemus non in sentiendo, sed in agendo. Non est in meo arbitrio utrum mel mihi dulce an amarum videtur."

[46] A VI 4 1427: "Affectibus est determinatio animi ad cogitandum aliquid prae aliis. Attentio est determinatio animi ad cogitandum aliquid prae aliis."; ivi 1414: "affectum habet qui determinatus est ad aliquid prae ceteris cogitandum."

even if they cannot account as conscious reasons for our actions.[47] This leads us straight to the second point. The mind does not act simply according to present thoughts but inscribed in a *series rerum*.[48] The mind "interprets" the actual perception according to its previous states, retained in the memory, and to a presentiment of the future states. By considering past and possible future states, it can represent what actions can be good or bad, and it acts in compliance with this representation.

The structure of a mind's activity sketched in *De Affectibus* is an interrelation of two cognitive activities: contingent occasions that provokes a mind's affectual inclination and conceptual reasoning as looking for causes and effects of occurring states of affairs. The former cognitive activity is bound to perceiving and consists in a mind's capacity to focus on what is happening in its perceptual environment. The latter process, consisting in an evaluation of consequences, however, is the product of a mind's ability to consider possible consequences as possible states that can obtain *if* something is the case. (Notice the hypothetical conditional structure this kind of reasoning implies.)

Let's use a concrete example. Suppose I have a deadline tomorrow and need to finish a task. If I care, I will be worried by the scenario "what if I don't finish the work." Now, suppose that I wake up in the morning and I feel terribly sick. The worry about the deadline leads me to sit at the desk, but the pain I feel "occupies" my mind to the point that I am not able to work. Now, it could be that the worry makes me focus that much more on the consequences I believe to follow from me not finishing the work that somehow I finish the work and meet the deadline. I certainly *will* meet the deadline, but it is not entirely a matter of will if I also succeed in my task.

As I will analyze in 1.3., the reasons for my failure is that there are two other faculties involved in the process of moving from one thought to another. These are what control the will. The two faculties are memory and attention, which are, in Leibniz's understanding, first of all led by some perceptual content that give us the "material" to think about. How we evaluate this material and analyse it depends on many factors (the status of my present

[47] NE 113: "C'est qu'il faut considerer que nous pensons à quantité de choses à la fois, mais nous ne prenons garde qu'aux pensées qui sont les plus distinguées: et la chose ne sauroit aller autrement, car si nous prenions garde à tout il faudroit penser avec attention à une infinité de choses en meme temps que nous sentons toutes et qui font impression sur nos sens. Je dis bien plus: il reste quelque chose de toutes nos pensées passées et aucune n'en sauroit jamais estre effacée entierement. Or quand nous dormons sans songe, et quand nous sommes etourdis par quelque coup, cheute, symptome ou autre accident, il se forme en nous une infinité de petits sentimens confus, et la mort mème ne sauroit faire un autre effect sur les ames des animaux, qui doivent sans doute reprendre tost ou tard des perceptions distinguées, car tout va par ordre dans la nature. J'avoue cependant qu'en cet état de confusion l'ame seroit sans plaisir et sans douleur, car ce sont des perceptions notables."

[48] A VI 4 B 1424: "Possumus ad cogitandum determinati esse etiam non ab aliqua cogitatione, sed a serie seu ordine cogitandi hactenus servato."

knowledge, beliefs, capacity of concentration, etc...), and many of these factors cannot be fully under control. The reason why we depend on what the senses present to us is due to the fact that since minds are in an organic body, the body is constantly affected by the external world, and yet not everything affecting the senses also becomes part of the conscious life of a subject. Attention and memory help filter information. The basic thought of *De Affectibus* is still endorsed in NE:

> Ce n'est pas, que ce mouvement (the movements of objects affecting the senses LO) ne frappe toujours nos organes, et qu'il ne se passe encore quelque chose dans l'ame qui y reponde, à cause de l'harmonie de l'ame et du corps; mais les impressions qui sont dans l'ame et dans le corps, destituées des attraits de la nouveauté, ne sont pas assez fortes pour s'attirer notre attention et notre memoire, qui ne s'attachent qu'à des objects plus occupans. Toute attention demande de la mémoire, et quand nous ne sommes point avertis pour ainsi dire, de prendre garde à quelques unes de nos propres perceptions présentes, nous les laissons passer sans reflexion, et mème sans les remarquer. Mais si quelqu'un nous en avertit incontinent, et nous fait remarquer par exemple quelque bruit qu'on vient d'entendre, nous nous en souvenons, et nous nous appercevons d'en avoir eù tantôt quelque sentiment. Ainsi c'étoient des perceptions, dont nous ne nous étions pas apperçùs incontinent, l'apperception ne venant dans ce cas d'avertissement qu'aprés quelque intervalle pour petit qu'il soit. (NE 54)

Rational beings like humans first act in compliance with occasions: what is presented by the senses within their perceptual environment. Since finite minds are in a body and depend on affects, sense experience and the affects produced in correspondence to impressions on the body draw a mind's attention, which is necessary for the activation of memory and for judgment. If my body is affected by pain, I will think and be concerned by the pain and ignore other thoughts that are also present in my mind, but that do not draw my attention since a stronger and more compelling thought occupies it: the thought of the pain.

This is why Leibniz agrees with Locke in that actual thoughts are connected to perceptual states and cannot be innate. But these actual thoughts are not properly ideas. Ideas which allow a mind to form judgments must possess permanence and generality (remember Malebranche?). Perceptions seems to lack both, since they are transitory states representing particulars.

Locke is confusing the cognitive activity of a mind, i.e. a psychological inquiry into how minds function, with a philosophical inquiry into why minds *can* function as they do, i.e. an inquiry into the conditions of possibility for minds' actions: thoughts. In order to be capable of the process just described, minds must be capable of reasoning, of taking into account causes and effects, reasons for what it is and what can be or could have been. This

process can start with some perceptual information, but it is not derived from perception. It depends on the involvement in reasoning of what Leibniz calls "clear and distinct notions": general concepts. Actual reasoning, or the process of judging, is therefore a combination of some perceptual information the mind expresses through a judgment and the recollection of this state in memory. Once present in the mind because of memory, a mind's attention is activated and this brings the mind to considering what is involved by that judgment and what will follow from accepting or denying it. In doing this, the mind considers not what it perceives, but the perceptual presenting as an instance of a general notion. By considering the notion the mind is capable of analysing what it is implied to assume *x* to be *F* and to construct conditionals on "what if it were the case that."

Not every perceptual state is subject to this kind of analysis, as not every thought is subject to reflection and judgment (figurative speech, for instance, may be a case of non-logical and yet reflective knowledge; more on this in 3.2.) But if some states can undergo this analysis it is because perceptual state can be "translated" into judgments involving concepts and expressed through language. In the process of analysis, I will argue, languages composed of perceivable signs play a fundamental cognitive role. Without signs human minds would not be capable of abstracting from the actual presentings of the senses and consider possible scenarios or what Leibniz calls chains of thoughts.

To sum up, in *De Affectibus* Leibniz explains that the mind can act in two ways: according to clear and distinct ideas or according to confused ideas. The more clear ideas the mind possesses, the more it will act according to a chain of clear causes and effects; the more confused ideas it has, the more it will act without knowing the chain of causation, but will simply be driven by the series of occasions it is subject to.[49] What Leibniz means by this distinction will be clear in the rest of *De Affectibus*: The thought (or judgement) which continues the series of thoughts is the one which holds more clarity, i.e. it is the one which more likely matches reality. It better expresses how things are from the point of view of an individual mind.[50] (Note that in this sense also mental disorders are a kind of expressing reality.) Therefore, the series of thoughts is linked to perceptual states; but at the same time it is the result of consideration of how the world is, a judgment that expresses our actual

[49] A VI 4 1424-25: "Series cogitandi oritur vel ex ideis distinctis, ut cum rei causas cogitamus, et causarum causas; itemque cum effectus consideramus et effectuum effectus: Sed et possumus aliam quandam seriei legem sequi, quae non a causis et effectibus, sed gradibus, similitudinibus, combinationibus oriatur vel oritur ex ideis confusis, nempe ex iis quae simul experti sumus, quae temporis locorumve ordine certo persequimur."

[50] A VI 4 1428: "Causa determinationis est, ad unam seriem cogitandi potius quam ad aliam, cum cogitationes seriei unius plus involvunt realitatis quam cogitationes seriei alterius. Nam regula generalis est semper id fieri quod plus involvit realitatis, seu quod est perfectius."

knowledge of the world and this hinges on perceptions and on what we know and believe the world entails according to what we know at the time we express the judgment. This representation depends on the mind's ability to conceive of scenarios as possible consequences of its actions and to determine why one scenario is better than another. A mind determines its action because it is able to think of necessity and possibility. Indeed, Leibniz underlines that it is only God who acts without any passion and, therefore, completely spontaneous and according to the chain of ideas, whereas finite spirits act only according to confused ideas, i.e. influenced by affects or dependent on their perceptual states, including those perceptual states that represent signs.[51]

This interpretation of a mind's action must be traced back to Leibniz's perspectivism: Every mind expresses the whole universe from its point of view but in a confused way (DM § 14). The consequence is that the actual perceptual activity of a mind, whose parts are little perceptions, cannot be tantamount to conscious perceptual states, i.e. those perceptions which are objects of reflection and upon which a mind judges. Moreover, the mind itself is not indifferent to its perceptual states; the perception already entails a tendency to act and to continue the *series rerum* according to the degrees of perfection and the perspective of the individual substance. The mind cannot act, and therefore judge, freely if by "freely" we understand that a mind can have full control of its thoughts and judgments.[52] The perceptual activity of the mind which determines the passage from one thought to another is not completely clear and conscious. The mind also acts according to perceptual states of which it is not conscious.

We can now define a judgment as an act of the mind that occurs because something actually draws a mind's attention. This "something" is a confused representation of what occurs in a mind's perceptual activity or another thought a mind remembers in connection to some perceptual presentings. It can be an affect or a confused representation of joy and sorrow; it could be a clear idea, as the representation of a principle. Even if in *De Affectibus* Leibniz focuses on moral actions, this basic description of a mind's activity can also be used to describe reasoning. For instance, the perception of signs or the representation of a sentence due to a representation of written or spoken sounds can produce a thought in someone's mind which causes the beginning of a chain of thoughts. For this operation, hence, it is important that signs are perceptible tools.

[51] A VI 4 1430: "Hinc intelligi potest, Deo uno except nullius rei statum integrum esse totum naturalem seu spontaneum."
[52] S. Di Bella (2016/4); see Oliveri (2015).

Now, we can move to analyse the relevance of the distinction between perceptions and notions in the case of deceptive states.

1.2.5. Leibniz on Deceptive States and Error

In our analysis of the structure of judgment there is an aspect which is not completely clear when we compare Leibniz with his contemporaries. For Leibniz, perception represents the basic activity of substances and cannot be equated only with the perceptual activity of the senses.

Let us briefly explain what a perception is. Perception assumes within Leibniz's philosophical terminology a metaphysical and epistemological meaning. Perception, together with appetite, is the basic activity of the immaterial substances. Therefore every immaterial substance such as the mind is constituted by a flow of perceptual stimuli and endeavors (*appetitus/tendences*).[53] Indeed, from an epistemological point of view, perception is a first confused expression of what happens at the level of the body. It can trigger, however, the activation of a high-level knowledge represented by a conscious thought; this latter implies some concepts and some principle of its correctness, like the principle of contradiction.[54] The "standard" definition of perception is *multorum in uno expressio*, "the expression of the many in the one."[55] Made explicit, perception for Leibniz is not a simple, clear and distinct act of the mind accompanied by awareness, since we cannot be fully aware of its complexity; perception can reaches the level of awareness and, therefore express the multitude of unconscious perceptions (*petites perceptions*) through a clear and confused notion, like the perception of a color or of a shape. A classic example used by Leibniz in NE is the perception of a color, e.g. green. Although green is the composition of tiny blue and yellow colored parts, I cannot see the yellow and the blue—even if I concentrate on it—but only the confused representation of the color which results from that combination, i.e. the green. In contrast to Locke, perception is the constant activity of the soul, and this cannot always reach the level of

[53] As is well known, not every substance is a spirit (mind) but all substances and minds have perceptions. In this sense, Leibniz distinguishes between psychology or the science of the soul (which comprehend also animals and plants, which are not spirits) and pneumatology or the science of the spirits (from the Greek *pneuma*), which comprehends all spirits and also angels and God. I would make another distinction and say that I concentrate only on Leibniz's anthropology in the following pages, i.e. on human cognition. For the distinction see (Bolton, 2011: 136)

[54] I say can trigger, because, as is well known, although every monad has perception, not every monad also has apperception or can form a clear thought of what it perceives.

[55] A VI b 1625: "Patet etiam quid perceptio sit, quae omnibus formis competit, nempe expressio multorum in uno;" GP II 311: "Cum perceptio nihil aliud sit, quam multorum in uno expressio."

attention; nonetheless we can say that the soul is active.[56] In spirits, i.e. those immaterial substances capable of reasoning, perceptions can reach the level of attention, and trigger the activation of reflection (the high-level mental activity) which implies the application of principles and concepts, as well as the tendency to judge. In other words, perception is correlated with judgment in human minds, as we have seen. Indeed, judging involves the activation of the conceptual sphere as well as that of the will. Consequently, judging is a species unique of spirits.

But what happens when perceptions reach the attention level and trigger a judgment? We have to analyze two cases of deceptive experiences. The first is Leibniz's analysis of seeing a winged horse; the second is his analysis of a square tower that appears round from the distance. Both examples should explain why for Leibniz the distinction between actual thoughts and ideas implies the distinction between perceptions and distinct notions, important to explaining deceptive states.

In the first example also discussed by Di Bella,[57] Leibniz claims that a perception cannot actually deceive someone; the source of errors lies in the judgment.[58] I cannot but see a winged horse when I perceive it, as I cannot but see the green when I perceive the mix of blue and yellow that compose it. Yet, the problem is that we suppose that green exists, whereas the winged horse does not. How can we explain this deception?

Consider the perception of the green again. The perception has an involuntary component: We do not decide to see the green, we simply see the green.[59] Locke also agrees, for different reasons, with this claim (NE 134), since for him simple ideas of the senses result from the interaction between senses and objects. They are immediate, simple and, in Locke's view, more certain than other complex ideas. On the contrary, Leibniz points out that the fact that ideas of sensations are immediate does not mean that they are clearer (NE 299). The green is an example: In such a sense we perceive the green because we are deceived by our senses and not because the green is a clear notion.[60] Despite this, however, we can still think that the green is a different deception as the winged horse. How can we explain this latter case?

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[56] Because of this, Leibniz can say the mind is active also during sleep (NE 53).

[57] See (S. Di Bella 2016/4).

[58] DM § 14, A VI 4 B 1550: "Et comme la veue de Dieu est tousjours veritable, nos perceptions le sont aussi, mais ce sont nos jugemens, qui sont denous et qui nous trompent."

[59] GP IV 356: "Liberum arbitrium habemus non in sentiendo, sed in agendo. Non est in meo arbitrio utrum mel mihi dulce an amarum videatur, sed nec in meo arbitrio est, utrum theorema propositum mihi verum an falsum videatur, sed conscientiae tantum res est, inspicere quid videatur."

[60] A I 18 372, nevertheless, green can have a nominal definition.

The winged-horse case is not explicable if we remain on the perceptual level. If I believe to have perceived a winged horse, I judge that I saw a winged horse and I cannot but be sure that at that very moment I saw a winged horse. As Leibniz writes, a perception cannot deceive me: In the moment I perceive the winged horse, I cannot but judge that I am seeing a winged horse, exactly as I see the green and I judge that I see the green. On a further, conceptual level, yet, I can reflect and recall all my previous experiences, my knowledge of the actual world and I must acknowledge that I could not have perceived a winged horse because I have reason to doubt that something like a winged horse exists. The same cannot happen with the green, which, on the contrary, is coherent with previous perceptual states of mine. Notice that implied in this kind of analysis about whether I saw a winged horse or not there are some further beliefs. For instance I must believe that if something does not exist it cannot be perceived by me and I must believe that all my previous experience of the green are experience of something like a color, in specific green.

The case of the winged horse, hence, can be considered as a deceptive state if and only if the mind is capable of judging what it saw ("that is a winged horse"), is able to retain this state in memory, and to draw attention to it. Once memory and attention are activated the mind searches for reasons to believe that one has seen a winged horse, a process that gives reasons to consider the statement "that is a winged horse" to be false. But this process implies the involvement of further beliefs and principle which are not per se derivable or necessarily related with the perceptual state. Leibniz thinks that this process of analysis can be activated if minds report perceptions on the conceptual level: once they consider concepts, propositions and what can be inferred from endorsing something as true. Locke too would have granted this. But Leibniz thinks that the lack of a clear distinction between perceptions, judgments and concepts does not explain how this process can take place on Locke's account. Leibniz seems to want to argue that if perceiving is having an idea, then ideas (intended as general notions) cannot do this normative work. If perceiving is more reliable than thinking and having an idea is to perceive x, how can a subject doubt whether she saw a winged horse? Leibniz suggest that concepts are more than actual perceptions of existing entities; they express something's possibility. For the moment, I leave it as a suggestion because I will analyze it in part II.

Consider another example of a deceptive state: a square tower that seems to be round from a certain distance. Matteo Favaretti Camposampiero has recently analysed this case in a paper. As he observes, since every perceptual state is true like God's view is, we cannot be deceived by the perceptual state, according to Leibniz, but by our judgment, which comes

only from us.[61] Favaretti analyses the case discussed by Leibniz of a tower that from a distance appears round and without angles when in reality it is square.[62] The case is described by Leibniz as a real perceptual error and cannot be settled by bringing to the fore his conception of expression: There is no correspondence between any salient point of the square tower and my perception of the roundness, i.e. roundness and squareness are contraries. So, how should we interpret that it is not the perception that deceives us? Favaretti Camposampiero suggests that according to Leibniz the perception cannot deceive because the subject actually perceives the angles of the tower though it cannot be aware of them because of the distance. Since the minds perceive at every moment the whole universe (though confusedly), it must also perceive the angles. But since the perception of the angles remain minute, a mind fails in judging. Therefore, when the subject has to judge upon the shape of the tower, she suggests that it is round because there are other faculties that underpin the process of judging and it applies a false idea, i.e. the roundness.[63] Judging is indeed a complex operation that, as we have seen, is only partially determined by perception. The perception indeed furnishes the raw material, and this material is "reflected" by the intellect thanks to the work of other faculties: imagination, memory and attention. In particular, as I will flesh out in

[61] (Favaretti Camposampiero 2016). The paper was presented at the internation conference on errors in early modern philosophy, Venice, 23-24 March 2014. For a reviw of the Conference, See: (Oliveri 2015).

[62] The passage is entailed in Theod. §64 (GP VI 86): "Mons. Bayle fait encor une objection ingenieuse, qu'il tire de l'exemple du sens de la vue. Quand une tour quarrée (dit il) nous paroit ronde de loin, non seulement nos yeux deposent tres clairement, qu'ils n'apperçoivent rien de quarré dans cette tour, mais aussi qu'ils y decouvrent une figure ronde, incompatible avec la figure quarrée. On peut donc dire que la verité, qui est la figure quarrée, est non seulement au dessus, mais encor contre le temoignage de notre foible vue. Il faut avouer que cette remarque est veritable, et quoyqu'il soit vray que l'apparence de la rondeur vient de la seule privation de l'apparence des angles que l'eloignement fait disparoitre, il ne laisse pas d'être vray que le rond et le quarré sont des choses opposées. Je reponds donc à cette instance, que la representation des sens, lors même qu'ils font tout ce qui depend d'eux, est souvent contraire à la verité; mais il n'en est pas de même de la faculté de raisonner, lorsqu'elle fait son devoir, puisqu'un raisonnement exact n'est autre chose qu'un enchainement des verités. Et quant au sens de la vue en particulier, il est bon de considerer qu'il y a encor d'autres fausses apparitions qui ne viennent point de la foiblesse de nos yeux, ny de ce qui disparoit par l'éloignement, mais de la nature de la vision même, quelque parfaite qu'elle soit."

[63] *Theod.* § 65; GP VI 87: "Les sens exterieurs, à proprement parler, ne nous trompent point. C'est nostre sens interne qui nous fait souvent aller trop vite; [...]lorsque l'entendement employe et suit la fausse determination du sens interne (comme lorsque le celebre Galilée a crû que Saturne avoit deux anses), il se trompe par le jugement qu'il fait de l'effect des apparences, et il en infere plus qu'elles ne portent. Car les apparences des sens ne nous promettent pas absolument la verité des choses, non plus que les songes. C'est nous qui nous trompons par l'usage que nous en faisons, c'est à dire, par nos consecutions. C'est que nous nous laissons abuser par des argumens probables, et que nous sommes portés à croire que les phénomènes que nous avons trouvé liés souvent, le sont tousjours. Ainsi comme il arrive ordinairement, que ce qui paroit sans angles n'en a point, nous croyons aisement que c'est tousjours ainsi. Une telle erreur est pardonnable, et quelque fois inevitable, lorsqu'il faut agir promtement, et choisir le plus apparent; mais lorsque nous avons le loisir et le temps de nous recueillir, nous faisons une faute, si nous prenons pour certain ce qui ne l'est pas. Il est donc vray que les apparences sont souvent contraires à la Verité, mais nostre raisonnement ne l'est jamais, lorsqu'il est exact et conforme aux regles de l'art de raisonner. Si par la Raison on entendoit en general la faculté de raisonner bien ou mal, j'avoue qu'elle nous pourroit tromper, et nous trompe en effect, et que les apparences de nostre entendement sont souvent aussi trompeuses que celles des sens: mais il s'agit icy de l'enchainement des verités et des objections en bonne forme, et dans ce sens il est impossible que la Raison nous trompe."

2.3., the imagination produces a kind of conjunction between the principles of the intellect and the raw material of perceptions. For instance, as Favaretti Camposampiero also points out, since the distance deprives the mind of the conscious perception of the angles, the imagination represents the tower as round and leads the intellect to apply the concept "roundness." The result is a false judgment. Since the tower appears without angles and since what normally has no angle is round, the tower is round. So imagination compares what has no angles with a circle. Consequently, the error is actually caused by a false application of a conceptual determination to the perceptual material that instead is always true.

This analysis, like the case of the winged horse, requires that conceptual and perceptual spheres are separated. Despite this, a specific kind of judgment, the perceptual ones, are characterized by an interrelation between perceptual and conceptual processes. Despite this interrelation there are reasons to consider concepts and perceptions as distinct. The next chapter provides further arguments for this distinction through an inquiry into Leibniz's conception of animal and human cognitive states.

1.2.6. Conclusion

The analysis of deceptive states shows that there is a sharp distinction between perceptual and thinking activity. Both activities are related, but they imply different operations: perceptions are based on minute perceptions, whereas thinking implies distinct notions. As seen by analyzing Leibniz's theory of judgment, however, thinking activity is related to sense perception and perceptions that draw a mind's attention. Nonetheless, a mind perceives the all universe at every moment according to Leibniz. The consequence is that by assuming minute perceptions, Leibniz needs to explain when a mind is conscious of its states, and, moreover, what is the difference between souls that perceive, but are not rational, like animals, and souls that perceive and think, like finite minds. The next chapter dells with these questions.

1.3. Apperception, Reflection, and Consciousness

As we have seen, unconscious perceptions, as the constant activity of souls, are a crucial assumption of Leibniz's metaphysics, and they play a decisive role in Leibniz's epistemology. First, it is because of minute perceptions that we can explain why errors occur only in judgment and not in perception. Secondly, as we will see in what follows, minute perceptions ground the distinction of perceptual activity and reflective activity.

The need to distinguish between perceptual activity and conceptual activity is related to the difference between rational and non-rational souls within Leibnizian metaphysics. In a 1708 letter to Gottlieb Samuel Treuer, Leibniz writes:

> In sensibus non esse errorem verum est, etsi res aliter saepe repraesentant quam sunt, erramus autem nos cum ex apparenti de vero judicamus non intellectis causis apparentiarum conditionibusque. Illud tamen quod ex Bailio allegas th. 5. non admitto, facultates sensitivas per suam naturam et essentiam esse reflexivas, et cum bruta sentire statuam, conscia tamen esse non arbitror. In utramvis partem exceditur ab his qui sensum et conscientiam connexa statuunt, vel enim coguntur brutis adimere sensum animamque, quod faciunt Cartesiani plerique, vel concedere illis mentem; a quo Lockius et similes non valde abhorrent. Causa erroris est, quod philosophi vulgo non satis distinctam habent notionem sensionis vel perceptionis in universum, hinc Cartesiani aliique multi eam cum cogitatione, id est perceptione conscientiam involvente confudere. (21 May 1708; LBr 939 Bl.2v).

In the passage, Leibniz maintains that Descartes' explanation of deceptive states, discussed in the previous chapter, and Cartesians' denial of a soul to animals are consequences of the fact that Cartesians do not clearly distinguish between perception and reflection, i.e. they fail to consider what perception in general is, and thus fail to distinguish this activity from the activity of the intellect. Consequently, Cartesians consider the sensitive faculty to be reflective *per suam naturam et essentiam*. Leibniz scholars usually interpret these kinds of claims as Leibniz's criticism of Cartesian *conscientia*. In their views, reflection distinguishes humans and animals because even if these latter can have perceptions, they cannot be conscious of perceptual states. To be conscious of mental states implies to the ability to attribute those states to the self, and animals cannot do so. Reflection is therefore connected to the self-consciousness of perceptual activity, a reading made plausible by Leibniz's explicit reference to minute perceptions (unconscious states).[1]

[1] This kind of reading can be found in Barth (2011); Barth (2012); McRae (1976), and Kulstad (1991); Simmons (2011); Jorgensen (2011).

However, this is not the only plausible interpretation of the passage; another is suggested by the fact that Leibniz's criticism is primarily addressed to Descartes' solution of the problem of deceptive perceptual states. In brief, according to Descartes, a subject is able to suspend judgment in the face of deceptive perceptual states. Leibniz objects that judgment is not an act of the will: I cannot decide what to perceive nor can I decide what to judge. What I can do, however, is to reflect upon the conditions and reasons for considering my judgment upon a perceptual state to be truthful and, accordingly, make my judgment on the basis of nomological reasons. In a nutshell, I think that when referring to reflection, Leibniz has in mind the process of judging that we analysed in the previous chapter. A necessary component of this process is the capacity to retain previous states and analyse the concepts involved in judgment. To this process, consciousness as being aware of a self is not necessary. Self-consciousness, however, is a subclass of all reflective acts, since it consists in a judgment of the form "I am who thinks that p" or " I exist" (the cogito), which implies general notions.

In my view, this reading is supported by numerous passages of Leibniz's writings, that I shall discuss in this chapter. In the passage from the *Theod.*, where Leibniz analyses the deceptive state of a square tower that appears to be round from a distance discussed in 1.2.5., he explicitly writes that the judgment that the tower is round arises directly from the distinct perception of the tower, but that the judgment is a false one. There he uses the french term "*reflexion*" as a process of analysis on a judgment aimed at looking for reasons why one can believe the judgment to be false. To put it another way, one continues to perceive the tower as round and to judge that she sees a round tower, but, through reflection and examination, she can understand that this judgment is false, since the tower is square.[2] In light of these considerations, I think that reflection in Leibniz's theory of rational souls' cognition must assume another meaning. Reflection cannot be straightforwardly equated with acts of self-consciousness; reflection equates with intellect and with examination. In a nutshell, reflection is the activity of considering perceptual states under the aspect of distinct notions. Reflection is the act of apprehending generality and necessity. Precisely because of this, acts of self-consciousness and of ascribing metaphysical properties (being a substance, an I, and so on) are acts of reflection as well; however, they are only a subclass of all reflective acts, which, more generally, are acts of knowledge.

[2] GP VI 121 (Theod. I §32) : "Voicy un example de l'erreur, dont nous nous sommes déjà servis. Je vois une tour qui paroit ronde de loin, quoyqu'elle soit quarrée. La pensée que la tour est ce qu'elle paroit, coule naturellement de ce que je vois ; et lorsque je m'arrête à cette pensée, c'est une affirmation, c'est un faux jugement : mais si je pousse l'examen, si quelque reflexion fait que je m'apperçois que les apparences me trompent, me voilà revenu de l'erreur. Demeurer dans un certain endroit, ou n'aller pas plus loin, ne se point aviser de quelque remarque, ce sont de privations."

If we re-read the passage from the letter to Treuer according to this interpretation, the point being made is that if we follow Descartes' philosophy, reflection as consciousness is a necessary component of sensation because there is no difference between perceptual and conceptual activity. This is exactly the point Leibniz wants to deny. The reason for this error lies in an unsuitable and superficial consideration of what perception in general means. Perception and reflection are two distinct activities which, are nevertheless strictly interwoven in spirits' cognitive processes. But since they are two distinct operations, animals can be said to perceive without being said to be able to reflect. Put another way, animal and human cognition are two different species of cognition.

If one denies the distinction between reflection and perception, one has to agree with Descartes and deny that animals have perceptions. But if perceptual and thinking activity are distinct, though closely related in human cognitive processes, one can consistently maintain that animals perceive but do not reflect, even if when humans perceive they judge by default. In the conclusion of the letter to Treuer quoted above, Leibniz relates this "default" appeal to judgment in case of distinct perception with the theory that the will can only indirectly orient the intellect. In spirits – and only in spirits, as I am going to argue – perception is the perception of the connection of ideas; but perceptions per se do not imply conceptual activities; that is why animals can perceive, but they do not judge. Only humans judge when they perceive the connection between ideas:

> Sed judicium tamen non est res libertatis, neque actus voluntatis, ut sibi Cartesiani persuadent; sed intellectus. Equidem voluntas aliquid indirecte potest in intellectum, veluti cum cogitationem alio vertit, sed cum eousque processimus ut connexionem idearum percipiamus, eo ipso judicium jam formamus. (LBr 939 Bl.2v)

As this brief introduction shows, my aim in this chapter is to argue that for Leibniz the distinction between human and animal cognitive processes consist in animals' incapacity to form general and distinct notions: concepts. Animals' lack of consciousness as the capacity to attribute perceptual states to the self is a consequence of the most general incapacity to acquire distinct notions. On this reading, reflection is not synonymous with consciousness, but is simply a mind's capacity to consider general notions and from them to derive possible and necessary truths. The implication of this reading is that animals can become aware of their inner states too, but this cannot count as acts of consciousness because human and animal cognitive processes are incommensurable. Even perceptual states are of a different species in animals and in humans.

According to my interpretation, reflection is an examination of our judgment. A necessary feature of reflection is the capacity to retain a thought, to remember the immediately previous thought, and to consider this under the aspect of general truths. This act of retaining and examining is, according to Leibniz, an action in itself or an act internal to the self (*actio in se ipsum*); a mind's activity consists in considering its thoughts – that which is "inside" it – and analyzing those thoughts under the aspect of distinct notions.[3] Consequently, acts of reflection presuppose memory of previous states.[4] As the example of the round tower suggests, I must retain a previous state (e.g. my thought of the tower as round) in order to be able to reflect on this thought and examine if it is true. In this process, however, what is significant is not that *I* perceive x, but the fact that I perceive *that p*. It is the content of the perception reported by a judgment that can undergo the process of conceptual analysis and evaluation. Sure, the content must be perceived by me, but this is not the first and main concern in inquiry after truth. Nonetheless, knowledge of the I-Perspective is essential for acquisition of general notions and knowledge but in a different way, as I will argue in 1.4.

Moreover, according to this account, acts of self-consciousness are also acts of reflection because they too depend on the memory of a previous state: I must remember a thought in order to examine the fact that I am thinking that thought and that, therefore, I think. In the same way, acts of attributing metaphysical properties, such as being a substance, are also acts of reflection because they involve examination of the state of thinking under the aspect of generality and necessary truth (the principle of contradiction and notions like substance, self, and so on). Furthermore, Leibniz equates reflection and consciousness because reflection enables spirits (rational beings) to act morally. Morality is grounded in freedom, and freedom is grounded in the capacity of rational souls to distinguish between contingency and necessity, the possible and the impossible. Reflection enables minds to

[3] Regarding reflection as "actio in se ipsum": A VI 4 1507 : "Substantia omnis habet intra se operationem quandam, eaque vel est ejusdem in se ipsum, quae dicitur Reflexio sive Cogitatio, et talis substantia est spiritualis, sive Mens, vel est diversarum partium, et talis Substantia dicitur Corporea."; A VI 4 1471: "Mentem vero humana ab anima bruti possimum actu reflexo distinxere, haec inquam ut taceam, quia nolo autoritate pugnare; non video cur discrimen inter animas quae conscientiam sui habent et quae non habent ipsi parum essentiale videatur. Nam res quae agere potest in seipsam, essentialiter differe videtur, ab ea quae id non potest."; A VI 4 1452: "Aliud enim est semper rationem reddi posse cur eligat, aliud est necessariam esse electionem; inclinant rationes non necessitant; licet certo sequatur id ad quod inclinant. At cum in bestiis non sit reflexio seu actio in se ipsum adeoque nec decretum liberum de actionibus suis."

[4] A VI 4 1490: "Illae solae animae sunt Mentes in quas cadit cognitio sui ipsius seu conscientia. […] Aliud est percipere, aliud percipere quod perceperis, seu meminisse. In brutis itaque perceptionem agnosco sive sensum eorum quae fiunt, agnosco et imaginationem, sensu cessante manentem, et ideo recursum priorum imaginum, si qua nova imago uni priorum similis occasionem praebeat; sed non agnosco in illis conscientiam, ut scilicet oblata quadam cogitatione percipiant eam vel aliam similem, jam sibi affuisse. Reflexio itaque seu memoria vel conscientia, mentium propria est. Reflexio proprie est memoria cogitationis proxime praecedentis."

conceive possible scenarios based on general moral principles, causality, and scientific knowledge, and to determine their actions according to the most plausible and realistic scenario. For Leibniz consciousness means practical knowledge, and in this sense he delineates a conception very different from that of his contemporaries (Locke and Descartes, among others), a conception which has its roots in that of Thomas Aquinas.

These are the issues of the present and the next chapters. In what follows, I focus on the distinction between apperception and reflection in the context of human and animal cognition. Leibniz is concerned by the Cartesian theory of judgment because of Descartes' denial that animals have perceptions. From this, I move to consider acts of self-consciousness and why, according to Leibniz's metaphysics, they are not as essential for the constitution of the moral person as they are in Locke's account. In the next chapter I analyse the Thomistic roots of Leibnizian *conscientia*.

1.3.1. The Puzzle of Apperception

As the letter to Treuer and the criticism of Descartes suggest, the importance of minute perceptions do not consist in their being unconscious, but rather in their not being distinctly perceivable. In this case, the contrast is not between conscious and unconscious states but between states that are distinctly perceivable and states that are not distinctly perceivable. As we have already seen, minute perceptions explain why spirits are not deceived by perceptions but rather by judgments (1.2.5.). Thus, Cartesians failed to consider perception in general because they omitted to acknowledge minute perceptions. The distinction between minute perceptions, distinct perception, apperception, and intellect or reflection enables Leibniz to attribute perceptions to animals without also attributing thought to them. However, attributing perceptual activities to animals means acknowledging them as bearers of some kind of actions. However, Leibniz does not attribute to animals only minute perceptions, which is why he needs to explain the difference between animal and human actions.

We can characterize Leibniz's pneumatology (the study of souls)[5] in the Aristotelian tradition. Leibniz distinguishes between three kinds of souls: vegetative, sensitive, and rational (the souls of this latter kind are also called spirits, a category which includes not only

[5]Pneumatology is the study of souls in general; psychology is the study of spirits, i.e., rational souls. For a discussion see (Bolton, 2011, 136–158).

human beings, but also angels, demons, and God).[6] Vegetative souls, such as plants, do not present a real problem, insofar as everything that happens in them can be described through minute perceptions.[7] The case of sensitive souls, or animals' souls, however, is more challenging. Animals' activity cannot only consist in minute perceptions for at least two reasons: First, we could not distinguish sensitive from vegetative souls; second, we could not explain what it means for animals to have sensations and, therefore, we could not account for all the activities animals are capable of.

However, difficulties in characterizing animals' activity are presented by the fact that actions seem to imply will and intentionality, which in turn seem to imply reflections and consciousness of the I. Exactly this problem has been encountered by scholars in Leibniz's use of the terms *s'apercevoir* and apperception. The reflexive form of the French verb suggests that Leibniz means by it—as well as by the substantive (coined by the philosopher himself)—a sort of reflective act which makes the mind aware of the fact that it perceives: the reflective act accounts for the attribution of the perception to a subject (the ego). This reading of apperception is supported by important texts such as *Principles of Nature and Grace* [henceforth PNG] and the *Monadology*, where Leibniz seems directly to link apperception with reflection and *conscientia*, but it remains puzzling if we consider other passages, e.g. NE II 21, where Leibniz explicitly says that a wild boar *apperceives* a man.[8] These problems have led scholars like McRae to suggest that Leibniz's account of reflection and human cognition is inconsistent (McRae 1976: 30): If animals apperceive, they are also conscious of their states.

Other scholars, like Kulstad, tried to read Leibniz's theory as consistent. Kulstad introduces the distinction between reflection and focused reflection (Kulstad 1991, 116–55). Whereas animals can have a form of simple reflection, they lack in focused reflection, i.e. the capacity to attribute perceptual states to the self. The main problem with Kulstad's interpretation is that he nonetheless attributes a sort of reflection to animals, but in order to do this he needs to disconnect reflection from judgment and proposition, which are, on the contrary, necessarily linked in Leibniz's theory of mind, as I shall try to show.

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[6] For a discussion, see Barth (2012); Barth (2011); Simmons (2011, 196–201); and Jorgensen (2009, 223–248).

[7] NE 139: "J'ay du penchant à croire qu'il y a quelque perception et appetition encore dans les plantes à cause de la grande analogie, qu'il y a entre les plantes et les animaux, et s'il y a une ame vegetable, comme c'est l'opinion commune, il faut qu'elle ait de la perception. Cependant je ne laisse pas d'attribuer au mechanisme tout ce qui se fait dans les corps des plantes et des animaux excepté leur premiere formation. Ainsi je demeure d'accord que le mouvement de la plante qu'on appelle sensitive vient du mechanisme, et je n'approuve point qu'on ait recours à l'ame, lors qu'il s'agit d'expliquer le detail des phenomenes des plantes et des animaux."

[8] PNG § 4; Monad. §§ 21–29; NE 175.

Kulstad explicitly recognizes Leibniz's reading that all thought is propositional as his early view on minds, later abandoned by him in favor of the view that all thought is reflective. According to this later view, reflection is built on apperception and has the form "I perceive x." Kulstad, moreover, explicitly says that this account is different from that which claims that all thought is propositional. To say that every perception entails the fact "I perceive x" is different from saying that thought has the form "A is B" or "A is ¬B" (e.g. something is blue). Kulstad supports his reading of an early and a later view by referring to the *Nova Methodus* (1667), where Leibniz explicitly writes that all thought is propositional, a position abandoned in later texts such as the *Monad*. and PNG. Whereas according to his early view the difference between humans and animals consists in the fact that minds are able to grasp propositions, in his later writings Leibniz abandons this view in favor of the conception that reflection, interpreted as self-ascription of perceptual states, distinguishes humans from animals.[9]

But why can Kulstad not accept Leibniz's theory that all thought is propositional? If Kulstad accepts Leibniz's theory that all thought is propositional then his own interpretation collapses for two reasons: first, he has to admit that animals also have thought, since animals also have reflection, which stands in contrast to Leibniz's explicit claim that animals do not have thought; second, if all thought is propositional, then to think "I perceive x" means to have a thought of the form "I perceive that *p*", where *p is* a proposition or a judgment on the perceptual content. This interpretation is consistent with both what Leibniz says in the letter to Treuer just quoted above (when a mind apperceive, it already judges) and with what we said on the process of judging. It is however inconsistent if combined with Kulstad's interpretation, since a mind must explicitly think the fact "I perceive that p" and therefore explicitly think "I think that I perceive that p." Consequently, Kulstad's interpretation would entail the infinite regress that Leibniz explicitly says he wishes to avoid with his philosophy.

[9] Kulstad (1991, 68): "A representative work expressing the early view is the New Method for Learning and Teaching Jurisprudence. In this work, published in late 1667, beasts are held to be sentient beings, capable of experiencing pleasure and grief, and animate. Of course, Leibniz nonetheless insists on differences between man and beast. What he says is that 'propositions…are of course distinctive of men only', and later elaborates as follows: 'every action of the mind is a thought… Furthermore, all thinking is of some proposition. For mere simple terms are found only among beasts; the sense perception of man is never without some reflection.' These two statements together imply that beasts do not think and do not have minds (or at least not minds in action). The emphasis on propositions does not seem to persist in Leibniz's thinking on the distinction between beasts and humans. The point about reflection does." And in footnote 46 he more explicitly clarifies: "At first glance the connection between the two points seems obscure. But the work of the first part of this chapter may provide the link. A human would never think simply of blue but would rather, because of the reflection built into thought, perceive that he perceived blue. (Notice that this would be quite different from the path of some others who have wanted to make all thought propositional, for instance, by insisting that what is thought in the case above is that something blue)."

This infinite regress is the consequence that Locke's and Descartes' readings of consciousness must face (NE 238). So, either Kulstad is right, but then Leibniz's theory is inconsistent, facing the same problems of Descartes's theory, or Kulstad is wrong about Leibniz's abandonment of the view that all thought is propositional, and that Leibniz's account of reflection. I endorse this latter view and try to develop the implications of the view that all thought is propositional.

To begin with, let's consider some textual evidence of Leibniz's endorsement of the view "all thought is propositional" in his later writings. An example is Leibniz's re-elaboration of the *Nova Methodus*. As is well known, Leibniz had worked intensively on his printed version of the *Nova Methodus* between the years 1698 and 1708, almost contemporary to Treuer's letters. Indeed, he wished to publish a new version of the text, as we know from a number of letters, such as the one sent to Placcius in 1695.[10] Notice that it is §32 of the *Nova Methodus*, the very text used by Kulstad in order to argue in favor of an early view, that I am about to quote. Now, if we consider the re-elaboration of this paragraph (1695-1708), Leibniz more explicitly writes that all thought is of some proposition and that he will consider both the thought of simple terms and the reflective act which recognizes something in ourselves actually (i.e., Kulstad's reflective act "I perceive x"), as propositions, both *per se* and because of the signs which compose them:

> omnis autem actio animi est cogitatio, nam et velle nihil aliud est quam conatus ex cogitatione seu conari ad aliquid ob bonitatem ejus cogitatione cognitam. Omnis porro cogitatio fertur in Enuntiationem seu Propositionem seu affirmationem et negationem, nam et termini simplicis usus, involvit affirmationem possibilitatis, et reflexionis actus aliquid agnoscit in nobis ipsis actuale, propositiones autem spectabimus tum in se tum ratione terminorum ex quibus conflatur. (A VI I 284 1698-1708)

From this passage, it is evident that Leibniz maintains the view of all thought as propositional also during the latest period of his philosophy. A further text is the letter to Treuer mentioned above, where he explicitly says that when a mind perceives, it already judges. Because of this, I shall propose a reading of Leibnizian reflection which is consistent with Leibniz's position that all thought is of some proposition or judgment.

Briefly, my reading suggests that, since to think means to judge, when we judge we reflect on our perceptions, meaning that we do not consider things as they appear in perception but rather under the aspect of generality, possibility, and necessity. Roughly

[10] A II 3 51: "Ego ante multo annos cogitaveram de Methodo mea recudenda et augenda, quin et subinde corrigenda."

outlined, when a mind apperceives a thing (e.g. a table), i.e. turns its attention to its distinct perception, it already judges, i.e. it thinks "there is a table." "Table" is a general notion which expresses what I am supposed to expect (e.g. a surface supported by feet, made of a particular material, and so on). The notion expresses what it is possible for me to see when I perceive a table as well as what it is necessary for me to perceive in order to think of a table. If spirits' apperception is connected with reflection and judgment and therefore with the appeal to distinct notions, in animals it is a form of attention that brings about affects. Affects can cause animals' actions because they are a pre-reflective activity of the soul which implies an unconscious (i.e. not distinctly known) tendency towards good and bad. Therefore, Kulstad's reading of reflection misses the point, which is that, for Leibniz, reflection means intellect, and intellect is the source of necessary truth and knowledge. Because of this, I do not agree with attributing reflection (not even simple reflection) to animals.[11]

Because of this, I support the reading proposed by other scholars, e.g. Barth, who point out that apperception is related to attention and not to reflection, in Leibniz's theory of knowledge.[12] My purpose is to support this reading from the point of view of Leibniz's theory of action for the following reason. As explained above, attributing perception to animals means to attribute actions to them. Hence, we have to explain to what extent animal action and human action differ—and why. Moreover, judgment, which I maintain is the main activity of minds, represents a mind's action. This conclusion is the result of Leibniz's text *De Affectibus*, as we already saw in 1.2.3. The topic discussed in the chapter wherein the controversial example of the wild boar is brought up discusses the same topic as *De Affectibus*: the beginning of action and when action can be said to be free. In my opinion, we must put this passage in twofold context in order to read it correctly: first in the context of other passages in NE that discuss the distinction between animal and human cognition, and second in the context of the chapter in which Leibniz brings up the example of the wild boar. This allows us to elucidate the meaning of apperception and reflection in NE and resolve the puzzle. In my view, Leibniz's conception of human and animal knowledge is coherent, and the difference between the two kinds of souls must be found in the inability of animals to grasp necessary propositions and to form judgments thereof.

[11] Barth (2011b, 39) voices some criticism as well. Barth's criticism focuses (1) on the lack of textual evidence for Kulstad's distinction and (2) on the form of reflection. Since, for Kulstad, reflection is characterized as "I perceive x", animals cannot even have this form of simple reflection since the idea of the I is an innate intellectual idea and animals lack intellect.

[12] Barth (2011b, 39–43) proposes to account for apperception in terms of attention. Barth's proposal, further developed in his habilitation to professorship Barth (2012, 380) is interesting and I agree with his interpretation of apperception as attention.

The thesis I defend is this: animals and humans do not differ simply because the latter can be aware of the self's perceptual activity and attribute those actions to the self whereas the former cannot. In other words, they do not differ because the latter have an idea of the self and the former cannot have such an idea. Animals and humans differ because the former are not capable of distinct notions, which are constitutive of reflective acts. Reflective acts consist in a mind's capacity to consider the perceptual presentings under the perspective of general and distinct notions. A subclass of these acts is represented by reflection upon the self. Since "I", "self", "substance" are distinct and general notions for Leibniz, and animals lack distinct notions, they lack reflection and therefore consciousness of the self. In a nutshell, animals lack distinct notions not because of their incapacity to be aware of the self; it is their incapacity to be aware of the self which is a consequence of their incapacity to form distinct notions.

Despite this, however, animals and humans present very similar structures of knowledge and action which, nonetheless, are of two different species. Because of this, perceptual activity in animals cannot be compared with human cognitive activity, since the latter is always embedded in generality and in modality. Since animals lack intellect, their representational states are very different from those of human beings. Therefore, animal knowledge is grounded in images and the senses, whereas human knowledge relies on generality, necessity, and intellect.

1.3.2. The Relation between Action and Perceptual activity: Putting it in Context

As previously stated, the context of the passage that includes the wild board is a discussion of will and free action in book II Chapter 21. More precisely, the discussion before the passage at issue is a response to Locke's definition of what it means to begin or determine an action, the same topic of *De Affectibus*. (Notice that the determination of the will by thought and intellect is also present in the quoted passage of the re-elaboration of the *Nova Methodus*.) The main point of the passage is that, according to Locke, we are able to begin or continue actions in the body or in the soul only because of thoughts, and what determines those thoughts is the will. Subsequently, Locke distinguishes between the will and its particular acts which he calls volitions (NE 172).

After having discussed Leibniz's criticism of Descartes in the previous paragraphs, it is clear that Leibniz cannot agree with Locke: It cannot be the will that causes the thought which

causes the action, just as well as it cannot be the thought which causes the movement in body. The thought or judgment is determined by perceptions, and this is exactly the point made clear by Leibniz in his answer:

> Je trouve tout cela fort bon et juste. Cependant pour parler plus rondement et pour aller peut estre un peu plus avant, je diray que la Volition est l'effort ou la tendence (*conatus*) d'aller vers ce qu'on trouve bon et loin de ce qu'on trouve mauvais, en sorte que cette tendence resulte immediatement de l'apperception qu'on en a (NE 172)

The similarities with *De Affectibus* are striking. As we have already explained, the will (which Leibniz calls here *conatus* –a term also used in *De Affectibus* to define the will) is determined by the apperception of things which provokes the judgment concerning what is good or bad, exactly as in *De Affectibus*. Apperception means here the *awareness of a perception* and, therefore, a perception which draws the perceiver's attention and makes her aware of those things. Before letting Locke reply, Leibniz sketches a distinction between voluntary actions and other kinds of actions which result from the influence of little perceptions which he prefers to call *appetitions*.

> Il y a encore des efforts qui resultent des perceptions insensibles, dont on ne s'apperçoit pas, que j'aime mieux appeller appetitions que volitions (quoyqu'il y ait aussi des appetitions apperceptibles), *car on n'appelle actions volontaires que celles dont on peut s'appercevoir, et sur les quelles nostre reflexion peut tomber lors qu'elles suivent de la consideration du bien et du mal*. (NE 173; my italics)

The appetitions of which minds are not aware are little perceptions, more precisely the unapperceivable tendencies that account for changes in souls. Leibniz recalls a point he has already made clear to Locke: minds act in compliance with a sentiment of the past and a presentiment of the future, even if a mind's attention is not consciously drawn by those appetitions. Nevertheless, they influences (conscious) actions, the actions minds can say to perform voluntarily.[13] Namely, voluntary actions are those actions of which (i) a subject is aware because attention is involved (*on peut s'appercevoir*) and (ii) which result by a reflection on what is good or bad derived from an attentive consideration of what is perceived (*et sur le quelles notre reflexion peut tomber lors qu'elles suivant de la consideration du bien*

[13] NE 55: "On peut même dire qu'en consequence de ces petites perceptions le present est plein de l'avenir, et chargé du passé, que tout est conspirant *sympnoia panta*, comme disoit Hippocrate), et que dans la moindre des substances, des yeux aussi per ans que ceux de Dieu pourroient lire toute la suite des choses de l'univers."

et du mal).[14] It is clear that apperception and reflection are not synonymous here: apperception means drawing attention to what occurs in the mind (a perception or a thought), and reflection is connected with the possibility of evaluating what is good or bad. I think that this reading is justified by what Philalethe and Theophilus say subsequently.

Philalethe-Locke claims apperception to be the same as understanding. Actually, Philalethe reports Locke's position as follow:

> La puissance d'appercevoir est ce que nous appellons entendement: il y a la perception des idées, la perception de la signification des signes et enfin la perception de la convenance ou disconvenance qu'il y a entre quelques unes de nos idées.

Leibniz holds that for Locke the intellect equates to the *attention paid to what happens in someone's mind*. In Locke's view perceiving is in its essence and nature an act of reflection, as Leibniz writes to Treuer. In fact, Leibniz lists under the intellect's operations (i) the perception of ideas; (ii) the perception of the meaning of signs; (iii) the perception of the agreement between ideas. Since for Locke a mind is always aware of its perceptions, and perceiving means having ideas, Leibniz takes apperception and intellect to be equivalent in Locke's philosophy. It means that apperception is sufficient in order to have knowledge. As we have seen in the previous chapter, Leibniz interprets Locke's ideas as actual thoughts or judgments; therefore, in his reading of Locke, apperception corresponds to the intellect. As stated in the letter to Treuer, Locke's theory of perceiving as having an idea suffers from the same Cartesian consequence: it makes senses reflective in nature and essence. If this is the case, Locke, like Descartes, cannot maintain that animals perceive without being committed to also ascribing to them consciousness. That is why in the letter, Leibniz writes that Locke didn't diverge very much from Descartes's position. Moreover, this seems to be the reason why he brings on the table the question of animal cognitive states.

Teophilus's answer suggests that due to the distinction between perceptions (which can be minute and remain under the level of attention), apperception (perception of which a perceiver is attentive), and reflection (a second order act to evaluate particular instances under the point of view of possibility and necessity) just drawn above, understanding cannot be equated with apperception (attention to what occurs in someone's mind) but with *reflection*.[15] At this point, the example of the wild boar occurs.

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[14] *Consideratio* is defined also in *De Affectibus* as a previously-occurrent thought, one which draws a subject's attention more than another. Therefore, *consideratio* is attention to what has to be searched and judged (A VI 4 1414). I will return on this quotation in 2.6.

[15] This point is interesting for what will come in 1.5: that according to Leibniz, Locke is committed to a theory of consciousness as higher order act. Actually, all the reported operations cannot be the result of a same order

> Nous *nous appercevons* de bien des choses en nous et hors de nous, que nous n'entendons pas, et *nous les entendons, quand nous en avons des idées distinctes, avec le pouvoir de reflechir, et d'en tirer des verités necessaires*. C'est pourquoy les bestes n'ont point d'entendement, au moins dans ce sens, quoyque elles ayent la faculté de s'appercevoir des impressions plus remarquables et plus distinguées, comme le sanglier s'apperçoit d'une personne qui luy crie, et va droit à cette personne, dont il n'avoit eu déjà auparavant qu'une perception nue, mais confuse comme de tous les autres objets, qui tomboient sous ses yeux, et dont les rayons frappoient son crystallin. *Ainsi dans mon sens l'entendement répond à ce qui chez les Latins est appellé Intellectus, et l'exercice de cette faculté s'appelle Intellection, qui est une perception distincte jointe à la faculté de reflechir, qui n'est pas dans les bestes. Toute perception jointe à cette faculté est une pensée, que je n'accorde pas aux bestes, non plus que l'entendement.* De sorte, qu'on peut dire, que l'intellection a lieu lors que la pensée est distincte. Au reste la perception de la signification des signes ne merite pas d'estre distinguée icy de la perception des idées signifiées. (NE 175; italics mine)

According to the passage, animals cannot understand things because they cannot form distinct ideas, and, therefore, they cannot derive necessary truth from those ideas via reflection. This power is called reflection and equates to intellect. Any perception combined with reflection is a thought, a judgment, since for Leibniz thought has propositional structure. However, animals can apperceive outstanding impressions and act in compliance with those apperceptions. Therefore, they have a sort of "knowledge" which, nevertheless, is not based on distinct ideas, does not imply thought or judgment, and therefore does not rely on generality and necessity, all important features of knowledge.

In other passages of NE, Leibniz nearly describes animal perceptual activities. In those passages, he reckons animals possess a form of reasoning or shadow of reasoning since animals also connect experiences but on a different basis than humans. Moreover, this kind of shadow of reasoning is compared to a certain empiric reasoning typical of human beings. Animals are able to connect present perceptions with past perceptions but only because some images are linked in memory.

> Les consecutions des bètes ne sont qu'une ombre du raisonnement, c'est à dire ce ne sont qu'une connexion d'imagination et un passage d'une image à une autre; parce que dans une rencontre nouvelle qui paroit semblable à la précedente, on s'attend de nouveau à ce qu'on y trouvoit joint autrefois; comme si les choses étoient liées en effect, parce que leur images le sont dans la mémoire. (NE 51)

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act, like awareness or attention. All those acts imply reflection on possibility and necessity. Because of this, Leibniz points out that reflection and not apperception distinguishes humans from animals. Only reflection, and not apperception, depends on the intellect.

In another passage, Leibniz spells out differences between spirits and animals more precisely:

> C'est aussi en quoy les connoissances des hommes et celles des bètes sont differentes: les bêtes sont purement empiriques et ne font que se régler sur les exemples, car, autant qu'on en peut juger, elles n'arrivent jamais à former des propositions necessaires, au lieu que les hommes sont capables de sciences demonstratives, en quoy la faculté, que les bètes ont, de faire des consecutions, est quelque chose d'inferieur à la raison qui est dans les hommes. Les consecutions des bètes sont purement comme celles des simples empiriques, qui pretendent que ce qui est arrivé quelque fois arrivera encore dans un cas où ce qui les frappe est pareil, sans étre pour celà capables de juger, si les mèmes raisons subsistent. (NE 50)

The passage entails some important Leibnizian expressions. First, animals act based on instances. This means that they expect what has happened to happen in the same way. In another passage of NE, Leibniz uses the same expression to point out that human knowledge rests on necessity, and necessity cannot be derived from instances, i.e., it cannot simply be grounded in the principle that what has happened will happen in the same way.[16] Moreover, the passage presents a link between some important aspects of human cognition, like propositional attitudes, judgments, and necessary truths, as well as denying some skills to animals. First of all, animals are not capable of necessary propositions because they rely only on instances and the senses, as NE 49 explains.

As pointed out in the passage above, the dependence on instances implies the capacity to link images, as if things in reality were also linked in ways that corresponds to links in an animal's imagination. In the latter passage, the reasons for this are indicated in the fact that animals are not capable of *judging* if the same reasons are at work. Beasts are simply empiric like men in 3/4 of their lives, where they suppose that "what has happened once will happen again." The difference between animals and humans is that for the former the reasons for the establishment of a similarity among events are not based on law and science (on the knowledge of necessary truths) but only on impressions due to affects. Hence, animals are capable of acquiring some habitual actions in order to react to their environment without being capable of reflecting upon the reasons for that something to happen. If someone shows a stick to a dog that has been beaten in the past, even if the stick is held by a trusted person,

[16] NE 49: "Les sens quoyque necessaires pour toutes nos connoissances actuelles ne sont point suffisans pour nous les donner toutes, puisque les sens ne donnent jamais que des exemples, c'est à dire des verités particulieres ou individuelles. Or tous les exemples qui confirment une verité generale de quelque nombre qu'ils soient, ne suffisent pas pour établir la necessité universelle de cette mème verité: car il ne suit pas que ce qui est arrivé, arrivera toujours de mème."

the dog will feel fear. This is the reason why beasts fail more often than men to foresee events, while men are capable of conceiving events as governed by necessary causes.

> Il est vray encore que la raison conseille qu'on s'attende pour l'ordinaire de voir arriver à l'avenir ce qui est conforme à une longue experience du passé, mais ce n'est pas pour cela une verité necessaire et infaillible, et le succés peut cesser quand on s'y attend le moins, lorsque les raisons qui l'ont maintenu changent. C'est pourquoy les plus sages ne s'y fient pas tant, qu'ils ne tachent de penetrer (s'il est possible) quelque chose de la raison de ce fait, pour juger quand il faudra faire des exceptions. Car la raison est seule capable d'établir des regles seures et de suppleer à ce qui manque à celles qui ne l'étoient point, en y faisant des exceptions; et de trouver enfin des liaisons certaines dans la force des consequences nécessaires; ce qui donne souvent le moyen de prévoir l'evenement sans avoir besoin d'experimenter les liaisons sensibles des images, où les bètes sont reduites. De sorte que ce qui justifie les principes internes des verités necessaires, distingue encore l'homme de la beste. (NE 51)

The main points of the quoted passages are (i) animals are not capable of necessary propositions because (ii) in animals' souls there is no source of necessary truths, i.e. innate ideas. The consequence is that animals cannot *judge* the reasons that explain why an event will or will not happen in the same way as in the past; they can only acknowledge a certain linkage due to experience. Therefore, (iii) animals are empiric; they can only rely on senses and imagination. Since animals have no access to necessary truths, they cannot foresee an event without having experienced it, i.e. they are not capable of hypothetical knowledge.

That being said, Leibniz connects innate ideas with the capability to judge and to think of necessary propositions as well as hypothetical propositions, a capability not present in animals. However, Leibniz attributes to animals a form of awareness or apperception. We have therefore to look closely to animal "cognitive" processes to try to understand why animals, despite their inability to abstract from sensory representations, can nevertheless perform actions that can be said to be, in such a sense, spontaneous.

1.3.3. The Structure of Animal Action

If my reconstruction of the backdrop of issues addressed by Leibniz in discussing chapter 21 of Locke's *Essay* is sound, Leibniz's concern is to develop a conception of animal cognition that maintains animals to be capable of perception and a sort of reasoning without being compelled, as Cartesians are, to attribute consciousness to them. In denying that consciousness is essential to perceptual activity, Leibniz seeks to avoid the consequence that

if animals are conscious of their perceptions, then they possess ideas, reasoning and intentional states. Leibniz's strategy is to reject that there is a necessary link between thought-consciousness and, in doing this, to offer an alternate explanation of reflective thinking: reflective thinking consists in the human capacity to form general notions and use language. Since humans are capable of these two processes, they are capable of conceiving *what-if* scenario, to conceive of the I-Perspective and, insofar as they understand perspective, to take the place of the other. This latter capacity is what Leibniz calls *conscientia*, which surely animals do not have. On my interpretation, however, consciousness is derived from the more general human capacity of reasoning; it is not to be understood in terms of awareness and therefore is not a necessary condition of thinking *per se*, as it seems to be on the Cartesian and Lockean account.

This separation between consciousness and thinking in general allows Leibniz to argue that a capacity for being aware of internal states is present in animals too, but this capacity is specifically different from human apperception. An analysis of Leibniz's theory of human and animal cognition from this angle allows me to argue that even if human and animal cognitive processes are very similar if considered from the point of view of the structure they present, there is an incommensurable difference between human and animal cognitive processes. The consequence is that even if we speak of animal and human perceptions, images, affects, those states are not qualitatively equivalent in humans and animals. To put it another way, if scholars usually think of reasoning as an additional human faculty which tracks lower cognitive states (e.g., perceptions or affects) I submit that for Leibniz the intellect is not an additional faculty that simply records the occurrence of lower states. The intellect transforms the way in which lower cognitive processes are exerted.[17]

On this account, humans and animals belong to the same genus of "sensible soul", but they represent two different species: rational sensible and non-rational sensible souls. The main outcome of this interpretation is to offer an account of animal and human cognitive processes which is consistent with Leibniz's principle of continuity that, as Jorgensen (2009) argues, is a scientific principle Leibniz's seek to maintain, but that is violated by many interpretations of Leibniz's theory of consciousness and animal cognition.[18] Continuity states that "nature does not make leaps", i.e. that there is no discontinuity in changing. However, many interpretations of Leibniz's theory of consciousness understand conscious acts to be higher-order acts that produce a gap in the continuous series of perceptions. The gap consists

[17] For more on this point, see (Boyle 2016).

[18] Jorgensen refers explicitly to (Simmons 2011); (Kulstad 1991).

in claiming that conscious acts are of a different kind from perceptions. These interpretations, I contend, face inconsistency because scholars maintain the difference between humans and animals to consist simply in consciousness as the capacity to know *that* S perceive x. In this way, they assume a qualitative equivalence of human and animal cognitive processes up to the level of perceptions; while consciousness consists in a higher order act.[19]

On my account, on the contrary, animal and human souls are two kinds of soul. This implies that there is no such gap because there is a continuous change in degrees within each species of soul (rational sensible and non-rational sensible). We can claim a similarity between human and cognitive states such that if we consider a human cognitive state, let's say a sense-perception, we can map a similar state occurring in an animal's cognitive process; this mapping, however, does not imply that animal and human sense perception qualitatively overlap: there is an incommensurable difference between humans and animals. Given this parallelism, there is no violation of continuity between animal and human states, since no matter how intense, heightened or strong animal perceptions can be, these will never reach consciousness because animals are not capable of distinct notions, and, insofar as they are not capable of distinct notions, they are not capable of consciousness.

Let's proceed in order and consider some textual evidences for recasting the issues that motivated Leibniz to put the difference between human and animal cognitive states not in terms of consciousness, but in terms of capacity of abstraction and general reasoning, in a word of distinct mental states, like concepts.

That for Descartes thought tracks all changes occurring in a mind is evident from the following passage:

> *Thought*. I use this term to include everything that is within us in such a way that we are immediately aware [*conscii*] of it. Thus all the operations of the will, the intellect, the imagination and the senses are thoughts. I say 'immediately' so as to exclude the consequences of thoughts; a voluntary movement, for example, originates in a thought. (CSM II 113 / AT VII 160)

For Descartes, consciousness, as the immediate awareness of *what* is within us, is a thought and this latter equates to the complete set of a mind's operations: acts of the will, perceptions, and images belong to the set "thoughts". As I have argued in the previous section, Philalethe-Locke maintains the same equivalence between being immediately aware of what is within us and being intellect, in a way that inclines Theophile-Leibniz to consider

[19] I argue that Jorgensen (2011) also faces the same inconsistency and is hence subject to a violation of the principle of continuity.

Locke's and Descartes's positions cognates and to point out that the understanding is more than an immediate awareness of internal states: it is knowledge of necessary and general truths obtained via knowledge of distinct notions. Since animals, like a wild boar, lack intellect, they lack distinct notions, but they have awareness and perceptions.

The broad Cartesian sense of thought and ideas as any kind of a mind's internal content, of which the mind can be conscious of, is arguably the reason why Descartes denies perception to animals, or at least this is what a fine commentator of Descartes says. As Bayle in his famous and debated article "Rorarius" asks:

> Every Peripatetic, who hears that beast are only automata, or machines, objects immediately that a dog who has been beaten for touching a dish of meat will not touch it again when he sees his master threatening him with a stick. But to show that this phenomenon cannot be explained by the one who introduces it, it is sufficient to say that this dog's action is accompanied by knowledge, then the dog must necessarily reason: he must compare the present with the past and draw a conclusion from this. He must remember both the blows he has received and why he received them. He must know that if he leaped to the dish of meat that strikes his senses, he would commit the same action for which it had been beaten; and he concludes that in order to avoid being beaten again, he ought to abstain from this meat. *Now is this not definite reasoning? Can we explain this situation by simply supposing a soul that is capable of feeling, but not of reflection on its actions, but not of recalling events, but not of comparing two ideas, but not of drawing any conclusion?*[20]

The example of the dog beaten by a master discussed by Bayle is the same Leibniz discusses in many passages like this:

> Il y a une liaison dans les perceptions des Animaux, *qui a quelque ressemblance avec la Raison*: mais elle n'est fondée que dans la mémoire des faits ou effects, et nullement dans la connoisance des causes. C'est ainsi qu'un chien fuit le bâton dont il y a été frappé, parce que *la mémoire luy represente la douleur* que ce bâton luy a causée. (GP VI 600; italics mine)

Let us quickly remind the reader of what is at stake here. Consider a dog which has been beaten by her master because it ate from a dish of meat. One can observe that the next time the dog sees the stick, it will abstain from eating, a reaction which let us assume that the dog remembers the pain it suffered. Not just that, it seems that there is a far more complex cognitive process going on in the dog's soul, who needs to compare the previous and the present event, to reckon a similarity between both states, and to move from a conditional premise to a certain conclusion: if I eat, I will be beaten again. In a word, it seems that a real

[20] Bayle, *Rorarius*. in: Bayle, *Historical and Critica Dictionary*, trans. by Popkin, 1965, p. 215. My emphasis.

reasoning must be the alleged cause of the dog's abstention from eating. This process must be based on knowledge of ideas the dog is conscious of *if it perceives*.

In my understanding of the matter, the question Bayle is rhetorically asking is the question Leibniz wants to positively answer, as one can deduce by the passage quoted. As Leibniz writes, animals are capable of something similar to reasoning, but this is not grounded in knowledge of causes and reasons, as in the case of human reasoning. In his view, we can explain animal cognitive processes by merely assuming that animals have perceptions and feelings, but surely we have to abandon the Cartesian "voie des idées": If we assume that perceptions equate to thoughts and thoughts imply ideas, we must grant to animals a form of abstract and general reasoning. But if we assume perceptions and thoughts to be two different kinds of processes, perceptions can occur without thinking in animals, even if both processes are strictly related in humans: only human thinking requires perceiving; from here it does not follow that perceiving requires thinking. Leibniz argues that something similar to reasoning is present in animals:

> Les bêtes passent d'une imagination à une autre par la liaison, qu'elles y ont sentie autres fois. Par exemple quand le maistre prend un baston, le chien *apprehende* d'étre frappé. Et en quantité d'occasions les enfans de mème que les autres hommes n'ont point d'autre procedure dans leur passages de pensée à pensée. On pourroit appeller cela consequence et raisonnement dans un sens fort étendu. Mais j'aime mieux me conformer à l'usage recù, en consecrant ces mots à l'homme et en les restraignant à la connoissance de quelque raison de la liaison des perceptions, que les sensations seules ne sauroient donner: leur effèt n'ètant que de faire que naturellement on s'attende une autre fois à cette mème liaison qu'on a remarquée auparavant, quoique peut étre les raisons ne soyent plus les mèmes; ce qui trompe souvent ceux qui ne se gouvernent que par les sens. (NE 143)

This claim of similarity between humans and animals reasoning does not imply a claim of a perfect identity between human and animal reasoning. Leibniz maintains incommensurability in the similarity between humans and animals:

> Interim ne hominem bruto nimis aequare videamur; sciendum est, immensum esse discriminem inter perceptionem hominum & brutorum. Nam praeter infimus perceptionis gradum, qui etiam in stupentibus reperitur, (ut explicatum est) & medium gradum, quem sensionem appellamus, & in brutis agnoscimus, datur gradus quidam altior, quem appellamus cogitationem. Cogitatio est perceptio cum ratione conjuncta, quam bruta, quantum observare possumus, non habent. (Commentatio de anima brutorum, Dutens II 233)

As stated in the passage, animals lack perception joint with reason, but not perception *per se.* Even if Leibniz describes reason as something which is added to sensations, I will offer evidences in the rest of the chapter that we have to interpret it as a faculty that transforms the way lower faculties, like perception, are exerted.

In the passage of the wild boar, this particular kind of human cognitive activity consists in a thought joint with the capacity of reflecting. As seen in analysing *De Affectibus* and Leibniz's explanation of judgments as sources of perceptual errors, to reflect and consider causes and effects a mind must be capable of recalling in memory a previous state and to draw attention to that state. Once memory and attention are directed to a particular content, the mind judges. The judgment, which involves distinct notions, is again object of the analysis: a mind can focus on what it judges, consider and analyse the notions involved in the judgment as well as what it implies to believe that *p*. In doing this, a mind recalls what she knows and believes to be relevant to analyse judgment *p*. Once it has reason to believe *p* as true or false, a mind endorses this belief and acts consequently.[21] This kind of process depends on a mind's capacity to conceive of general and distinct notions. It is the capacity of general and distinct notions that grounds consciousness. We can also explain this in terms of logical priority: we can say that the capacity of thinking in general is prior to consciousness intended as a complex process of thinking that enables the mind to consider its own thoughts, the consequences implied in them, as well as to take into account the point of view of the other. Awareness or pure consciousness of a mental state is only a part of the process. Intellect does not equate to consciousness. The best way to show that this complex process cannot be found in animals is to explain why animals, though endowed with a sensible soul, are not capable of general distinct notions. Despite this, they are capable of a process that mimics reasoning because its structure is the same as human reasoning, though this latter can be implemented *because* human beings can involve general and distinct notions.

Yet, the similarity between humans and animals has further implications. Leibniz believes that humans for ¾ of their lives act as empiric exactly as animals do. Humans do not always act because they know the reasons and causes that lead to a certain event but simply because they assume that something will happen *because* it has already happened in a determinate fashion. If one expects the sun to rise in the sky tomorrow, it is because she has always experienced the day to follow the night, and not because she has any astronomical

[21] More on this in 1.4.

knowledge of the reason why it is as it is.[22] The similarity between animal and human reasoning is not a statement of equivalence of the two cognitive processes. Notice that only the structure of the reasoning is similar: when reasoning as empiric, humans assume succession of events (the night which follows the day and the day which follows the night) as a sufficient feature for causal relation. However, reasoning and explicit knowledge of propositions is implied in human empiric reasoning (I can for instance express a thought or a belief by using words). This kind of knowledge is what animals cannot have. On the same account, a dog beaten by its master will expect the pain when it sees the stick, but no kind of propositional knowledge supports a dog's reasoning. Two points we must bear in mind:

(i) human beings involve beliefs and notions in their description of events even when they cannot say *why* what they expect to happen will happen in the same way.

(ii) Human beings *can* always seek for a scientific explanation of something and they can learn to tell apart when something will happen and when won't. Animals will always simply expect that what they experience will happen in the same way as it did in the past.

But how can an animal expect the sun, look for food, foresee pain--in short, link events--without having some capacity of abstraction, comparison, and reflection? How can Leibniz maintain a sub-reflective cognitive process which has similar outcomes as human reflective cognitive process? To answer this question, I want to pursue Leibniz's claim of a similarity between human and animal cognitive processes.

There are two observations I want to develop here. The first is Leibniz's suggestion that animal cognitive states occur in degrees, exactly as human cognitive states. As already seen in the passage of the wild boar, Leibniz distinguishes between a previous state when the wild boar sees what happens in its environment but it does not apperceive and pay attention to it, and a latter state when the wild boar apperceives the hunter. In other texts like PNG and *Reflections on the soul of beasts* (*Commentatio de anima brutorum*, henceforth RSB) Leibniz

[22] PNG §5: "Et les hommes, en tant qu'ils sont empiriques, c'est à dire dans les trois quarts de leur actions, n'agissent que comme des b tes. Par exemple, on s'attend qu'il sera jour demain, parce qu'on l'a tousjours experiment ainsi: il n'y a qu'un Astronome qui le prevoye par raison, et m me cette prediction manquera enfin, quand la cause du jour, qui n'est point ternelle, cessera. Mais le Raisonnement veritable depend des verités necessaires ou ternelles, comme sont celles de la Logique, des Nombres, de la Geometrie, qui font la connexion indubitable des id es, et les consequences immanquables. Les animaux, o ces consequences ne se remarquent point, sont appell s Bêtes; mais ceux qui connoissent ces verit s necessaires, sont proprement ceux qu'on appelle Animaux Raisonnables, et leur ames sont appell es Esprits." A short formulation of what I have said can already be found in *Nova Methodus*: A VI I 268-9.

explicitly distinguishes between the first state, which he calls a "naked perception" (*perception nué*) and the second state, which he calls a *sentiment* (feeling). This second stage of cognitive complexity is more distinguished than the previous one because it implies the activation of memory and attention. The question that arises is: what triggers the activation of memory and attention? What determines a mind to move from a naked perception (state A) to a feeling (state B)?

We have already encountered this question (remember?) in analysing *De Affectibus* and the process of judgment. Interestingly, the chapter where Leibniz discusses the case of the wild boar is centered on the same topic of *De Affectibus*: power and freedom of action. As seen, the discussion that precedes the passage of the wild boar brings to the table the rejection of the claim that that the will can directly cause something and argues that there are undistinguished endeavors and tendencies that influence the passage from one state to another. These tendencies are sub-reflective, in the sense that they do not explicitly reach attention and undergo rationalization in humans. As pointed out in *De Affectibus*, two causes bring about a soul's movement from state A to B: clear and distinct reasoning about the causes and effects of things and occasions, i.e. perceptual contents that occupies the mind and causes an affect. Affects, I contend, are the candidate to explain why memory and attention take part in animal cognitive processes and make it expect something, a state that does not involve either knowledge of general notions or intellectual activities like comparing, abstracting and judging.

To begin with, we need to analyse animal degrees of perceptions and show that they do not involve generality. Leibniz writes in PNG:

> Mais quand la monade a des organes si ajustés que par leur moyen il y a du relief et du distingué dans les impressions qu'ils reçoivent, et par conséquent dans les perceptions qui les représentent (comme par exemple, lorsque par le moyen de la figure des humeurs des yeux, les rayons de la lumière sont concentrés et agissent avec plus de force), cela peut aller jusqu'au sentiment, c'est-à-dire jusqu'à une perception accompagnée de mémoire, à savoir, dont un certain écho demeure longtemps pour se faire entendre dans l'occasion ; et un tel vivant est appelé animal, comme sa monade est appelée une âme. Et quand cette âme est élevée jusqu'à la raison, elle est quelque chose de plus sublime, et on la compte parmi les esprits, comme il sera expliqué tantôt. (PNGR §4/L 637, italics mine)

As already argued, perception primarily means for Leibniz the constant activity of each substance. This basic activity is nonetheless indistinguishable. To explain this passage, let me recall what Leibniz says of the color green again: no matter how hard you focus to discern the blue and yellow elements that compose it, you won't be able to see them. The doctrine of

minute perceptions is connected by Leibniz with the idea that substances perceive the whole universe but in an indistinguished way.

> L'Univers estant une maniere de fluide, de tout d'une piece, et comme un ocean sans bornes; tous les mouvemens s'y conservent et se propagent à l'infini, quoyque insensiblement […]. Cette communication des mouvemens fait que chaque chose tient à toutes les autres, et en est affectée: quoyque le plus souvent les choses eloignées n'agissent point sensiblement. […] Ainsi nos organes estant affectés par les corps voisins, et ceux là par d'autres, voisins à eux; nous sommes affectés mediatement par tous les autres, et nostre ame aussi, puisqu'elle se represente les corps selon ses organes. (Leibniz to Sophie, February 6th, 1706. In: A I 25 574)

We have already encountered this idea when we discussed Leibniz theory of errors (1.2.4.), but now we need to articulate it a little further in order to understand the import of the organic body in (both rational and non-rational animal) cognitive processes.

Even if substances perceive everything, they perceive something distinguished and heightened when they possess organs so adjusted to aptly interact with objects in their environment, as Leibniz writes in the letter to Sophie just quoted. When an animal has full-fledged eyes that function as they need to, the eyes capture the light rays. Eyes channel the light reflected by objects. Light rays cause a concentration of liquid in the retina and act with greater force on the level of the body. Yet, as well known, Leibniz denies a direct communication between body and soul. How can the organs cause something in the soul?

Leibniz's answer is: they don't. When this process occurs in the body, a similar parallel process occurs on the level of the soul and this process is driven by minute perceptions. The body of an animal endowed with organs is far more perfect than other artifacts, for instance. So, the process of movement of liquid that happens at the level of the body is something more complex of any kind of mechanical interaction which can occur at the level of bare matter. Two billiard balls striking each other and the processes of seeing cannot be compared with regard to their complexity.

Scholarly research in the last fifteen years together with the publication of many of Leibniz's unpublished papers brought reliable evidence that Leibniz's interest in then-emergent life sciences was more than a side interest. These scholars have shown that the concept of "organic body" is something very specific for Leibniz: it is a body that differs in kind from mere aggregates, like artifacts, since these latter do not present organic structure (Duchesneau 2011; Fichant 2003; Nachtomy 2011; Smith 2011). A body is organic when it

presents a "nested" structure: parts are nested into parts, which do not remain extrinsic.[23] When I talk of organic body in the rest of this chapter, I refer to an organic body, i.e. a body which remains a machine to the least of its parts (GP II 356), capable of nutrition and physico-biological processes. Despite this, however, I do not claim any direct connection between body and soul, and I stick to what Leibniz says about parallelism: the major perfection of the organic body is expressed, in Leibniz's parlance, at the minute perceptual level and produces unification of *per se* indistinguishable states like minute perceptions.

Given this complexity and major unity of an animal's organism, for the law of harmony this major perfection must be expressed at the level of the soul: to the unification of the liquid on the bodily level a unification of the minute perceptions corresponds on the soul's level. This is what Leibniz calls a naked perception: a simple mirroring of what better and aptly affects an animal's organs in its perceptual environment. Given the mediation of the organs, the animal represents distinguishedly what aptly interacts with its organs and not what cannot directly mechanically interact with its body.

Let's assume for instance a dog is eating a dish of meat and, behind it, its master advances with a stick. The dog disthinguishedly perceives the dish since this directly and aptly interacts with its organs (pieces of meat strike its mouth, its eyes look at the dish), but it does not perceive the master approaching since its eyes are not struck by his image and noises eventually produced are not as strong as the concurring distinguished and heightened perceptions of the meat. Nonetheless, at the level of minute perceptions the dog perceives the master, but it realizes her presence only once it is beaten by her, i.e. when a stronger perception is produced, namely the pain, that brings the animal to pay attention to something else in its environment.[24]

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[23] For a complete account of the difference between artefacts and organic bodies and the role of "*nestedness*", see Nachtomy (2011: 61-80).

[24] Bayle is concerned that he cannot understand how the dog passes from joy to sorrow if there is a harmony between body and soul and the stick doesn't cause pain; Leibniz explicitly replies that the dog actually unconsciously perceives the human, who is about to beat it, though it cannot notice (*remarque*) him: "Au lieu que j'ay taché d'expliquer comment cet accord se fait naturellement, en supposant que chaque ame est un miroir vivant representant l'univers suivant son point de veue et sur tout par rapport à son corps. Ainsi les causes qui font agir le bâton (c'est à dire l'homme post derriere le chien, qui se prepare à le frapper pendant qu'il mange, et tout ce qui dans le cours des corps contribue à y disposer cet homme) sont aussi representés d'abord dans l'ame du chien exactement à la verité, mais foiblement par des perceptions petites et confuses et sans *apperception*, c'est à dire *sans que le chien le remarque*, parce qu'aussi le corps du chien n'en est affect qu'imperceptiblement. Et comme dans le cours des corps ces dispositions produisent enfin le coup bien serré sur le corps du chien, de même les representations de ces dispositions dans l'ame du chien produisent enfin la representation du coup de baton, laquelle estant distinguée et forte (ce que les representations de ces predispositions n'estoient pas, puisqu'aussi ces predispositions n'affectoient que foiblement le corps du chien) le chien s'en apperçoit bien distinctement, et c'est ce qui fait sa douleur. Ainsi il ne faut point s'imaginer que l'ame du chien dans ce rencontre passe du plaisir à la douleur sans aucun moyen et sans aucune raison interne." (GP IV 532)

The presence of full-fledged organs explains the passage from minute to distinguished perceptions. They explain why an animal distinguishedly represents what happens in its perceptual environment. Distinguished perceptions alone are not sufficient to understand why some distinguished perceptions and not others trigger an animal's attention and bring about a reaction. Consider the case of a dog that has never been beaten yet. It would react differently as the dog that has been. The point is exactly to explain why one reacts as it does and why the other does not. But both, if they possess eyes and organs have distinguished naked perceptions of the stick. Why does this distinguished perception turn into a sentiment by the dog that has been beaten? Distinguished perceptions surely are a necessary condition: the wild boar must see the hunter to attack. But why does the naked perception of the hunter, and not another object in its environment, escalate into a feeling and cause that reaction? This question is not answered by assuming distinguished perceptions alone.

If we carry the comparison between human and animal cognitive processes through, we can take a look to MCVI to gain a better understanding of what naked perceptions and feelings are. MCVI presents degrees of human knowledge and it is not concerned by animal cognitive states. Yet, considering the analysis conducted so far, we can say that what Leibniz calls a "naked perception" is similar to an obscure notion. An obscure notion is described as something that we have seen only once, like a specific flower or animal, that we are not capable of acknowledging as a particular instance of a particular species. The next degree of human cognitive knowledge consists in clear but confused notions. These notions are compared by Leibniz to notions of sensible qualities, like perceptions of colors or tastes. We need to remark that, even if we use the word "notion" to refer to these degrees, they do not yet *per se* involve general and distinct notions, which, as already explained, are involved in reasoning when the next degree, clear and distinct knowledge, is reached. If this level can be reached by minds, animals cannot possess it. The previous stage of knowledge, clear and confused notions, share some features with a feeling. If naked perceptions do not allow an animal to acknowledge anything, feelings, as stated in PNG 4, entail memory of a similar previous state. However, when humans have clear and confused notions they are in a position to distinguish something *as* a perception *of* something. For instance, I perceive red and recognize this particular perception as a perception *of* red. Nonetheless, this level of knowledge is not general yet: it corresponds with having a perception, but not with a concept. Indeed, Leibniz says that a blind man, whose organs are not apt to see colors, cannot possess clear but confused knowledge of red. As I argue in what follows, there is no kind of generality involved in feelings: even if there is a connection with memory, it accompanies no generality

and abstraction, no comparison among states, and no acknowledgement of something similar going on there. The linkage is produced by the natural connection of corporeal changes produced by affects. Affects account for the linkage between past and future states in a way that does not imply abstract knowledge. This produces a difference between human and animal cognition already at the level of distinguished perceptions. As we will see in the next section, human perceptual states, like colors, tastes, smells, already entail a sort of abstraction and generality that animal perceptions structurally do not have. That's the reason why animals are capable of *distinguished* perceptions, but not of *distinct* concepts.

Through this comparison, we have introduced the idea that both human and animal cognitive states are characterized by degrees. The comparison with MCVI presents something feelings need to possess: they must allow animals to *recognize* some sort of similarity with previous perceptual states. MCVI, however, does not furnish us with any hint upon what can cause the passage from a naked perception to a feeling. My hypothesis is that affects produces the linkage.

If we more closely read the passage where Leibniz describes the action of the beaten dog, there he says that in seeing the stick the dog does not associate the stick with a previous image of the stick and the act of being beaten; the dog recalls the *pain* ("la mémoire luy presente la douleur" GP VI 600). This hint on the pain points us to the role of affects in *De Affectibus*. As already discussed, affects are a first, sub-reflective stage that inclines the mind to consider something before something other: to move from a present thought to another. Moreover, affects are related to a subject's perceptual environment, since they respond to the series of occasion. Affects, hence, seem to be a good candidate to explain the passage from naked perceptions to feelings. An animal's expectation is not the result of reasoning and ideas, but rather the consequences of a spontaneous connection of distinguished perceptual states.

Reconsider the case of the beaten dog. The dog is eating and suddenly its eyes are impressed by the image of its master with a dog. It has already been beaten in the past. In the act of being beaten, the pain caused by the stick have become a recurring event: the dog saw the stick moving and then felt the pain (the same succession characterizing the day and the night).[25] In the dog's memory, the perception of pain is so related to the distinguished perception of stick, such that seeing the stick naturally lets the perception of pain arise in its soul. As we know from what Leibniz says against Descartes's theory of the will, this feeling of pain is neither voluntarily controlled, nor is it the result of a comparison in memory; it is

[25] See also (Simmons 2011).

simply a cognitive response to something that mechanically affects the body and functions as a triggering event: the stick. It is controlled by minute perceptual changes that can (involuntary) unify and become more distinguished and heightened. These changes, however, are connected to an animal's experience: it is because the animal has already experienced x that it reacts in a certain way. The stick thus brings about pain *before* the dog is actually beaten.

As we know from *De Affectibus*, affects are a kind of proto-judgment, or pre-reflective inclination to good or bad, which do not, per se, entail any kind of rational or conceptual evaluation of what good or bad are. Therefore, when the dog sees the stick and suddenly feels the pain, it is inclined to avoid it. The pain brings the dog to the instinctive reaction to try to avoid it.

That Leibniz endorses this view at the time of writing NE is proved by textual evidences. In NE 167-68 Philalethe-Locke defines "anger" as the disquiet or discomposure which we feel upon the receipt of any injury; Leibniz-Theophile replies that since animals also feel anger, it must be something simpler. Therefore, affects must also play a decisive role in an animal's actions. The problem with Locke's definition of anger is twofold: (i) It entails a sort of judgment about the actions, i.e. the determination of the action experienced as injury, and (ii) it implies *conscientia* or the determination of a subject as a moral subject. In another passage, Leibniz discusses the Stoics' account of passions. For the Stoics, passions are a kind of opinions of what is good or bad; in Leibniz's view, on the contrary, they are a pre-reflective state which may lead to opinion, but they are not opinions *per se*.

> Les Stoiciens prenoient les passions pour des opinions: ainsi l'esperance leur estoit l'opinion d'un bien future, et la crainte l'opinion d'un mal future. Mais j'aime mieux dire que les passions ne sont ny des contentemens, ou des déplaisirs, ny des opinions, mais de *tendences*, ou *plustost des modifications de la tendence*, qui viennent de *l'opinion* ou du *sentiment*, et qui son accompagnées de plaisir ou de déplaisir. (NE 167; my italics)

I would like to warn the English speaking reader upon Bennett's translation of the passage. Bennett's translation does not maintain the distinction between *opinion* and *sentiment* in the last sentence, which I hold to be fundamental for the comprehension of the passage. Bennett translates "*opinion*" with belief and "*sentiment*" with opinion, but this does not capture what Leibniz is expressing: passions are not judgment upon joy or sorrow, but only endeavors (*tendencies*) to it. Affects are changes in tendencies which arise either from mere *sentiment* or from opinion. If the latter are the result of judgment and are proper only of rational beings, changes in tendencies caused by *sentiment* (perceptions joint with memory)

can occur in animals too. *Sentiment* can arise from an opinion about a future good, but it is not an opinion *per se*. The distinction is remarkable because, as we will see, animals also act in compliance with affects and their modifications—but not due to opinions. Given this distinction I believe that Leibniz's definition of affects as tendencies is fundamental to explain how animals' action are more than pure mechanical reaction to the environment, but are not free because are not based on full-blown knowledge of what it is good or bad.

If we connect these passages with the passage on the wild boar, we can conclude that since animals also have endeavors which can reach attention, the changes in non-human souls must also be accompanied by affects, like pleasure and displeasure. As we have seen, affects can play a role in animal cognition because they are not judgments. Because of this, animals also act in compliance with a certain feeling of "good" and "bad", if and only if under we understand this expression as an instinctive reaction to avoid pain and look for pleasure, something which is controlled at the level of minute perceptions, but which does imply neither knowledge of good and bad, nor the capacity for voluntary control. In the same way, different affects, such as anger, fear, pleasure, occur in an animal spontaneously, but an animal does not have any reflective knowledge of what affects are. Human beings, on the contrary, can acquire knowledge of those states and consider them even as causes. Based on this knowledge, they can, for instance, imagine what it is like to feel x in a certain situation y and to imagine how to react. (More on this in 1.4.)

This latter kind of knowledge implies an abstract representation of what joy or sorrow are, a knowledge animals are not capable of, since they are not capable of distinct general notions. An animal does not intentionally represent possible actions as actions which cause in it joy; it simply reacts to the environment.

The linkage produced among an animal's states are controlled by affects and this fits pretty well with Leibniz's ideas that the soul of an animal always expresses the world through its organic body. An affect, indeed, is nothing but a more distinguished perception produced because of an animal's memory traces acquired via experiences of its environment. The first time a dog sees a stick, it won't run. A dog must have experienced it to run. Now, affects are best candidates to explain this process because they are not voluntarily controlled and are sub-reflective states: they are not thoughts since no general and distinct notion corresponds to them. Affects are first of all related to the body: pleasure and displeasure are natural reaction of the body under certain stimuli. These states are both more heightened and intense than other states and occur simultaneously or very close in time with the states that cause them. Given this close temporal relation, memory preserves them as united and make them almost

one complex state: if a dog sees the stick, the pain is felt too. Affects are indeed the reason for the formation of habits, as we will see soon. From what we said, one can conclude that Leibniz has some theoretical points to answering Bayle's question positively: yes, we can explain the actions of animals only by assuming feelings and perceptions, without the need to attribute distinct notions and abstract reasoning to them.

There is one last worry to address. One may wonder if this is not a mechanistic account of animal actions. If animal cognitive processes must be activated by a trigger that is something affecting the body, why is this not ultimately a mechanical account of animal cognition? In what does Leibniz's account of animals differ from Descartes saying that animals are mere automata? In my view, this is not the case because the organic body is a prerequisite for perceptual and effectual responses that explain why animals can react differently to a certain stimulus: why the beaten dog reacts, while the one that has not being beaten ignores the stick. Perceptions and affects are the reasons why an animal can acquire biases and habits due to experience. Affects, on the other hand, can account for habits and explain not simply differences of reaction, but even similar reactions. There can be common patterns in the response, given by the similarity and spontaneous production of affects produced by certain stimuli (presumably two beaten dogs will both feel pain). However, similar responses do not imply explicit general knowledge of its environment. Now we need to flesh out what Leibniz's incommensurability consists in.

1.3.4. Animal and Human Knowledge: Two Different Species of Knowledge

We can now spell out what differentiates rational from non-rational souls and then draw a distinction between instincts and habits to explain why humans can acquire intellectual habits whereas animals cannot.

As we have already seen, Leibniz stresses a kind of similarity between animals and humans; however, he considers rational and non-rational souls as two different species of souls. Even if animal and human cognitive processes structurally present some similarities they qualitatively differ at each step.[26] The consequence is that even if we speak of affects, sensations, and apperceptions both in rational and non-rational souls, all these operations are qualitatively different and incommensurable among the two species. Sometimes Leibniz notes this linguistically by using different words for similar operations: Images for animals are

[26] Leinkauf (1999) also argues for a specific distinction between sensitive and rational kinds of souls.

concepts for humans, *sentiment* or linkage between images are judgment, and so on. However, even when he does not explicitly highlight the difference linguistically, there always is a qualitative difference between rational and non-rational souls' operations.

Consider the two following passages, where Leibniz explicitly says there simply is a similarity, but not an equivalence between animal and human perceptual states:

> Aussi voyons-nous que la Nature a donné des perceptions relevées aux animaux, par les soins qu'elle a pris de leur fournir des organes, qui ramassent plusieurs rayons de lumière ou plusieurs ondulations de l'air, pour les faire avoir plus d'efficace par leur union. Il y a quelque chose d'approchant dans l'odeur, dans le goût et dans l'attouchement, et peut-être dans quantité d'autres sens, qui nous sont inconnus. Et j'expliquerai tantôt comment ce qui se passe dans l'âme représente ce qui se fait dans les organes. (*Monadology §25/L645*)

> Je suis du même sentiment, elles [*animals* L.O.] connoissent apparemment la blancheur et la remarquent dans la craye comme dans la neige, mais ce n'est pas encore abstraction, car elle demande une consideration du commun separée du particulier, et par consequent il y entre la connoissance des verités universelles, qui n'est point donnée aux bestes. On remarque fort bien aussi que les bestes qui parlent ne se servent point de paroles pour exprimer les idées generales, et que les hommes privés de l'usage de la parole et des mots ne laissent pas de se faire d'autres signes generaux (NE 142).

As the first passage point out, smells, tastes, etc. simply approach what happens in an animal's organs that surely make it more effective, but that are not sufficient to have knowledge like men have. The second passage from NE is more explicit on this point and says something more precise: Even if animals have sensations of colors like white—they know white in snow or in chalk—they do not know what WHITENESS, separated from all particulars, is. From our previous analysis, we have some hints to understand why Leibniz says this: animals can distinguish white only when they *actually* perceive something white or are in front of an instance of white, but they cannot recall any white if their organs are not actually affected by something white. Interestingly enough, Leibniz remarks that this absence of generality precludes animals from the use of words as signs of general ideas.

This passage must be read alongside another passage of NE, the beginning of book III, "On words". In there, Locke's spokesman says that humans are able to form speech because they have organs fashioned to do it *by nature*. To this claim, Theophilus replies that apes have organs very similar to those of humans; nevertheless, they cannot speak. Therefore, they must lack in something immaterial, i.e. innate ideas (NE 274). As Leibniz points out in the quoted passages on animals' cognition, what they lack is general notions and general notions are a result of intellectual activity. Since animals lack intellect, they cannot possess general ideas

and, thereupon, even if they might use sounds as signs of something, these sounds are not expressions for general notions or truths but rather the result of a mechanic answer due to habit.

As seen in 1.3.3. by analysing MCVI, already at the level of clear but confused perceptions that correspond to sense perceptions, humans are capable of recognizing a perception as a perception *of* something. The difference with the next stage of knowledge, clear and distinct notions, consists in the fact that this latter allows to distinguish notions through a consideration of the conceptual features they involve, a semantical analysis as we would call it today, and not due to an actual perception of alleged instances of that concept. According to the passage quoted, hence, humans sense perceptions already entail a certain level of abstraction which allows recognition, though abstraction per se does not still account for distinctness. Animals are not capable of abstraction and, consequently, of using signs as signs of a notion.

The qualitative difference between animals and humans consists, thus, in the fact that humans, at every stage of their cognitive process, cannot but represent generalities.[27] Roughly, rational beings cannot but see CUP, COLOR, BOOK, and THING. Animals, babies before having acquired a language, and, maybe, Kaspar Häuser cannot do it.[28] This does not mean, however, that humans always have to reflect, i.e. perform judgments on the existence of

[27] Brandom's reading (Brandom, 1981, 447-79) also points out that since animals are capable of perceptions but do not have concepts, we must distinguish between distinct perceptions and distinct notions (Ivi: 455). Interestingly enough, in this early work by Brandom, preceding his development of inferentialism, he stresses that this distinction is required by Leibniz in order to ascribe inferential roles to distinct ideas. Distinct ideas are distinguished by marks, and, consequently, they are important for analysis and for an inferential derivation of "a priori" conclusions (Brandom interprets a priori not as "before and without" experience but as a mark of thought and reasoning, independent from actual perceptions). Perceptions which play an inferential role are thoughts, and only spirits have them; since animals can only associate images based on particular instances, they possess only a shadow of reasoning (ivi: 458); "this is not reasoning, since it depends not on conformity to necessary principles but on adventitious facts about one's actual sensory career." (Ivi: 474) In his "making it explicit" (Brandom, 1994, 93; 337) Brandom harkens back to Leibniz and argues that Leibniz and Spinoza re-elaborate Descartes' representationalism as inferentialism. They "are not prepared to accept Descartes's strategy of treating the possession of representational content as an unexplained explainer. Each of them develops instead an account of what it is for one thing to represent another, in terms of the inferential significance of the representing. They are explicitly concerned (as Descartes is not) to be able to explain what it is for something to be understood, treated, or employed in practice as a representing by the subject – what it is for it to be a representing to or for that subject. (…) States and acts acquire content by being caught up in inferences, as premises and conclusions." Further, in his work he explains the consequences of Leibniz's inferentialism for his semantic theory. Leibniz's ideas of analysis, based on the inclusion of concepts and, according to Brandom's reading, inferential relations, determine propositional contents. Consequently, Leibniz's account agrees with a bottom-up categorical strategy. As we will see, this is only a part of the story, based on the natural order of knowledge, which does not contrast with the pragmatic of language and knowledge, the fact that we acquire language and knowledge in pragmatic activities, or the history of our discovery as Leibniz says. In this sense, I do not think that we could ascribe to Leibniz a priority of logic or propositional over the pragmatic or use of language and concepts. Both go hand in hand and are developed together. I will return to this point.

[28] A VI I 269: "Cum autem primis annis infants parum à brutis different (ratione sese ob defectum experientiae tanquam materiae in qua exerceatur, linguaeque seu symbolorum per quae exerceatur, parum adhuc exerente)." See also the quoted passage in NE 143, where Leibniz states a similarity between animals and infants.

perceived things like "there is a cup" in order to act. It means that distinguished perceptual states may undergo a conceptualization.[29] As I will explain later, concepts and the way to express them must be acquired and must also depend on the language used within a society. However, as we can already notice, this learning cannot rely on the senses alone. This is exactly what Leibniz criticizes in Locke's empiricism and not the idea that truths need perceptual activity (as we will see in 2.3.).

Another consequence of the qualitative difference between rational and non-rational souls is that apperception by humans and animals are two different operations. As the letter to Treuer points out, when rational souls apperceive they apperceive ideas and therefore they judge, whereas when animals apperceive, they can only pay attention to obscure and distinguished perceptual states. Attention can be drawn only to "knowledge" animals are capable of, and they are not capable of generality and abstraction, two necessary features of knowledge. Animals' perfection consists in having organs that allow them to better interact with other bodies; they lack intellect and therefore they cannot represent generality. (More on this in 2.3.) Therefore, animals cannot reason about how things in general are and derive necessary truths from reflection. Consequently, speaking of animals' apperception does not mean to attribute reflection to them since, as we have seen, apperception is connected with attention and not with reflection. The connection between apperception and reflection in passages like *Monad*. and *PNG* must be read more carefully. As Leibniz writes to Treuer, when humans apperceive, they *apperceive* connections of ideas and, therefore, they already judge. Hence, apperception brings about reflection. But this connection is valid only for human cognitive processes. Apperception *per se* is not an act of reflection. Apperception is related to attention to something's occurring in a soul's cognitive states. Which kind of process is initiated by attention, whether thinking or distinguished perceptual processes, depends on the states a soul is capable of: if an animal is not capable of distinct notions, it cannot be capable of thinking. Apperception alone is not sufficient. The human capacity of judging is therefore not a consequence of paying attention to their internal acts; it further depends on a mind's capacity to form general and distinct notions, a capacity animals lacks.

If my interpretation is sound, both the puzzle of apperception and the issue of the violation of the principle of continuity disappear. The puzzle of apperception disappear because Leibniz can maintain that animals apperceive but do not have consciousness. Apperception is on my reading the attention to a soul's states. Sensible souls and minds,

[29] On this point, Barth (2012, 406) says that in rational beings images undergo a "*Verbegrifflichung*", or the conceptualization of images.

hence, differ not in the fact that they apperceive, but in the qualitative state they apperceive: distinguished perceptions, on animal side, and distinct notions, on the human side. If I am correct, it follows that the qualitative difference that characterize animal and human souls consists in the structural absence of abstraction and generality that characterizes animal cognitive states. If animal perceptions can be distinguished (meaning that organs allow animals to distinguish in the ocean of minute perceptions those perceptions that correspond to some affections of an animal's organs), those perceptions can never become distinct, no matter how intense or oft an animal experiences an event. The reason relies in the fact that the distinguished perceptions cannot occur if senses are not affected. As we have seen, animals are capable of more complex states but all these hinge upon distinguished perceptions which never turn into distinct notions. Human perceptual states, on the contrary, structurally entail generality and abstraction, which are the two fundamental parameters that control degrees of knowledge. Given this difference, human notions can become distinct insofar as humans are capable of reflective and conceptual knowledge. Even distinct conceptual states, however, cannot occur without the activation of the perceptual confused sphere of cognitive processes, and this is the reason why signs are required. Signs guarantee continuity between perceptual and thinking activity. We will say more on this point in 2.3., but we can already remark that on this account also the issue of violation of the principle of continuity disappear.

One could still object that the assumption of a specific difference between animal and human souls is per se a violation of the principle of continuity, since it implies a leap in the continuous chain of species. This criticism is avoidable if we maintain that within each soul's kind, cognitive states vary continuously but on two different scales: distinguishedness is the measure of changes in animal cognitive states; generality and abstraction are the parameter for human cognitive states.

Another way to avoid this criticism is to appeal to what Leibniz himself writes in NE that the risk of a *vacuum formarum,* i.e. leap in the chain of souls, is avoided if we consider that essences of possible species stay in an ordered chain, but that it can be that some species are not actual, they do not exist in the actual world. However, on my account one can also remark that there is another way to avoid this kind of violation: animals form a continuous chain that varies according to an animal's organic complexity. With organic complexity I do not intend that an animal whose body is bigger than another is more complex than a smaller one. A smaller body can be more complex than a bigger one. For degree of organic complexity, I intend the nestedness of organic body: the more a body's organ are complex and nested, the more it is complex. For the laws of harmony, more cognitive complexity must

correspond to this organic complexity. The use of language counts as an occurrence of organic complexity since signs are perceptible body defined by Leibniz as spiritual machines, a definition which mimics the definition of organic body as natural machines.

Considering signs, our last task is to analyse animal corporeal habits and argue why they are not capable of what Leibniz calls intellectual habits.

1.3.5. Instincts and Habits

A last point to be discussed is why animal's incapability to acquire general notions explains their inability to use signs to express their thoughts. In other words, even if animals are capable of corporeal habits they cannot acquire intellectual habits: signs fall into this last category.

Habits are for Leibniz an acquired way of processing something or of performing an action easier or by default.[30] Habits can be corporeal—as those acquired by arts—or intellectual—as those acquired by virtue of science. The use of signs belongs to this latter.[31] Both are acquired due to *studium* and can be acquired only by those who are capable of actions.[32] According to what I have said, I would like to highlight some aspects. First, only humans are capable of acquiring *intellectual habits*. If my interpretation is sound, the difference between animals and humans lies in two different cognitive processes that underpin a soul's perceptual activity. The repetition of perceptual content is the ground for both. After many occurrences of similar perceptual contents, a sensitive non-rational soul can distinguish that content from others in its environment, and, therefore, it can become aware of it and learn to acknowledge the content as something to be feared, to be desired, and so on. In other words, an action is connected to that context, and the animal acquires an instinct to react to

[30] *Habitus* is defined as "agendi promptitudinem acquisitam permanentem" (A VI I 266).

[31] A VI 4 603: "Habitus intellectuales quidam sunt, id est in mente sunt, etiam cum non animadvertuntur; experientia, intelligentia, scientia, opinio, ars. Exprimere cogitationes est loqui, docere, discere, interrogare, espondere, etc. Haec omnia etiam intus fieri possunt, sed his adde pronuntiare, et scribere quae externa sunt. Hoc est efficere signa quae sunt literae, soni articulati seu voces, variaeque orationis et scriptionis partes."

[32] A VI I 266: "Studiorum ratio est species quaedam rationis status, id est, modus perveniendi ad statum actionum perfectarum. Status autem dicitur Habitus"; Ivi 267: "Subjectum habitus est quicquid actionis capax est." VI I 281 : "Habitus corporis vel sunt circa actionem relinquentem ἀποτέλεσμα, vel sunt facti transeunt. Artes opus relinquentes vel naturam promoventem, applicando agens et patiens, et deinde cessando, uti agricultura, horticultura, ars pastorita …" and moreover, the ars medica, ars veterinaria, ars pittorica. However, the body is only a medium for the execution of those arts (Ivi 283). Consequently, the soul's habits are more important for humans and those habits hinge on memory, discovery, and judgment (Ivi 277). Because of this, even if animals can acquire an addiction (*assuefatio*), they do not have habits, which, further are per institutionem [Ibidem: "resta ut dicamus de causa habitus hominibus propria: Institutione").

that context.[33] However, the animal does it automatically, i.e. without being able to distinguish the conditions under which a same perceptual content occurs and to abstract from the context. A dog will react to a stick independently of who is holding the stick.

This basic perceptual activity is also necessary for humans. Humans, too, need repetitive perceptual contents in order to learn to isolate a perceptual content and learn to distinguish it from another. It is due to this repetition that particular events in someone's perceptual activity draw her attention and memory. The activation of memory and attention together with the repetition of an event enable a subject to build *schemas* in order to re-interpret the environment according to general laws that govern events in the world. In this way, humans acquire intellectual habits (*habitus intellectuales*). Nevertheless, humans do not do it automatically. Unlike animals, they are able to draw habits based on possibility and necessity. Humans are able to reflect on their apperceptions and form concepts. Animals do not have the ability to "*fingere*", i.e. imagine, different possible scenarios as consequences of a same perceptual presenting. This observation is very important for the object of our investigation.

These acquired schemas or set of habits differ from the one acquired by animals. First, their acquisition is not due to a repeated action but by reflection and *deliberation*, though they might be applied by default. In other words, intellectual habits are general schemas that can abstract from context. Since the act is different, the faculty that underpins the act must be different: For animals, the imagination controls the acquisition of instincts. However, imagination is dependent on the body or on the actual formation of an image because senses are actually affected. On the contrary, imagination by humans does not depend only on the distinguished perceptions.

In the letter to Sophie Charlotte, Leibniz defines imagination as the common sense and the sources of *les conceptions plus distinct,* common general notions, like distance, size, and figure. Moreover, Leibniz specifies that distinct notions are notions of the common sense. Thanks to the imagination, minds define the terms and words.[34] Since only rational souls can

[33] See also Poser (2009) who holds that the bases for human moral action is an instinct to good.

[34] A I 21 338: "Cependant il faut rendre cette justice aux sens qu'outre ces qualités occultes, ils nous font connoistre d'autres qualités plus manifestes, et qui fournissent des notions plus distinctes. Et ce sont celles qu'on attribue au sens commun, parce qu'il n'y a point de sens externe au quel elles soyent particulierement attachées et propres. Et c'est là qu'on peut donner les definitions des termes ou mots qu'on employe." Ivi 339: "Comme donc nostre ame compare (par exemple) les nombres et les figures qui sont dans les couleurs avec les nombres et les figures qui se trouvent par l'attouchement, il faut bien qu'il y ait un sens interne où les perceptions de ces differens sens externes se trouvent reunies. C'est ce qu'on appelle l'imagination, la quelle comprend à la fois les notions des sens particuliers, qui sont claires mais confuses, et les notions du sens commun qui sont claires et distinctes. Et ces idées claires et distinctes qui sont sujettes à l'imagination, sont les objets des sciences Mathematiques."

possess distinct notions and since the definitions of words that express distinct notions depend on imagination, the imagination of rational souls is different from the imagination of animals.

Moreover, since imagination controls the acquisition of habits, human habits are based on generality; animal habits are not. Intellectual habits are, thus, abstract schema which enable rational human souls to "derive" general notions from perceptions. Since animals are not capable of these sorts of notions, we have to suggest that imagination in animals and imagination in humans are two different faculties. In the former, imagination is inseparably tied up with the body; in the latter, it is dependent on the body but only insofar as those notions need a figurative, perceivable bearer: a sign or an image; insofar as it is the source of general notions it has to do with the intellect. Therefore, we must analyze what enables rational beings to acquire intellectual habits since, as we have seen, the mere repetition of an event per se is still not sufficient for the acquisition of an intellectual habit.

Leibniz's conception of habits is very interesting for our analysis since he defines the use of signs, as well as science in general, as *habitus intellectuales*.[35] The characterization of the use of signs as intellectual habit, and the connection, in the quoted passage of *Nova Methodus*, between intellectual habits, reflection, and imagination, should strike us. To make it more explicit: it is not simply the repetition of a word (written or spoken) in a context that enables the acquisition of a meaning. Language learning depends on the possibility to reflect and perform propositions; languages are based on the possibility to link notions and represent reality under different perspectives.

At the end of the quote on the wild boar, Leibniz takes into account signs, apparently without reason. He writes that "the perception of the signification of signs does not need here to be distinguished from the perception of ideas". In my opinion, the passage must be interpreted as follows: Since he has just claimed that there are things of which we are not aware and we understand them only when we have distinct ideas, we can perceive signs without understanding them because we also do not recall the distinct notions connected with those signs. In this sense, animals (like parrots) and humans can use signs in an unreflective way. As I will explain in 3.1., this aspect of signs as blind thoughts is essential for the origin of languages. Even if signs as blind thoughts can take the place of distinct notions, they are usually connected to reflection insofar as they express distinct notions. Therefore, Leibniz is referring to the theory of *cognitio caeca* or *symbolica*, according to which humans can

[35] A VI 4 603: "Habitus intellectuales quidam sunt, id est in mente sunt, etiam cum non animadvertuntur; experientia, intelligentia, scientia, opinio, ars. Exprimere cogitationes est loqui, docere, discere, interrogare, respondere, etc. Haec omnia etiam intus fieri possunt, sed his adde pronuntiare, et scribere quae externa sunt. Hoc est efficere signa quae sunt literae, soni articulati seu voces, variaeque orationis et scriptionis partes."

perform complex thoughts thanks to the help of more simple signs. In this instance, minds can be considered as thinking even if they do it only by virtue of signs and not by considering notions directly. It means that intellectual habits enable human rational souls to think by default, i.e. not because they recall the ideas expressed by use of signs but only because they manipulate signs. To this extent, minds can be said to think without needing to reflect upon the notions. The rest of the work must explain how spirits' reflective power and use of signs are related.

1.3.6. Conclusion

I have argued that Leibniz's consciousness must not be intended in terms of awareness or the act of knowing that S has the internal state x, but rather as reflective knowledge, characterized by human capacity to judge and consider general distinct concepts. This different understanding of consciousness allows Leibniz to find a way, unlike the Cartesians, to distinguish between perceptual and thinking activity and, hence to attribute a sensible soul to animals without the consequence of attributing consciousness too. I have showed that this different interpretation can make better sense of two main difficulties addressed by scholars: the puzzle of apperception and the violation of the principle of continuity. In the next chapter, I will address the consequences of interpreting consciousness as an act of reflection.

1.4. The I-Perspective

The analysis of human and animal cognition has shown that reflection assumes a particular role within Leibniz's theory of human cognition. According to my interpretation, reflection is not simply the act of self-ascribing mental acts, a prevalent view in Leibniz studies, as we have seen by discussing the interpretations of Kulstad and McRae. Leibniz equation of reflection with thinking activity in general points at interpreting every act of thinking which has as its object a judgment as an act of reflection. Acts of thinking are propositions expressed by words that Leibniz calls judgments; reflection is the act through which minds consider the actual perception from the perspective of general and distinct notions. The real difference between humans and animals consists not in whether or not animals can apperceive internal states, but in the kind of states they can apperceive because they are capable of. Since humans are capable of distinct and general notions, they already judge when they apperceive something, as Leibniz writes to Treuer. Once minds judge, some default knowledge and memories of things related to the judgment may bring the mind to reflect and evaluate the consequences of considering "A is B". For instance, when I see a tower that appears to be round I can judge that "the tower is round". There is some knowledge involuntarily recalled by me when I judge (for instance, yesterday the tower appeared to be square) that brings me to reflect and consider why I judge that the tower is round. This process is involuntary, i.e. the mind cannot be aware of explicit reasons why it doubts that "A is B". In this chapter I analyses why for Leibniz a mind does not need to reflect upon its perceptual states. Reflection is only occasionally activated, since many mind's operations can be performed exactly as animals do: only relying on attentive perceiving: apperception.

This interpretation explains further why for Leibniz it is important to keep apperception and reflection distinct: whereas apperception is attention to states that for some reasons draws a soul's attention, acts of apperception are connected to reflection only by human beings: when minds apperceive, they may judge and reflect.

In what follows, my first aim is hence to show that for Leibniz the ascription of mental acts to a self is not a necessary condition for thinking. Contrary to Descartes or Locke, Leibniz does not think that a mind must always be conscious of its acts. The reason lies in his conception of reflection as the act of judging upon the previous perceptual state retained by memory. This implies that if Leibniz held that minds need always to reflect in order to act, his conception would be committed to the infinite regress he attributes to Descartes' and Locke's conception. In my view, the distinction between apperception and reflection allows him to

avoid this infinite regress. In 1.4.1. I submit why my proposed interpretation of reflection better fits into Leibniz's philosophy (1.4.1.). In 1.4.2. and 1.4.3. I show why Leibniz deploys the same argument used against Descartes to prove Locke's conception of thinking and awareness wrong. In Leibniz's view, Locke's theory of consciousness is subject to the same infinite regress as Descartes's theory. After this, in 1.4.4. I move to show Leibniz's own account of consciousness. Leibniz too believes that consciousness is necessary for thinking but not in the way intended by Descartes. As a matter of fact, when a mind is involved in acts of reflection as I accounted for them in 1.2. and 1.3., the relevant feature of a thought is not that *I* think that p, but what *p* implies by considering the concepts *p* is made of. If reflection is distinct reasoning on a mind's judgments, acts of reflection require a mind be attentive to its internal states, and this is apperception or a particular kind of attention: consideration. That being so, I will point to the fact that Leibniz's theory of minute perceptions is the key concept to maintain that a mind need not always reflect on its thought because of habits: habitual actions or even thoughts are usually performed without a mind activating the kind of attention required for reflection.

The analysis of Leibniz's conceptions of what I called the I-Perspective will lead us to what I called the I-Thou-Perspective. The knowledge about the I is for Leibniz a reflective act that allows minds to access to other minds' mental states. It follows that consciousness or the self-awareness of the I plays a very different role in Leibniz's philosophy: it is neither the ground for personal identity, nor a necessary component for thinking. It is the thought that allows minds to be aware of the existence of other minds.

From this interpretation of reflection, it follows that acts of reflections are not exclusively acts of self-ascription of mental states. What nowadays is called consciousness or the awareness of the self is only a subclass of all acts of reflections. As we will see in 1.5., under the term "conscientia", Leibniz comprehends something different from Descartes and the early modern tradition: *conscientia* is not simply the consciousness of the self; it is the act of practical knowledge that allows a subject to know what should be done. Interpreted from this perspective, Leibniz's understanding of *conscientia* must be related to the Scholastic, and in particular to the Thomistic doctrine. Interpreting *conscientia* as practical knowledge based on practical reason allows us further to show that acts of reflection upon the "I" assume a different relevance within Leibniz's theory: they are not necessary for thinking in general, as Locke or Descartes believe. The capacity of rational beings to conceive of the self as an I grounds the acknowledgement of the existence of other minds. The acknowledgement of the self is the condition for minds to cooperate and be in a society. Briefly, the acknowledgment

of the self as an I (in Leibniz's jargon a substance or an agent) commits a subject to the acknowledgement of the existence of other subjects entitled to say I.[1] The "natural" acknowledgment of the existence of other individuals very like to me, hence, grounds the cooperation with other subjects, and, hence, the need to communicate. The acknowledgment of others as similar represents for Leibniz the cognitive ground for the acquisition of logical, metaphysical and moral knowledge and for the development of a language.

1.4.1. Reflection

Leibniz is committed to the view that thinking is propositional. Affirmation and negation (A is B; A is non-B) are the simplest acts of thought. The consequence is however that also particular acts of self-reflection, ascribing thoughts to a self, are propositions. Therefore, they need to have the form "I think that p", "I believe that p". [2]

> omnis autem actio animi est cogitatio, nam et velle nihil aliud est quam conatus ex cogitatione seu conari ad aliquid ob bonitatem ejus cogitatione cognitam. Omnis porro cogitatio fertur in Enuntiationem seu Propositionem seu affirmationem et negationem, nam et termini simplicis usus, involvit affirmationem possibilitatis, et reflexionis actus aliquid agnoscit in nobis ipsis actuale, propositiones autem spectabimus tum in se tum ratione terminorum ex quibus conflatur. (A VI I 284 1698-1708)

Leibniz writes in the passage that a mind's operations are thoughts and thoughts have the form of propositions or statements. Moreover, a mind's actual conceiving of a simple notion is a proposition which affirms or denies its possibility. Leibniz says the same in NE 238, where he argues that when minds conceive of a notion, they analyse it and form a statement on that notion's possibility "x is possible". The other thought Leibniz specifies as propositional is an act of reflection. Literally, Leibniz writes that "also the act of reflection which acknowledges something in us as actual is a proposition". There are three possible interpretation of this passage:

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[1] Leinkauf (1999) points to this aspect of Leibniz's conception of reflection.

[2] Properly speaking "I think that p" is not a proposition. At Leibniz's time, however, a mind's operations were divided into notions, statements (enuntiationes) and discourse (oratio). Oratio is the union of more propositions through the use of connectors, like "that" in the case of "I think that p". As we know, Leibniz believes it possible to reduce all proposition to the form of subject predicate (Russell 1903). This means that the propositional attitude "I think that p" could probably be analysed into "I am a thinker and p is a thought of mine", so it is virtually a conjunction of propositions. For discussion of the problem of reduction of proposition to the simplest categorical form, see Mugnai (1976), Mates (1986), Ishiguro (1972), Russell (1901).

(i) one is to interpret "reflection" as an act of ascription of a mind's state to the I. On this reading, reflection here means the act of acknowledging a thought as someone's thought. As we know, a mind's state is a thought which has the form of a proposition. It follows that this kind of reflection as consciousness must have the form "I think that p".

(ii) The second way is to interpret "act of acknowledging" as I proposed: the reflective act is *that* act related to memory of a previous perceptual state that draws a mind attention such that the mind apperceives it. When related to apperception, the mind conjoins ideas and forms a judgment (p) that, in turn, may spontaneously become object of analysis given the concepts involved in affirming or denying. Acts of consciousness of the form "I think that p" are second order acts of reflection directed at the thought *that p*, because they imply general concepts, like "I" "think" and so on, but are only a subclass of all reflective acts which more broadly correspond to acts that have as a result a judgment on a mind's perceptual states.

(iii) The third possible interpretation focuses on the latin adverb "actuale". Acts of reflection are acts of acknowledgment that something a subject perceives is *actual* or *exists*. Acts of reflection are mental states first directed to a heightened perceptual change occurring in the mind through which a mind "records" what it perceives and connects this with the immediate belief that what it perceives is actual or exists.

In my understanding, all these three interpretations are consistent with my interpretation of reflection and are strictly related, as I argue in what follows. On the contrary, scholars who endorses (i) and maintain this to be a necessary requisite for thinking must face the same infinite regress Descartes' and Locke's theories are subject to. On my reading (i) does not imply that Leibniz faces an infinite regress because (i) are special acts of self-reflection that are not necessarily required for (ii) and (iii), but that are virtually there, since we do not need to explicitly think of the self who thinks those thoughts. With virtually, I mean that there is an order in a mind's capacity to perform those acts: (ii) and (iii) are temporally and naturally prior to (i) which is implicitly embedded in (ii) and (iii). In reflecting on a judgment, a mind can bracket the thought "I think that" and focus on what it thinks. When other circumstances apply, a mind can make that implicit knowledge explicit by performing another act of reflection that focuses on "I think that". But a mind won't do it, unless there are reasons that brings it to consider not *what* it thinks, but *who* thinks. In other words, every act of thinking has the form (I think that) p, where the brackets mean that the "I think that" is virtually there and not explicitly thought.

In Leibniz's view self-reflection is a higher order act that a mind can perform because a mind has thoughts, and it has thoughts because it can form propositions upon its perceptual states. Judgments on a mind's perceptual states are temporally and naturally prior because a mind is embodied. Exactly as any other animals endowed with an organic body, the mind's perceptual changes correspond to changes in the minute perceptual activity which "records" what happens in a mind's perceptual environment. Given this priority of the senses, at the beginning of its ontogenetic life, a rational subject's attention is first and foremost drawn by what affects her senses. If my body burns, I cannot but feel pain, no other thoughts, no matter how strong, can prevail over pain. In the course of this work, I prove this claim and show how fundamental it is for Leibniz's theory of the origin of language and development of human cognition. For the moment, consider it as consequence of Leibniz's assumption of a similarity between humans and animals and of the fact that for ¾ of their lives, humans act exactly as empiric as animals do.

Judgment is hence first naturally directed to perceptual presentings. When the mind judges and forms propositions, the judgement can become object of reflection. It is in performing a second order act that the mind pays attention to the fact that "*I* think that p", that *p* is a thought of mine and hence that "I think". A mind, though, need not to be aware that the thought is its own when considering *what* it thinks. The structure of judgment described in the 1.2. is the backdrop against which Leibniz develops his criticism of Descartes and Locke.

In here, I develop this criticism of Leibniz further and I show that interpretation (ii) fits what Leibniz says about consciousness best. If I am correct, the main result of this analysis is to show that Leibniz does not endorse an equivalence among apperception, reflection, and consciousness. He sees these mind's operations as essentially different though interrelated. There is a conceptual distinction he is proposing against the Cartesian (and for him Lockean) homology of all a mind's acts with thought. The strategy adopted is the same he develops in many of his conceptual analyses and distinctions, namely to ask what is logically prior and what requires what as its essential property. We have already analyzed this process in the chapter on animals. Even if perceptual activities are required for apperception, and even if apperception is in turn necessary for thinking, it does not mean that perception, apperception and thought are synonymous. They do not refer to the same cognitive acts. Perception can occur without apperception, what Leibniz calls minute perceptions, and apperception can occur without thought, what he calls a feeling in animal cognitive life. On the human cognitive side, however, apperception suffices for many cognitive human acts, like actions or thoughts we perform habitually. Apperception is however a necessary component of

reflection, and apperception hinges on the perceptual activity of a mind, as seen. This implies that reflection is essentially related to apperception and perception, but not that reflection is essential to them. This is the line of argument Leibniz uses against Locke and Descartes which brings him to develop the thesis that self-reflection is not essential to thinking.

It seems that Leibniz's interpretation of a conscious thought as a thought of the form "I think that p" is something that applies neither to Descartes, nor to Locke. As scholars (Thiel 2011, Barth 2013) argue, both Locke and Descartes intend "conscientia" as an immediate presence of a subject's mental states to itself which does not imply what today we call a "higher order act": a second act of the mind which supervenes on the former, as Leibniz seems to interpret it. In my understanding this is true: neither Locke nor Descartes interpret "consciousness" in the way Leibniz maintains them as doing. In my understanding, however, what Leibniz is saying, especially in the case of Locke, is not that they actually maintain consciousness to have that form, but that they are committed to this view. In the following two sections I show why Descartes and Locke are, in Leibniz's view, ultimately committed to *conscientia* as a higher order act and then to the infinite regress.

1.4.2. Descartes' Cogito as Truth of Fact and Consciousness

The reason why Leibniz cannot maintain that thought must always be conscious is to be found in his conception of thought as propositional. For Leibniz, indeed, a conscious thought cannot have the form "I think x". Since thought is propositional and proposition means judgment, the simplest reflective acts are propositions of the form "A is B" or "A is not B". Once the mind has thoughts based on perceptual states, the mind can reflect and form a thought "I think that p". Given the propositional structure of thought, if Leibniz had maintained that all thought has the form "I think that p" and that reflection is necessary to thought, then he would be committed to an infinite regress. If reflection has the form "I think that p", the mind must think that "I think that I think that p" in order to be conscious of that thought as its thought, and so on.

In Leibniz's view, this infinite regress affects both Descartes' and Locke's theory of consciousness. But why? Are Descartes and Locke really committed to the view that conscious thought as the form "I think that p"? Let's summarize Leibniz's understanding of reflection and then move to argue why Descartes is committed to it.

Reflection is an act of the mind which consider the perceptual presentings under the perspective of general notions. When a mind's attention is directed to something, the mind recall its immediate previous thought, pays attention to it and considers what it has thought. In this process the mind move from one thought to another. The mind can process a thought because it has the faculty of judging. As pointed, when a mind apperceives, it perceives concepts and already judges. In other words, only when human cognition is at issue[3]—when full-fledged human beings, capable of using a language, which already have concepts, apperceive— they perform propositions about CHAIR, GOLD, GREEN. In other words, they cannot but express things under the point of view of genus and species. Moreover, when spirits think, they always think of propositions embodied in sentences. So, even if human apperception (judging and reflection) are strictly related, it does not mean that apperceiving is the same operation as reflecting.

I would like to argue that due to this meaning of reflection, it follows that acts of self-awareness are also acts of reflection, since the thought of "I am" or "I think" is a proposition that implies a general notion: the notion of the I. In this sense, acts of self-knowledge are a subclass of all reflective acts that have as result a thought or a judgment. Acts of reflection in general do not necessarily contain the notion of the I; the notion of the self can remain unaware. However, the explicit thought of the notion of the I is an act of reflection. According to Leibniz's characterization of reflection, reflection occurs every time we form propositions in compliance with necessary truths and generality. Since the notion of the self implies that the subject considers herself as I, it is only because a subject reflects upon the perception which she apperceives and considers herself as always the same bearer of the perceptual activity that she can produce the notion of the I.

Leibniz believes that Descartes's *cogito* has this same reflective structure. It corresponds to the very process of discovery presented in Descartes' *Meditations*, where Descartes begins with doubting what seems to be more clear and distinct: perceptual knowledge. It is via reflection upon perceptual presentings that he comes to the truth that he can doubt everything, but not of the fact that "I think". In Descartes' text, the salient point that allows him to conclude "I think therefore I am" is to consider the role of judging for knowledge: what Descartes believes to know by the senses, he realises it is *thought*. What he

[3] Also in the discussed passage of PNG, where Leibniz equates consciousness and reflection, at issue is human, not animal cognition. Moreover, Barth (2012, 336) argues that the preposition "ou" in the French text of PNG cannot be read as the Latin *seu*. The dictionaries of the époque do not report such a use of "ou." Therefore, reading *apperception ou reflection* as apperception seu reflection is a misinterpretation of the French text.

knows is not wax as perceived but as an idea, as thought by him; it is this that allow him to form a judgment about what he thinks to see:

> Dicemus enim nos videre ceram ipsammet, si adsit, non ex colore vel ex figura eam adesse judicare. Unde concluderem statim: ceram ergo visionem oculi, non solis mentis enspectione, cognosci, nisi jam forte respexissem ex fenestra homines in platea transeuntes, quos entiam ipsos non minus usitate quam ceram dico me videre. Quid autem video praeter pileos et vestes, sub quibus latere possent automata? Sed *judico* homines esse. Atque ita id quod putabam me videre oculis, sola *judicandi facultate* quae in mente mea est comprehendo. (Descartes, *Meditationes de prima philosophia*, Med. II…)

The distinct knowledge *that* this is wax, and *that* there are men, acts as a springboard to reach the knowledge *that* I think *that* there is wax, and *that* there are men. If I was not capable of judging and of knowing things distinctly, I would not be capable of thought and of knowing that I am. But if thinking is accompanied by consciousness of the I and this is a thought too, then this thought needs to have the form "I think that p" for Descartes too. That's probably why Leibniz interprets Descartes' conscientia as a thought of the form "I think that p".

This reading is made explicit in Leibniz's understanding of Descartes' "I think therefore I am," not a necessary truth, but as a truth of fact.[4] Descartes' *cogito* needs experience to be thought, i.e. an aware perception of what happens in someone's mind, and it is in principle a judgment not an immediate truth of reason. Moreover "I think" already entails "I am" as Leibniz writes in the passage.

[4] According to Leibniz, all truths can be divided into truths of reason or of fact. The truths of reason are identical truths and are necessary: NE 361: "Les verités primitives qu'on sait par intuition sont de deux sortes comme les derivatives. Elles sont du nombre des verités de raison, ou des verités de fait. Les verités de raison sont necessaires, et celles de fait sont contingentes. Les verités primitives de raison sont celles, que j'appelle d'un nom general identiques, parce qu'il semble qu'elles ne font que repeter la mème chose sans nous rien apprendre." Whereas necessary truths are innate, truths of facts depends to some extent on experience: NE 79: "Et de quelque maniere qu'on le prenne il est toujours clair dans tous les etats de l'ame, que les verités necessaires sont innées, et se prouvent par ce qui est interne, ne pouvant point etre etablies par les experiences, comme on etablit par là les verités de fait." The perception of the I is one of the first a posteriori truths, as Leibniz writes: NE 434 "Je suis entierement d'accord de tout ceci. Et j'adjoute que l'apperception immediate de nòtre Existence et de nos pensées nous fournit les premieres veritez a posteriori, ou de fait, c'est à dire, les premieres Experiences; comme les propositions identiques contiennent les premieres verités a priori, ou de Raison, c'est à dire les premieres lumieres." Truths of facts are guaranteed by a linkage between perceivers' perceptual states and the harmony with other perceivers' perceptual states. However, the reason for their truth is that they are mediated by necessary truths: NE 374-5: "De sorte que je crois que le vray Criterion en matiere des objets des sens, est la liaison des phenomenes c'est à dire la connexion de ce qui se passe en differens lieux et temps, et dans l'experience de differens hommes, qui sont eux mèmes les uns aux autres des phenomenes très importans sur cet article. Et la liaison des phenomenes, qui garantit les verités de fait à l'egard des choses sensibles hors de nous, se verifie par le moyen des verités de raison; comme les apparences de l'optique s'eclaircissent par la Geometrie." I will discuss the epistemological status of truths of fact 2.1.

> On peut toujours dire que cette Proposition, j'existe, est de la derniere evidence, êtant une proposition, qui ne sauroit être prouvée par aucune autre, ou bien une verité immediate. Et de dire, Je pense, donc je suis, ce n'est pas prouver proprement l'existence par la pensée, puisque penser et être pensant, est la même chose; et dire, Je suis pensant, est déja dire, Je suis. Cependant vous pouvés exclure cette proposition du nombre des Axiomes avec quelque raison, *car c'est une proposition de fait, fondée sur une experience immediate, et ce n'est pas une proposition necessaire*, dont on voye la necessité dans la convenance immediate des idées. Au contraire, il n'y a que Dieu qui voye, comment ces deux termes, Moi et l'Existence, sont liez, c'est à dire pourquoi j'existe. Mais si l'Axiome se prend plus generalement pour une verité immediate ou non-prouvable, on peut dire que cette proposition, je suis, est un axiome; et en tout cas, on peut assurer, que c'est une verité primitive, ou bien *unum ex primis cognitis inter terminos complexos*; c'est à dire, que c'est une des *Enonciations premieres connues, ce qui s'entend dans l'ordre naturel de nos connoissances, car il se peut qu'un homme n'ait jamais pensé à former expressement cette proposition qui lui est pourtant innée.* (NE 411; my italics)

The passage states two things clearly. First, the proposition "I am" is a truth of fact because a subject needs a perceptual activity upon which a mind can reflect. When I reflect upon a perception and form a propositions "p", I can think that "I think that p" and, if I think that "I think" the proposition "I am" is built in it. Secondly, even if the proposition is a truth of fact and hence not necessary (because the connection between "moi", my individuality, and the existence is contingent: I might not have existed[5]), the proposition "I am" is an axiom and one of the first truth acquired in the natural order of knowledge. If a finite rational substance exists, this has a self and is an "I". This thought is innate in the substance because the substance *is* an I and can draw it only via reflection, even though, as seen, some perceptual experience is needed to set up the reflective activity. At the same time, however, a subject can have never thought of the proposition "I am" in her entire life.

At a first glance, this passage is puzzling: how can the thought of my existence be the first known in the natural order of knowledge, and at the same time never be explicitly thought of? A comparison with other passages where Leibniz discusses of Descartes' *cogito* can help us in understanding it.

In *Animadversiones* –after having distinguished truths in necessary truths and truths of fact–the "ego cogito" is considered as a truth of fact of the same order of a mind's being aware of "varia a me cogitantur": the act of acknowledging that "I think different things", defined in *Nova Methodus* (A VI I 284), quoted above, as a reflective act.

[5] The fact that I exist (i.e. the conjunction of "I" and my existence) is contingent, since I could also not have existed. My existence depends on God's choice of this world. Consequently, I cannot know the a priori reasons for my existence; I can only understand that I am possible a posteriori because I perceive and can judge that I exist. (NE 411)

> Ego cogito, adeoque sum, inter primas veritates esse praeclare a Cartesio notatum est. Sed aequum erat ut alias non negligeret huic pares. In universum ergo sic dici potest: Veritates esse vel facti vel rationis. Veritatum rationis prima est principium contradictionis vel quod eodem redit identicorum, quemadmodum et Aristoteles recte animadvertit. Veritates facti primae tot sunt quot perceptiones immediatae sive conscientiae, ut sic dicam. Non tantum autem mei cogitantis sed et meorum cogitatorum conscius sum, nec magis verum certumve est me cogitare, quam illa vel illa a me cogitari. Itaque veritates facti primas non incommode referre licebit ad has duas: Ego cogito, et: Varia a me cogitantur. Unde consequitur non tantum me esse, sed et me variis modis affectum esse. (GP IV 357)

In this passage, "I am" is equated to "I think different thoughts" and contrary to NE it is considered an immediate perception, something a mind apperceives without the need to explicitly reflect upon it. In this sense, it is possible for a mind to have never explicitly thought of it in its entire life. The judgment 'I think therefore I am' is a truth of fact also according to metaphysical reasons. In order to know that I exist, I must apperceive my activity to be attentive to the fact that I think, and, therefore, to reflect on this. It can be that a subject never has the occasion or reasons to perform that reflective act.

Considering the two passages hence we can distinguish two interpretations of *cogito*. When we consider the truth of the proposition "I think therefore I am", we are committed to a reflective act. We need to apperceive a perception, judge on it (p), and reflect on this judgment (I think that p). In a second sense, however, I am is not an act of reflection, but a simple apperception. Indeed, in both passages Leibniz considers the act of being aware of me and the act of being aware of my thoughts as an immediate awareness which does not need an act of reflection (i.e. an act of ascription of mental states to the self). That's the reason why he believes that "I think therefore I am" can be considered an axiom since in the natural order of knowledge it precedes all other truths. "I am" is one of the first known statements even if "it may never have occurred to a man this proposition explicitly, even though it is innate in it."

The claim does not sound puzzling if we analyze it according to the distinction pointed out between perception, apperception, and reflection. Leibniz is just affirming that the apperception of my thoughts and of me as bearer of those thoughts does not require reflection. A subject can be aware of herself even if she does not explicitly reflect on its thoughts and judge that she is the subject of those thoughts. When a subject draws her attention to her own operations and considers herself she might reflect and judge that "I am", but she does not have to.

If I understand Leibniz correctly, the reason why he believes that for Descartes there cannot be something like a sub-reflective same-order act of awareness is a consequence of Descartes's conception of all thought as conscious and the denial of unconscious perceptions.

If every states of the soul is a conscious *thought* and a thought is a proposition, then Descartes must grant that a conscious thought is a reflective act of the form "I think that p", and accepts the infinite regress.

> Mentes non sunt omnium suarum actionum consciae, nam alioqui in quamlibet reflexionem reflecterent, progredique non possent. (A VI 1 495)

To put it differently, if Descartes does not allow for a distinction between perception, apperception, reflection and conscientia, then Descartes cannot consistently maintain that a mind can be conscious of its thought without performing a thought of the form "I think that p".

On the contrary, with his theory of minute perceptions and the acceptance that the extension of a mind's activity is wider than its conscious acts, Leibniz believes his metaphysics to be able to justify the presence of unconscious or distinctly-apperceived thoughts that need not be explicitly reflected upon in order to be considered as states of the mind.

This brief sketch is important here in order to argue that Leibniz does not maintain that a mind must always reflect upon its thoughts in order to be aware of its thoughts as its thoughts. The apperception of the self is not a reflective act.[6] If this is correct, Leibniz allows for a same order act of awareness of the self and believes his theory of minute perceptions to give the right resources to maintain such a view, which, on the contrary, turns out to be inconsistent within a framework which assumes: 1- every state of the mind to be a thought and 2- to be a conscious thought.

At issue is, hence, whether a mind must explicitly ascribe its acts to the self in order to act. To this end, we must consider Leibniz's interpretation of Locke's account of consciousness.

1.4.3. Leibniz's Criticism of Locke's Theory of Consciousness

The problem with Locke's account of consciousness is that he seems committed to an account of consciousness as a second order act. If this is the case, Leibniz argues, Locke's

[6] I agree with (Barth, 2011, 216-236), where he discusses the Cartesian roots of Leibniz's *conscientia*. I disagree only with a point of his analysis that is the definition of Leibniz's *conscientia* as a pure form of introspection. As I pointed out, I think Leibniz's *conscientia* is committed to the existence of other substances and therefore to social knowledge. I will discuss this aspect further in the work.

account is vulnerable to charges of an infinite regress. The point of my argument is that Leibniz is not saying that Locke actually maintains that consciousness *is* a second order act; he is saying that Locke is committed to consciousness as a second order act because of his theory of ideas and perception as delineated in books one and two of his *Essay*.

Locke's theory of consciousness is related to the question of personal identity through time. As we have seen in 1.2., Locke believes that to have ideas a mind must be conscious of its states. In his chap. 27 of book II, Locke connects this theory with the idea that personal identity does consist neither in life as the preservation of a body (what he calls the man), nor in some kind of immaterial substance. Personal identity simply is the idea of the self and the memory of previous states acknowledged by a subject as hers. The fact that the mind is constantly conscious of its states explains why a subject can recall some previous states as hers, and, hence to consider itself as the same *person*. This is the reason why unconscious states, like deep sleep, do not constitute someone's self.

As Locke does not grant unconscious states to the mind, insofar as every idea for being in the mind must necessarily be or have been at some point consciously perceived (i.e. explicitly thought by the mind) he cannot simultaneously hold (i) that consciousness is an immediate certainty of being the subject of the perception and (ii) that consciousness is a reflective act. Since the self is an idea, it must be explicitly perceived, and this requires the occurrence of an explicit thought of the fact that "I think that p" (which is, once more, a reflective act.)[7]

As explained in 1.2., Leibniz interprets Locke's "having a perception" as a judgment or an actual thought. If this is correct, Locke faces the same structure of judgment and reflection: a mind judges on the perceptual states and form ideas; these ideas are united in a judgement (what Leibniz calls an actual thought) and this is the object of a further act "I think that p". Leibniz points Locke to the fact that if his theory of all thought as conscious is true, and if for something to be in the mind means to actually be perceived, then the mind must explicitly reflect that "I think that p" in order to have conscious thoughts. Call this thought q. But then the mind needs to perform a further thought "I think that q" to be conscious of q, and this will be z. This results in an infinite regress. Locke's theory is subject to the same infinite regress suffered by Descartes' theory. Let us analyze Leibniz's criticism more closely.

The first step is not to interpret consciousness as a reflective act, but to point out that if Locke does not want to propose a puzzling theory of consciousness and personal identity, he has to admit that in his account consciousness and reflection are equivalent. Interestingly

[7] For an analysis of the self as idea, see Thiel (2011).

enough, Leibniz directly relates the mind always being conscious of its states with Locke's refusal of innate ideas:

> Pardonnés moy, Monsieur, je suis obligé de vous dire que lors que vous avancés qu'il n'y a rien dans l'ame dont elle ne s'apperçoive, c'est une petition de principe qui a déja regné par toute nostre premiere conference, où l'on a voulu s'en servir pour détruire les idées et verités innées. Si nous accordions ce principe, outre que nous croirions choquer l'experience et la raison, nous renoncerions sans raison à nostre sentiment que je crois avoir rendu assez intelligible. (NE 118)

As seen, Locke's criticism is based on the idea that for something to be in the mind, it must have previously been a conscious fact of the mind. After having recalled Locke's criticism, Leibniz goes ahead reporting the thesis of his opponents, i.e. of the Cartesians, on this matter. Thence the passage usually used by scholars for arguing that Leibniz interprets Locke's consciousness as an act of reflection—and thus as a higher order act—is actually a reported criticism of Descartes and not a direct criticism of Locke: [8]

> Mais outre que nos adversaires tout habiles qu'ils sont n'ont point apporté de preuve de ce qu'ils avancent si souvent et si positivement là dessus, il est aisé de leur monstrer le contraire, c'est à dire, qu'il n'est pas possible *que nous reflechissions tousjours expressement sur toutes nos pensées*; autrement l'Esprit feroit reflexion sur chaque reflexion à l'infini sans pouvoir jamais passer à une nouvelle pensée. Par exemple, en m'appercevant de quelque sentiment present, je devrois tousjours penser que j'y pense, et penser encor que je pense d'y penser, et ainsi à l'infini. Mais il faut bien que je cesse de reflechir sur toutes ces reflexions et qu'il y ait enfin quelque pensée qu'on laisse passer sans y penser; autrement on demeureroit tousjours sur la même chose. (NE 118)

We know that Leibniz refers to Descartes when he writes "my opponents" since in that text he formulates the same criticism of Descartes' *conscientia*.[9] However, since Locke also holds that the mind must always be conscious of its thoughts, we can conclude that Leibniz's criticism also applies to Locke's account. Nevertheless, it is not so straightforward. What is clear from the passage is that Leibniz connects Locke's conception of awareness to Locke's criticism of innate ideas and the question of unconscious states. According to the passage,

[8] As Thiel (2011, 113) suggests in critique of Locke, this (old) argument from infinite regress makes sense only if it is assumed that consciousness is an act of reflection—a higher-order mental act. Leibniz's critique would be correct if Locke's conception of consciousness were indeed identical with reflection. For, as was indicated in the *Introduction*: "the combination of an HOP account of consciousness with the thesis that all thought is accompanied by consciousness yields the infinite regress that Leibniz discusses. Locke would be saying, then that thought is always accompanied by a higher-order act of perception."

[9] GP VI 600; 608-9. For a critical discussion of Leibniz on Descartes's *conscientia* see Barth (2011, 221-223). For a more thorough analysis of Leibniz and Descartes on conscientia see Barth (2012).

Leibniz holds that the mind should always attribute its states to a self to have a thought, and this would lead to an infinite regress.

Udo Thiel argues that Leibniz got the wrong end of the stick with his criticism since Locke's theory of consciousness is not a higher order perception theory. As I am going to argue, Thiel is correct in saying that reflection in this passage is an HOP (higher order perception) and that this view is not Locke's. However, Leibniz is not saying that this *actually* is Locke's position; he is saying that Locke's account *is committed to* this position. Leibniz proposes an argument *ad absurdum*. If we assume that:

1. for something to be in the mind, the mind must be aware of it, which means, if we follow Leibniz's interpretation of Locke's essay, that a mind needs explicitly to form an idea and to judge;
2. the thought needs to be a *conscious* thought, which means to form an explicit judgment on the fact that "*I* think that p", then:
3. we have to conclude that the mind must explicitly be aware of itself as subject of those acts in order to have consciousness of those acts.

This, however, counts as an HOP for Leibniz, since the mind must explicitly retain a certain state and perform a further act on that state, namely the thought "I think that p". *This* would commit Locke to an infinite regress. In other words, since Locke's ideas are actual thoughts (judgment of the form I perceive that p) and these latter depend on reflection, therefore for a mind to be aware of itself and its states it must reflect. It follows that the idea of the I can also be in the mind if and only if the mind explicitly performs a proposition (i.e. I think that *I think* of a red apple). This implies an infinite regress.

This being the case, Locke cannot simultaneously hold that (1) something, in order to be in the mind, must have already been in the mind as a conscious act of the mind *and* that (2) consciousness always accompanies thinking. If both are true then Locke's theory of consciousness must face infinite regress. If Leibniz's criticism actually hits the target, then Locke needs to deny (1) in order to keep (2) as a same order act. If (1) is false, then something can be in the mind without having necessarily to affirm that the mind must have explicitly reflected upon it. In other words, Leibniz addresses another criticism to what Locke wrote in EHU II I §5 when he claims that a mind cannot possess ideas which it has not been made aware of. Since this point is crucial to convince Locke of innate ideas (as there are ideas in the mind without a mind already having been aware of these ideas), Leibniz insists that if Locke

wants to be coherent, he must grant that the mind must not be conscious of all its acts: he must allow for minute perceptions. A mind's unconscious operations can play an important role in human cognitive processes. Leibniz is, thus, using an argumentative strategy: he is trying to convince Locke that his own theses contain points arguing for Leibniz's own view and that, therefore, Leibniz's own view better explains phenomena than Locke's.[10] Let us analyze what Leibniz's infinite regress charge implies.

Leibniz's criticism can be analyzed from a different angle. As we have seen in analyzing *De Affectibus*, Leibniz interprets an actual thought as something that presently captures the attention of the mind, i.e. an aware perception.[11] This occupation of the mind is provoked by a perception that causes in the mind a thought of something, i.e. a judgment based on reflection.[12] In this sense, even if we perceive a multitude of things, we cannot pay attention to everything (NE 53): we have to perceive all these things according to an order. A distinct and outstanding perceptions determines a mind to think one thing before another: It is *status animi a cogitatione una ad aliam prae alia determinati*. If we assume this interpretation, an explicit thought of the notion of the I is a reflective act which occupies the mind. It cannot simultaneously occur with another conscious thought, but it can only be addressed because of a reflection upon the immediately previous state (as Leibniz also wrote in the passage already discussed above where he claims that a reflection is addressed to what has taken place immediately prior in the mind cannot deceive a subject, see 1.2.5., p. 47-48).

It has been argued that Leibniz substantially agrees with Aquinas on this matter. When we think, we can be aware only of one thought at any moment,[13] this is the temporal order of knowledge. Therefore, if being conscious means (i) explicitly reflecting and (ii) only one thought at a moment can draw a mind's awareness (a necessary condition to reflect, as also Udo Thiel affirms (Thiel, 2011, 113) then if someone reflects on herself as subject, in order to be conscious she has to intend this act (I think p) and think that she is the one who thinks and so on ad infinitum (I think that I think that p).

Leibniz believes it is possible to settle the problem by accepting minute perceptions. An infinite multitude of perceptions is present in our soul. Among these perceptions only the most distinct perceptions draw our attention and might activate reflection. Apperception or the act that makes someone aware of a perception is a necessary condition for spirits to reflect,

[10] On the aspect of Leibniz's argumentative strategy in NE see (Oliveri, 2016b); Bolton (2011).

[11] A VI 4 1424: "Occupatio animi est determinatio ad aliquid cogitandum."

[12] A VI 4 1424: "Affectus est cogitatio animum occupans, vel si mavis occupatio animi a cogitatione. Affectus est status animi a cogitatione una ad aliam prae alia determinati; vel est animi occupatio."

[13] Kulstad puts this aspect of Leibniz's mental phenomenology in comparison to Aquinas' concept of the mind: Kulstad (1991, 55-61).

but it is not reflection yet.[14] Apperceiving outstanding states occurring in the mind and reflecting on the fact that it is I who perceives are not the same act for Leibniz. Just as I must be aware of an idea such as pain to know that fire is burning my body, I have to be aware of the idea of the I in order to be able to know that it is me. And I can know that it is me who reflects if and only if I actually perceive that it is *I* who have done so and that, i. e. only if I explicitly reflect on my actual perception and explicitly think that it is me. The problem is Locke's equation of perceiving with having an idea, as Thiel concurs:

> To say we could think without being conscious of thinking is, Locke states, as absurd as to say we are hungry without feeling hungry. Rather, being hungry consists in this feeling of hunger—this feeling is not something that needs to be added to hunger 'itself '. In the same way, consciousness is not something that needs to be added to thinking externally; rather, it is an aspect of thinking itself. (Thiel, 2011, 116)

But if self-consciousness means to be conscious of the self in order to be conscious that I am feeling pain, then I have to be explicitly conscious that I think that I am feeling pain. It means I have to draw my attention to the fact that I think that I am feeling pain and so explicitly reflect of the idea of the self. Put differently, Leibniz is not identifying apperception and reflection as the same higher order mental act. But since to be conscious of the I the mind need explicitly to be aware of it, one can be conscious of the I if and only if it produces an act of reflection. On the contrary, it is important to distinguish apperception and reflection according to Leibniz's philosophy. The interpretation of apperception as simply reflection will lead to incoherence in Leibniz's criticism of Locke's account of personal identity (Thiel, 2011, 109-120; 279-301).

1.4.4. Minute Perceptions and the Self

I have argued that even if both Descartes and Locke maintain consciousness to be a same order act or an immediate awareness of the self who thinks, Leibniz submits that this position is inconsistent within a framework which denies unconscious states and maintains all states to be conscious states of the mind. For Leibniz, the distinction between awareness as a same order act and reflection as a higher order act can be consistently maintained as soon as we accept minute perceptions. Since apperception and reflection are two different operations,

[14] (Thiel, 2011, 115): "Without consciousness, reflection would not have any objects upon which to reflect. Both sensation and reflection are conscious acts; but for Locke they are not necessarily accompanied by an act of reflection."

awareness of the I is a thought potentially entailed in any distinct thought, which can be made explicit through an act of reflection. To perform such reflection, however, a rational subject's attention must be drawn to think of the I.[15]

Leibniz holds that there is a multitude of perceptions going on in our minds and that a mind cannot be conscious of them all. Only some of those can draw attention. Only a part of attentive perceptions (what we called apperceptions) are subject to reflection.[16] Let us consider an example: If I am sitting in my office, according to Leibniz's theory, I perceive the whole universe. However, even if I am sitting here, I do not have to pay attention to the cup, the books, and everything surrounding me. I apperceive the cup in the moment in which I think that I want to drink coffee. Now Leibniz's point to Locke is that even in that instance (me thinking of drinking coffee) I need not to explicitly reflect that I think that I want to drink coffee because there is coffee in the kitchen. It could be, for instance, that drinking a coffee is an action I have already performed several times, and because of this I can do it without thinking of every necessary step to succeed in my action. Similarly, a piano player does not think of everything she has learned in order to perform Beethoven's Ninth Symphony. Consider this passage explaining how we use language, though the same can be said of many actions we usually perform:

> La plus part de nos raisonnemens, sur tout ceux qui s'entremelent dans les pricipales veues, se font par un jeu de caracters comme on joue du clavessin par coustume en partie, sans que l'ame en cela s'en apperçoive assez, et forge les raisons avec reflexion, autrement on parleroint trop lentement.[17]

In contemporary terminology, there is a distinction between know-that and know-how. Whereas the former implies explicit reflection, the second one does not necessarily imply reflectiveness, according to Leibniz. But know-how needs a mind to have some level of

[15] As explained by Barth (2012), one possible cause is someone asking "what do you think?".

[16] NE 115: "Car nous avons tousjours des objèts qui frappent nos yeux ou nos oreilles et par consequent, l'ame en est touchée aussi, sans que nous y prennions garde; parce que nostre attention est bandée à d'autres objets, jusqu'à ce que l'objet devienne assez fort pour l'attirer à soy en redoublant son action ou par quelque autre raison; c'ètoit comme un sommeil particulier à l'egard de cet objêt là, et ce sommeil devient general lors que nostre attention cesse à l'egard de tous les objets ensemble. C'est aussi un moyen de s'endormir, quand on partage l'attention pour l'affoiblir." Moreover, NE 114: "Car il faut savoir que chaque ame garde toutes les impressions precedentes et ne sauroit se mypartir de la maniere qu'on vient de dire: l'avenir dans chaque substance a une parfait liaison avec le passé, c'est ce qui fait l'identité de l'individu. Cependant le souvenir n'est point necessaire ny mème tousjours possible, à cause de la multitude des impressions presentes et passées qui concoulent à nos pensées presentes, car je ne crois point, qu'il y ait dans l'homme des pensées dont il n'y ait quelque effect au moins confus ou quelque reste melé avec les pensées suivantes. On peut oublier bien des choses, mais on pourroit aussi se ressouvenir de bien loin si l'on estoit ramené comme il faut."

[17] LH, IV, VII, B,3, 16r, Niedersächsischen Landesbibliothek, Hannover/ ed. and trans. in. (Dascal 1987, pp. VI-VII).

awareness of what is going on in its perceptual environment. I need to process my perceptions at some level to be able to move into the kitchen, grab the coffee and so on.

As we have seen analyzing habits, there are also corporeal habits which are a kind of embodied art, something that animals can also acquire which are entirely based on apperception.

Even if apperception is sufficient to the majority of our actions, every distinct thought can trigger the reflection that "I think that p," but not every conscious thought to play a role in a mind's cognitive activity needs to be accompanied by an act of reflection upon the I. An infinite regress might be possible since I am a rational being who can always reflect on the act that previously occurred in my mind; therefore I can also reflect on the reflective act that previously occurred and produce a second order reflective act, and a third, and so on ad infinitum. However, I need not actually perform all those acts in order to be capable of action. We can say that infinite knowledge is potentially present, as well as every other step of a second, third, or fourth higher order perception. Indeed, as a reflective being, the human mind has the power to perform all those steps, though being finite it cannot come to an end. In order to avoid a potential regress the mind need not to explicitly reflect on its states.

Consequently, Leibniz distinguishes between an awareness due to attention (apperception) and reflection. He points to the fact that on Locke's and Descartes' account this kind of distinction implies inconsistent consequences: I can know that it was me who drank the coffee if and only if I *explicitly* directed my attention to the fact that *it was me*; *only if I explicitly intentioned that thought* can I also remember that it was me. Thus, this act requires another act of the mind which explicitly thinks that it is me who thinks that it is me who drinks the coffee and so on, ad infinitum.

On the contrary, Leibniz's theory claims the superfluity of acts of ascription of thoughts to the self. Minds' activities can occur without consciousness and sometimes without an explicit act of reflection upon the notions involved in a thought. When we demonstrate a mathematical proof, for instance, we sometimes use signs instead of considering the notions involved in the reasoning. For Leibniz, this is a proof of how even human reasoning can occur without reflection. (I will come back to this later, in 2.3. [18])

There is a last issue we need to tackle with before moving further. Locke's account of consciousness explains personal identity. What does personal identity for Leibniz consist in if consciousness is not so fundamental to a mind's activity?

[18] This assumption is based on Leibniz's theory of his *cognitio symbolica*. For an introduction see Dascal (1978); Rutherford (1995); Favaretti Camposampiero (2007); Meier-Oeser (1997).

For Leibniz, one needs to distinguish between moral and metaphysical personal identity (NE 238). Moral personal identity coincides with what Locke calls consciousness: it consists in a mind's memory of its states. However, a consequence of Locke's account is that nobody except the mind itself can be certain whether an action x belongs to the subject S, since only consciousness can be the proof of this:

> Consciousness is the perception of what passes in a man's own mind. Can another man perceive that I am conscious of anything, when I perceive it not myself? No man's knowledge here can go beyond his experience. (EHU 98)

As well known, Locke proves this theory by arguing that external physical identity is no guarantee of the person being conscious of its act. A sleeping *man*, for instance, can kill somebody and yet not be the *person* who did it. For Leibniz, such a theory will destroy the moral order. What if anybody couldn't be sure of the identity of people she has known. In particular, Leibniz believes that Locke's theory can destroy the reliability of witnesses: even if I saw somebody committing a crime, how can I know that it was *that* person? (NE 242)

To avoid the rupture between person and man, Leibniz introduces the notion of "metaphysical identity". Metaphysical identity, as presented in NE, is the bond between minute perceptions and the fact that they always mirror what affects the body. In this way, Leibniz believe to be capable of explaining (a) why a mind's acts do not need to be always accompanied by consciousness in order to belong to the mind; (b) why we can rely that the external shape of a man can be a reliable proof of its identity.

(a) According to Leibniz, minds do not need to be conscious of their thoughts, because a mind's states are united in a continuous series of perceptions. In the ocean of perceptions, a mind can become attentive of some perceptions despite others, reflect on them and, when the occasion is given, consider itself as a self. The identity is guaranteed at the bottom, and it is not something that supervenes from above.

On Leibniz's account, hence, the identity of a subject does not depend on its memory of its previous states but rather on a real metaphysical identity due to the continuous order of minute perceptions. Since there is this bond, there may be also leaps in a subject's memory and a subject needs simply to reflect on the previous state in order to be aware of itself. Occasional acts of consciousness are enough to guarantee a mind's identity to the point that it is possible that a rational subject never explicitly reflected on the thought that "I think that p" and, nonetheless, it can be said to be a self.

Moreover, Leibniz believes in the fallacy of memory. As Leibniz states in NE (and as seen in 1.2.5., p. 47-48), the present state is more certain than the memory of the past states

because whereas a past state can deceive me, I cannot be deceived by the fact that it is me who thinks; if it is me, the series of minute perceptions will guarantee that I was the same in the past and I will be the same in the future. The past experience can deceive me because I might not remember that it was me doing something. Identity through time is indeed guaranteed neither by the memory of past states nor by a continuous passage of conscious states that entails the perception of the I, which seems to be required by Locke's theory, on the other hand.[19] For Leibniz, the identity of the person is guaranteed by the actual immediate perception of the I because it is the real identity which guarantees the apparent identity of the person, i.e. the series of minute perceptions that connect the past and the feature.

This being the case, Leibniz's conclusion is that the knowledge a perceiver has of its previous states is not as certain as Locke believes because the subject can be deceived by herself. Nonetheless, the perception of the I can guarantee the identity of the subject because this actual perception is connected due to the unconscious perceptual activity to the past and the future states of the mind. The problem is that Leibniz suggests at the same time that a subject is no more certain of her personal identity than the knowledge that other perceivers can have of her. In fact, Leibniz does even hold that the testimony of other subjects can fulfill a memory gap in someone's personal story.[20]

To this point, (b) is essential to Leibniz's theory of consciousness. The reason is that for Leibniz the identity of a person goes along with the identity of a bodily I or the permanent

[19] I do not agree with (Thiel, 2011,: 292) interpretation of Leibniz's consciousness. Considering NE 236, Thiel argues that Leibniz characterizes consciousness as consisting in the "liaison" of immediate memories from one moment to the next. Here he appears to adopt a connected consciousness view of personal or moral identity. As we have seen in previous chapters, this is a view that is present in Locke and Collins – although in Locke memory also plays a crucial role. Thiel quotes Leibniz's passage only partially, however, omitting the most important part, namely where Leibniz says that there could also be a "jump" of forgotten intervals between that continuous "liaison of conscience". I quote: "Il suffit pour trouver l'identité morale par soi mème, qu'il y ait une moyenne liaison de consciosité d'un ètat voisin ou mème un peu eloigné à l'autre." Thiel doesn't quote the parenthesis and the end of the sentence which concludes: "quand quelque saut ou intervalle oublié y seroit mêlé." (NE 236). It is evident from the omissions that real identity and personal identity are strictly bound in Leibniz's account. In the passage Leibniz holds that in the continuous stream of minute perceptions, there are states which draw a mind's attention and bring it about reflecting. It does not hold in any case that between one conscious act to another there must be a liaison of conscious states. Even if one is not able to remember a past event he can still be said the same person due to minute perceptions. The consciousness of the previous states is a sufficient condition for personal identity because this state cannot deceive us and, once a subject reflects and conceives itself as I, it can be sure to have had previous states and future states of which it was the I, although it cannot remember them. This being so, Leibniz is questioning Locke's emphasis on memory for the constitution of a person. He is pointing out that since past states can deceive me and immediate states cannot, therefore the identity of a person must be constituted by something real, namely minute perceptions which do not depend on contingent conditions like memory, attention or free will. It is only the *conscientia*, as we will see, or the idea of the person which include also the membership to a society and the acknowledgment of some moral and ethical rules, which need the help of memory, like all other forms of knowledge. The independence of perceptual states as well of *conscientia* from voluntary act is crucial for Leibniz in order to be able to argue for the mind-independence of world and therefore of reality.

[20] For a discussion of the metaphysical implication of Leibniz's conception of personal identity, see (Leinkauf, 1999).

expression of the body due to minute perceptions.[21] Leibniz argues that the mind cannot think completely detached from a material counterpart or a body. Because of this, the external shape or similarity may count as evidence of the identity of the person over time for other subjects. Put differently, since the mind is not metaphysically constituted of only conscious states, but of a series of infinite minute perceptions that express changes and affections in the organic body independently of the voluntary activity of the substance, external bodily shape, what Locke calls the man, can count as a proof of the identity of the self for other people. Because of this, Leibniz explicitly rejects Locke's thought experiment, according to which if the consciousness goes along with the little finger at the moment in which it is detached from the rest of the body, it will be this little finger that beholds the memory of the previous states with the consequence that personal identity must be found in the finger (NE 242). According to Leibniz, indeed, this could never happen because the series of minute perceptions will not correspond to the perception of the finger, and so metaphysical order and harmony will be destroyed. Because of this, he affirms that the *moi* or the bodily self has no parts.

The union of the bodily self and the person is guaranteed by a reflective act, which only minds can perform. Though animals too have what Leibniz calls a bodily self, they are not capable of forming a concept of their selves and to think of them as I. The object of reflection, however, are judgments produced because the memory and attention of embodied minds, capable of distinct perceptual states, are driven primarily by perceptual changes mirroring how the body is affected.

Since the mind apperceives the whole universe, it always apperceives all the series of minute perceptions too, a state which does not imply consciousness and reflection. A same order act consisting in an awareness of the body always accompanies a mind's thinking, even in sleep, and even when the mind is involved in abstract reasoning. If Leibniz can maintain this position, it is because he accepts a distinction between minute perceptions, distinguished perceptions, apperceptions, distinct notions and thought.

1.4.5. The I-Perspective: Conclusion

An analysis of the distinction between human and animal cognition has allowed a demonstration of why Leibniz has to distinguish between perception, apperception, and

[21] NE 240: "Les ames selon mes hypotheses ne sont point indifferentes à l'egard de quelque portion de matiere que ce soit, comme il vous semble; au contraire elles expriment originairement celles à qui elles sont et doivent estre unies par ordre."

reflection. Whereas apperception is a kind of attention to outstanding and distinct perceptions, reflection is the act that retains the previous state and analyses it from the point of view of distinct notions. Reflection equates hence with reasoning and it is a mind operating upon judgments.

This interpretation has enabled me to argue that the notion of the I is a subclass of all reflective acts. A reflective act is, namely, a higher order act that comprehends a particular perception under the perspective of necessary or general truths. Acts of knowledge are acts of reflection, and reflection refers to the capability of rational beings to act internally or in themselves. Reflection, further, requires memory and attention for distinct perceptions (apperception), but it does not equate with apperception. Moreover, the idea of the I is a truth of fact that animals cannot reach because they lack necessary truths, i.e. intellect and innate ideas.

As we have seen, Leibniz maintains that a mind can be aware of the self without necessarily having to perform a reflective act whose intention is the I. Leibniz can legitimately argue in favor of a distinction between apperception as the same order act of awareness and consciousness as a reflective, higher order operation of the mind because his philosophy accepts minute perceptions. On the contrary, Locke's theory of ideas cannot support the thesis that a subject can be aware of her acts and of herself as subject of the act without performing a reflective act that attributes an act to a subject, the I. The reason for this criticism lies in his criticism of Locke's ideas as actual thoughts. Since Locke admits only one sort of idea, i.e. actual thoughts or judgments, as we have seen, Locke cannot distinguish between the consciousness of the subject and the actual performance of the judgment which attributes a thought to the self. Locke's consciousness is committed to higher order act of the form "I think that p" and hence to an infinite regress.

Subsequently, I will point out that the acknowledgment of a substance of itself as I (as agent) is a truth that leads a subject being committed to the existence of other subjects similar to it, and, further, to be able to draw logical, moral, and metaphysical knowledge. I would like to argue now that this commitment to an I-Thou perspective, straightforwardly drawn from the I-perspective, is what Leibniz calls *conscientia*. *Conscientia*, therefore, is reflective knowledge that brings social knowledge to a mind. This is the ground for a mind to acquire knowledge and acknowledge convention like the use of signs.

1.5. From the I- to the I-Thou Perspective

Leibniz's theory of human cognition is based on two distinctions: The first distinction occurs between perceptual and thinking activity, while the second occurs between apperceiving as a same order act based on attention, and reflection as a second order act which results into judgments. Given this pair of distinctions, I've argued that Leibniz can maintain apperception to be constitutive of thoughts as judgments, but that self-reflection only concerns thought that for some reasons draw a mind's attention and memory. Explicit thoughts about the I are for Leibniz acts of reflection. Thanks to the distinction between same order and higher order act and his theory of minute perceptions, Leibniz argues that thoughts must not always be conscious, intending with consciousness an act of reflection of the form "I think that p."[1]

Despite this distinction, there are texts where Leibniz seems to equate apperception, reflection and consciousness:

> Ainsi il est bon de faire distinction entre la *perception*, qui est l'état intérieur de la monade représentant les choses externes, et l'*aperception* qui est la conscience, ou la connaissance réflexive de cet état intérieur, laquelle n'est point donnée à toutes les âmes, ni toujours à la même âme. (PNG 4)

According to my interpretation, this passage states simply that animals are not capable of *that* particular act of apperception which brings about consciousness or the reflective act upon a mind's internal states as states of a self. Not all souls are capable of this act, and even rational souls or spirits need not always be explicitly conscious of their states.

In this chapter, my aim is to delineate the epistemological and metaphysical implications of being capable of conceiving of the self. In particular, I show why awareness of

[1] My interpretation partially agrees with Barth (2011, 216-236). Barth and I propose that apperception corresponds to attention whereas *conscientia* are sub-class of reflective acts. However, our interpretations disagree insofar as for Barth acts of reflection are limited to self-consciousness and self-ascription of persistent metaphysical properties (like being a substance). Barth writes that: «[…] Leibnizian *conscientia* is reflection, while not all reflection is *conscientia*. Acts of *conscientia* form a subclass of all acts of reflection» (ibidem: 224). Barth here excludes the idea that *conscientia* and reflection have the same extension. Moreover, for Barth the cognitive work of knowledge is carried out by attention (apperception). On my interpretation, reflection is the act of knowing and examining, which essentially presupposes apperception or cognitive attention but does not equate to attention. As we have seen, Leibniz does not always write of reflection in terms of the self-ascription of metaphysical properties or self-consciousness. Acts of reflection indicate the capability of rational souls to concentrate on their thoughts and examine them, as it is clear from Leibniz's analysis of errors and deceptive states. Therefore, I think that for Leibniz *conscientia* does not straightforwardly mean self-consciousness—as I will argue in the rest of the chapter—but rather social or practical knowledge. As we have seen, acts of reflection also concern deliberation in moral acts. Because of this, I think that Leibniz calls *conscientia* "knowledge of what should be done by a substance" by virtue of its knowledge and belief about the world in which it lives. Nevertheless Barth's interpretation has merit in its clear distinction of apperception from reflection.

the "I-perspective" leads the mind to the "I-Thou-Perspective." Through the awareness of the existence of other minds, human beings acquire knowledge of metaphysical truths:

> 29. Mais la connoissance des verités necessaires et éternelles est ce qui nous distingue des simples animaux et nous fait avoir la RAISON et les Sciences; en nous élevant à la connoissance de nous-même et de Dieu. Et c'est ce qu'on appelle en nous Ame Raisonnable, ou ESPRIT.
> 30. C'est aussi par la connoissance des verités necessaires et par leurs abstractions que nous sommes élevés aux ACTES REFLEXIFS, qui nous font penser à ce qui s'appelle MOY et à considérer que ceci ou cela est en nous: et c'est ainsi qu'en pensant à nous, nous pensons à l'Etre, à la Substance, au simple et au composé, à l'immateriel et à Dieu même; en concevant que ce qui est borné en nous, est en lui sans bornes. Et ces Actes reflexifs fournissent les objects principaux de nos raisonnemens. (*Monad.* 29-30)

In this chapter I argue for a sense in which reflection *is* consciousness for Leibniz. By consciousness Leibniz does not mean acts of introspection, but acts of knowledge depending on the awareness of the existence of other minds.[2] In other words, consciousness or the I-perspective compels the subject to acknowledge the existence of other minds—to realize that the I-perspective is an I-Thou-perspective. In section 3.1., we will see that this knowledge grounds human cooperation and the development of a natural language.

Leibniz, I contend, revives a Thomistic theory of consciousness against the Cartesian and modern meaning of consciousness as introspection. On this view, consciousness equates to an act of knowledge. Knowledge of necessary truths and consciousness is the reason why rational agents can act as *moral* agents. Reflective knowledge is what makes minds mirrors of God rather than of the world, members of the city of God. [3]

Section 1.5.1. draws a parallel between Aquinas' theory of consciousness and Leibniz's theory as presented in *De Affectibus*, written against Descartes' *The passions of the soul*. In 1.5.2., I comment on a passage from a letter to Sophie Charlotte, where in my view Leibniz present the transition from the I to the I-Thou-Perspective. In 1.5.3. and 1.5.4. I reconstruct an argument for intersubjectivity. This chapter lays the metaphysical ground for cooperation between human beings. In 2.3. and 3.1. we will see how fundamental this is for Leibniz's theory of the mutual development of language and thought.

[2] Bender (…) proposes to interpret conscientia as practical reason.

[3] PNG § 15/GP 605: "c'est pourquoy tous les esprits, soit des hommes, soit des genies, entrant en vertu de la Raison et des Verités éternelles dans une espèce de Societé avec Dieu, sont des membres de la Cité de Dieu, c'est-à-dire, du plus parfait état, formé et gouverné par le plus grand et le meilleur des Monarques."

1.5.1. Aquinian Roots of Leibnitian *conscientia*

The understanding of *conscientia* as acts of introspection was established in the early modern period, especially in the work of Descartes. Before the early modern period, *conscientia* had the more general meaning of knowing.[4] I propose here a confrontation between Aquinas' definition of "conscientia" and Leibniz's definition, as proposed in *De Affectibus*. In this text, I maintain, Leibniz appeals to the Thomistic understanding of "conscientia" to criticise the new Cartesian sense of "conscientia" asself-reflective introspective acts. The result is a more complex meaning of "conscientia" as a *process* which consists of two moments: *judgment* of what has been done; and *discovery* of what should be done. Memory and attention as well as introspection are only moments of a more complex process based on knowledge of moral and epistemic principles and the existence of other rational agents.

The interpretation of *conscientia* as a knowing act connected with judgments has its roots in Thomas Aquinas. It has already been argued that Leibniz is indebted to Aquinas for his conception of mental action in *De Affectibus*, in particular to Aquinas' idea of "*occupatio animi*" (Kulstad, 1991, 55-56; 59-62). I will argue that in *De Affectibus* Leibniz is using Aquinas' conception of *conscientia* to argue, *contra* Descartes, that *conscientia* is not a self-perception of the activity of the mind; it rather is a mind's reflective activity that produces a judgment. This means that *conscientia* can be equated with reflective knowledge, as we have accounted for in 1.3.6., though *conscientia* belongs primarily to the sphere of action and practical knowledge. This extension of *conscientia* to the field of knowledge, which also characterizes Aquinas' approach, is rooted in Leibniz's metaphysics and conception of substances. Activity is *conditio sine qua non* for the existence of substances. However, not every substance is able to perform reflective acts; only minds can be said to be real bearers of moral actions because only minds act freely.

The condition for freedom is the capability of a mind to represent necessity and contingency, possibility and impossibility. In this sense, the extension of *conscientia* to the field of knowledge entangles the domain of action with the domain of the metaphysical constitution of spirits, whose actions are primarily thought and judgment, and the epistemological dimension of their decisions. Leibniz's understanding of judgment as an action coheres with his view that substances' actions "happen" internally to substances. In other words, actions are internal activity of substances, and not the external "effects" of that

[4] For an historical reconstruction of the term, see Giampietri (2013).

activity. An action is the process of evaluation by which a mind becomes aware of the conditions for something to happen. Thanks to this evaluation, intellect and judgment can determine the will, viz. the *conatus* to act externally. Consequently, the will is determined by internal activity, as *De Affectibus* and chap. 21 of book II of NE clearly express.[5] And since action implies the existence of other minds, as we will see at the end of this chapter, a mind has *conscientia* insofar as (i) other minds exist; (ii) other minds' propositional attitudes and actions can be made objects of the process of practical evaluation. In other words, *conscientia* refers to rational agents' activity of supposing and evaluating what other rational agents' think, do or are going to react when put in a determinate arrangement of properties and events: a possible or fictional world. This form of *imagining* (called in contemporary literature, *supposing*) is the cognitive states rational agents' assume in the practical sphere and culminate in the capacity of "taking the place of the other", as Leibniz often says. The condition of possibility of this peculiar form of practical reasoning is rational agents' capacity to distinguish between the I-perspective and the I-Thou-perspective, and, in so doing, supposing other rational agents' propositional attitudes given a determinate situation. In a word: *conscientia*.

Because of this I will argue that Leibniz's critical revival of Aquinas' *conscientia* against Descartes has two consequences: (i) the denial of the reduction of *conscientia* to a private act of introspection, in order to be able to derive (ii) the existence of other minds from the existence of one's own, which serves to avoid Cartesian doubt. In other words, Leibniz is not refusing the introspective role of *conscientia* at all; he is outlining the passage from the introspective role to the objective/social role of *conscientia*. The revival of Aquinas' *conscientia* has this aim.

De Affectibus begins with a definition of *mens* (spirit or mind): "mens est illud, cujus aliqua est conscientia, id est actio in se ipsum, qualis in me est" (A VI 4 1411). *Conscientia* is considered a *conditio sine qua non* for minds. Moreover, *conscientia* is defined as the process of internal action, and not as an act directed to a thought in order to make the mind aware of it. *Conscientia* is the process of thinking itself.[6] In light of the structure of judgment

[5] NE 175: "l'entendement peut determiner la volonté suivant la prevalence des perceptions et des raisons d'une maniere qui lors même qu'elle est certaine et infallible, incline sans necessiter."

[6] "Actio in se ipsum", the term used to define "conscientia", is usually translated into English as "act upon the self". I contest this reading, since the "in se ipsum" simply means "action itself", the quintessence of action. It may also signify an action "internal to the self". A VI 2 482: "The essence of the mind is acting itself, from the wisdom of the soul, and also what the majority calls a judgment, consists in this: 'tell why now and here'." As the following passages show, we can understand the expression "actio in se ipsum" as "act from itself", meaning that the mind is the primary cause of its actions: A VI 3 587: "the necessary being acts in himself, or thinks (*cogitare*)", A VI 3 455, where Leibniz says that God also acts in himself, because it is *causa sui* and A VI 4

delineated above, we can conclude that *conscientia* equates to what Leibniz calls reflection. The nearest cause of *conscientia*, i.e. of the reflection process is a thought caused by a perceptual state which for some reasons attracted a mind's cognitive attention.[7] The thought is further defined as a concept (or image) or as a *sententia*, i.e. a statement or belief.[8] A concept is a simple intellection, whereas a statement is both an aggregate of simple intellections and the cause of their intellection.[9] Nevertheless, concepts can be understood only in sentences; they are always embedded in statements, a proposition confirmed in various passages, including NE (397-98). *Sententia* is a judgment about what is good or bad that causes *voluntas* to act externally.[10] True judgments are defined as those perceptions of which subjects possessing the principle of contradiction are conscious of (*conscii sumus*), meaning that a subject believes in their truthfulness.[11] Perceiving is similar to opinioning on our present thoughts and their causes.[12] Interestingly, Leibniz also defines *meminisse*, "to remember," immediately after defining *percipere* as "to believe to have perceived."[13] Since perception is defined as a kind of opinioning or judging, we can conclude that to remember involves a judgment on the fact that a proposition occurred in oneself, according with Leibniz's account of "*varia a me cogitantur*" as a truth of fact (see 1.3.6. p. 90-1). Nevertheless, we do not have to always explicitly perform this judgment every time we recall a past event. As Leibniz points out in his criticism of Descartes and Locke, we do not always have to reflect upon the fact that our thoughts are ours in order to be conscious of them. Hence, "to remember" must be read as a necessary condition for reflecting and judging about occurrences in the mind, but not as though the reflection of the self must accompany all our thoughts. This point is clarified in subsequent passages. In NE 238, Leibniz considers the memory of the immediate previous state as necessary for reflection, a view echoed in *De Affectibus*. In this text, two terms need

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1451, where he says that God acts in himself because he can think of different things, all of them are possible, but he chooses only some of them as compossible. There, moreover, he compares this process with reflecting and says that since animals do not reflect or (*seu*) act in themselves, they are not free. In A VI 4 1507, he claims that "every substance has some activity within itself (*intra se*), of which either it is that which is 'act in itself,' which is said reflection or thought (*Reflectio sive Cogitatio*), and this substance is spiritual or a mind; or it is (an activity) of different parts, and this substance is said to be corporeal."

[7] A VI 4 1411: "Cogitatio est status mentis qui conscientiae causa proxima est."

[8] Ibidem : "Conceptus seu imaginatio est cogitatio ex qua nulla sequitur actio ad extra. Sententia est cogitatio ex qua sequitur conatus agendi ad externa."

[9] A VI 4 1412: "Sententia est intellectio ex qua sequitur voluntas vel Imaginatio sive conceptus est intellectio simplex. Sententia est aggregatum ex intellectione simplici et intellectione causae ejus."

[10] Ibidem: "Affectus est occupatio animi orta ex sententia animi circa bonum et malum. Occupatio animi est inclinatio ad aliquid prae alio cogitandum."

[11] A VI 4 1413: "Vera sententia est quae resolvi potest in sententias quas nos credere experimur, et quas in alias resolvere impossibile est. (+ Tales sententiae sunt, in iis quae rationis sunt principium contradictionis, in his quae sunt facti, eae perceptiones quarum intra nos conscii sumus. +)."

[12] Ibidem: "Percipere quod et simile opinamur cogitationi nostrae praesenti et causam ejus proximam esse».

[13] Ibidem: "Meminisse est credere se percepisse."

our attention. The first is "*expectare*," defined as *to believe to be about to perceive* ("credere se percepturum esse"); the second term is "*consideratio*." The first definition of inspection (*consideratio*) is a translation of Descartes' *Les passions de l'ame*. It is an occupation of the soul caused by the peculiarity and exceptionality of an object which leads us to consider its novelty.[14] After this first occurrence, Leibniz critically defines *consideratio* as following:

> Consideratio videtur esse omnis attentior cogitatio cum id quaeritur an imposterum sit cogitandum. Seu consideratio est attentio animi ad contemplandum. *Vel est attentio animi ad inveniendum vel judicandum*. Ira, metus, etc, animum occupant, sed non sunt considerationes. (A VI 4 1414)

Consideratio refers to the act of revisiting a previously-occurred thought, observing it with greater attention. In particular, it is a mind's attention of the subject-matter which needs to be analyzed in order to come to new discoveries. It is not an affect, like anger or sorrow, because as already pointed out, affects involve attention and perception, but not reflection; they may incline to inspection (*consideratio)* but they are not yet reflective acts. Inspection is, consequently, connected with the domain of reflection since when a mind observes what presently occupies it with attention, it judges about it.

This definition recalls what Leibniz writes about *conscientia* in NE. Leibniz writes of the certainty of what has occurred immediately prior in the mind and labels this act *conscience* or *reflexion* (NE 238). However, *conscientia* is defined in *De Affectibus* not simply as the certainty of the fact that something has happened, but also as process of evaluation of those thoughts. This evaluation is linked with the past—insofar as we make judgments on what has been done or what has been perceived—and with the future—insofar as we search for something new or have to evaluate the way in which an action must follow to another one, i.e. what should be done. Once we evaluate what should be done or what can follow from something, we expect that what we judged it could be will also happen. *Ars iudicandi* and *ars inveniendi* are strictly bound in *De Affectibus* since a judgment about the moral status of an act follows to the *voluntas* to act. This action determines another thought that causes *conscientia*, i.e. a consideration of what has been done and an evaluation of what should be done. This activity of the substance receives cognitive support from memory and attention. This analysis of *De Affectibus* leads me to see Aquinas' conception of *conscientia* suffused in this text. As we will soon see, *ars inveniendi* and *iudicandi* are interpreted by

[14] A VI 4 1413: "Consideratio est occupatio animi a singularitate objecti cum ipsa novitate consideranda occupamur [art. 70]." Leibniz himself refers to Descartes, *Les passions de l'ame*, art. 70.

Aquinas as two different moments of one of the two functions of *conscientia*: *conscientia* as witness. As emerged from our analysis of *De Affectibus*, *conscientia* concerns judgment, the consideration of what is good or bad for the substance, and memory. These three moments are essential to describing a mind's action, and to this action *conscientia* as reflection is necessary. Interestingly, thus, Leibniz analyzes *conscientia* in terms of judgment and discovery.

Let us consider Thomas Aquinas' conception of *conscientia*. In *De Veritate* Q. 16-17, Aquinas distinguishes between *syndereisis* and *conscientia*. *Synderesis* is the Greek word for "conscientia" and means "to know together." *Synderesis* is a natural habit or a *potentia* which "contains" the universal principles of knowledge and of morality.[15] This habit is not distinct from reason, but *is reason itself*.[16] *Syndereisis* is interpreted as the source (literally "seed") of all subsequent actions and affects of the human soul. Therefore, *synderesis* is the source of speculative knowledge and of natural law. However, as *habitus* it is not knowledge itself yet. In order to be able to know, a mind must be able to apply those principles to particular cases or perceptions. This act of knowing or the exercising of reason is called by Aquinas *conscientia*:

> *Nomen enim conscientiae significat applicationem scientiae ad aliquid*; unde *conscire* dicitur quasi simul *scire*. Quaelibet autem scientia ad aliquid applicari potest; unde conscientia non potest nominare aliquem habitum specialem, vel aliquam potentiam, sed nominat ipsum actum, qui est applicatio cuiuscumque habitus vel cuiuscumque notitiae ad aliquem actum particularem. (De Veritate, 17, 1)

Consequently, since it involves the application of general truths to particulars, *conscientia*, for Aquinas, means knowing. Because of this, *conscientia* is not a *habitus* but the act of knowing itself. Further in the article, he analyzes how a rational agent applies a habit to particular acts, where he distinguishes between two modes of application. In the first sense, we apply a notion to an act by determining whether an act took place or not. This mode of application is defined as "habere conscientiam alicuius actus." This first meaning reflects the everyday linguistic use of *conscientia.* When we do not know whether something took place,

[15] Thomas of Aquinas, *De Veritate* qust. 16 ar. 1: "Unde et in natura humana, in quantum attingit angelicam, oportet esse cognitionem veritatis sine inquisitione et in speculativis et in practicis ; Et hanc quidem cognitionem oportet esse principium totius cognitionis sequentis, sive practicae sive speculativae, cum principia oportet esse certiora et stabiliora. Ut et hanc cognitionem oportet homini naturaliter inesse, cum haec quidem cognitio id quasi seminarium quoddam totius cognitionis sequentis; et in homnibus naturis sequentium operationum et effectum quaedam naturalia semina praeexistant. Oportet etiam hanc cognitionem habitualem esse, ut in proptu existat ea uti cum fuerit necesse. Sicut igitur humanae animae est quidam habitus naturalis quo principia speculativarum scientiarum cognoscit, quem vocamus intellectum principiorum ; ita etiam in ea est quidam naturalis primorum principiorum operabilium, qui sunt universalia principia iuris naturalis."

[16] *Ibidem*: "hic autem habitus non in alia potentia existit quam ratio."

we say "hoc non est factum de conscientia mea." In this sense, *conscientia* is similar to the Greek *oida*, i.e. to know, when one is a witness of its happening. The second mode of application determines whether an act is right or not. In the second sense, *conscientia* is called "testificari aliquid", i.e. *conscientia* is the (moral or epistemic) witness of our actions.[17]

This being the case, the former meaning of *conscientia* is developed in the 17th century as introspective knowledge.[18] From the knowledge of the factual existence of something, *conscientia* becomes introspective knowledge of a mind's own thoughts and actions. Therefore, it was limited to a mind's own experiences. In this first sense, *conscientia* is related to memory and sense experience. Indeed, we know that something took place either by recalling what we did or because we perceive the particular acts we are carrying out, i.e. because of the senses.[19] This kind of knowledge is therefore connected with *notitiae sensitivae*.

However, for Aquinas the second kind of *conscientia* is more interesting than the first. There are two ways to perform the second act of *conscientia*. The first is judging; the second is discovering. Just as we distinguish between acts of discovery (*via inveniendi*) and acts of judgment (*via iudicandi*) with speculative knowledge, we must distinguish between the judgment about the rightness of an action and the reflection (*examination*) upon what should be done.[20] In both cases, *conscientia* does not immediately depend on the senses because it considers what has been done or should be done according to moral and epistemic habit and the habit of wisdom. Furthermore, Aquinas claims that action involves the interdependence of judgment and discovery: indeed, we examine what we have done and whether the action is right. On the score of this examination, we take counsel with ourselves about what should be

[17] Thomas of Aquinas, *De Veritate* qust. 17 ar. 1: "Applicatur autem aliqua notitia ad aliquem actum dupliciter: uno modo secundum quod consideratur an actus sit vel fuerit: alio modo secundum quod consideratur an actus sit rectus vel non rectus. Et secundum quidem primum modum applicationis dicimur habere conscientiam alicuius actus, in quantum scimus illum actum esse factum vel non factum; sicut est in communi loquendi usu, quando dicitur, hoc non est factum de conscientia mea, idest nescio vel nescivi an hoc factum sit vel fuerit. Et secundum hunc modum loquendi intelligitur quod habetur Gen. XLIII, 22: non est in conscientiis nostris quis pecuniam posuerit in saccis nostris; et Eccle. VII, 23: scit conscientia tua te crebro maledixisse aliis. Et secundum hoc dicitur conscientia testificari aliquid; Rom. IX, 1: testimonium mihi perhibente conscientia mea et cetera."

[18] For an analysis of this aspect see (Giampietri 2013); (Schütte 1971).

[19] *De Veritate* qust. 17 ar. 1*:* "Sed sciendum, quod in prima applicatione qua applicatur scientia ad actum ut sciatur an factum sit, est applicatio ad actum particularem notitiae sensitivae, ut memoriae, per quam eius quod factum est, recordamur; vel sensus, per quem hunc particularem actum quem nunc agimus, percipimus."

[20] *Ibidem*: "Secundum vero alium modum applicationis, quo notitia applicatur ad actum, ut sciatur an rectus sit, duplex est via. Una secundum quod per habitum scientiae dirigimur ad aliquid faciendum vel non faciendum. Alio modo secundum quod actus postquam factus est, examinatur ad habitum scientiae, an sit rectus vel non rectus. Et haec duplex via in operativis distinguitur secundum duplicem viam quae etiam est in speculativis; scilicet viam inveniendi et iudicandi. Illa enim via qua per scientiam inspicimus quid agendum sit, quasi consiliantes, est similis inventioni, per quam ex principiis investigamus conclusiones. Illa autem via qua ea quae iam facta sunt, examinamus et discutimus an recta sint, est sicut via iudicii, per quam conclusiones in principia resolvuntur."

done. Moreover, examination also concerns what should be done since we consider whether it is right or not; taking counsel only concerns what should be done.[21]

The similarities between Leibniz's and Aquinas' conception of *conscientia* are striking. Aquinas distinguishes between reflection and the act of making an action present (memory or perception). However, at the end of the passage, he points out that in order to take counsel about what should be done we have to judge what has been done, a requirement tantamount to affirming that memory typically, though not necessarily, belongs to *conscientia*. Memory is not necessary to *conscientia* because one can evaluate the rightness of actions that never took place (memory, after all, concerns only past actions *per definitionem*), as in counterfactual reasoning. However, in order to take counsel about what should be done one must reflect upon what she has done. In this sense, memory is a necessary component of *conscientia* for the action of rational agents. This is also true for Leibniz: Leibniz considers an act of memory to be the act of recollecting the immediately previous state. Indeed, in some passages he defines *conscientia* as memories of past actions.[22] But as memory, i.e. the *presentification* of past action, this perception causes a judgment about the action and a reflection on how to continue the series of a substance's actions. The continuity among past and future states is pivotal to Leibniz's theory of substance as we have seen. Moreover, the interdependence of *ars inveniendi* and *ars iudicandi* is also essential to the structure of action. It is the thought of what has happened to cause the *conscientia*, i.e. the judgment of good or bad of an action, which inclines the substance to act. Thus, according to Leibniz *conscientia* is also the act of knowing. The habits of wisdom and knowledge, i.e. principles of morality and of knowledge, are both connected to judgment. (It could be that only one is applied however e.g. if one judges on a matter of scientific knowledge one does not need to consider moral principles.)

Consequently, acting can be defined as knowing what should be done. Nevertheless, the knowledge of what should be done is entailed in what has been done and therefore related to the knowledge of the moral person. An important aspect of the actions of spirits is that they can recognize past and future actions as their own, and therefore, they can recognize themselves as actors of those actions. Through this recollection, spirits form their personal identities. *Conscientia* is thus also connected to introspection and the capability to form an idea of the self as moral person, though it is not limited to just this.

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[21] *Ibidem*: "Sed in secunda et tertia applicatione, qua consiliamur quid agendum sit, vel examinamus iam facta, applicantur ad actum habitus rationis operativi, scilicet habitus synderesis et habitus sapientiae, quo perficitur superior ratio, et habitus scientiae, quo perficitur ratio inferior; sive simul omnes applicentur, sive alter eorum tantum. Ad hos enim habitus examinamus quae fecimus, et secundum eos consiliamur de faciendis. Examinatio tamen non solum est de factis, sed etiam de faciendis; sed consilium est de faciendis tantum."

[22] A VI 4 2152: "conscientia est nostrarum actionum memoria."

If this excursus through Aquinas' concept of *conscientia* is correct, Leibniz's use of *conscientia* differs in background from Descartes'.[23] *Conscientia* does not apply just to introspective self-reflective acts but to all acts of knowing, which implies the application of general principle to particular cases or the evaluation of the truth of general principles. In other words, *conscientia*, as far as it involves a judgement, implies general notions and principles, what Aquinas called *synderesis* or the source of all knowledge and natural law. Consequently, *conscientia* is a form of practical and social knowledge.

1.5.2. Conscientia as Social Knowledge

We have seen that *conscientia* is reflective knowledge for Leibniz, and this act concerns not only self-consciousness but, in principle, every reflective act. After this excursus, we can now better comprehend why Leibniz interprets Descartes' *cogito* as both a self-reflective act and a truth of fact. The *cogito* needs a judgment about a perception (the substance considering its own acts of perceiving). In this sense, the *cogito* is the beginning of *conscientia* as a process of theoretical evaluation of one's existence; it is not the whole process. However, as Leibniz writes in a letter to Sophie Charlotte, this particular act of *conscientia* is important in the natural or logical order of knowledge because it is the basis of moral, logical, and metaphysical knowledge:

> Cette pensée de moy, qui m'apperçois des objets sensibles, et de ma propre action qui en resulte, adjoute quelque chose aux objets des Sens. Penser à quelque couleur et considerer qu'on y pense, ce sont deux pensées tres differentes; autant que la couleur même differe de moy qui y pense. Et comme je conçois que d'autres Estres peuvent aussi avoir le droit de dire Moy, ou qu'on pourroit le dire pour eux, c'est par là que je conçois ce qu'on appelle la substance en general, et c'est aussi la consideration de Moy même qui me fournit d'autres notions de Metaphysique, comme de cause, effect, action, similitude etc. et même celles de la Logique et de la Morale. Ainsi on peut dire qu'il n'y a rien dans l'entendement, qui ne soit venu des Sens, excepté l'entendement même ou celuy qui entend. (A I 21 339)

Why does Leibniz connect the idea of "I" with logical, moral, and metaphysical knowledge? Reflection enables a mind to represent itself as subject (first person perspective or I-perspective) and to recognize other substances as *entitled* to the first person perspective. Therefore, the reflective act that makes a rational agent aware of its existence as substance

[23] For a discussion of the role of Aquinas' definition of *conscientia* in the Dictionaries of the 17th see: (Giampietri, 2013, 91-114).

(i.e. bearer of actions) commits the rational agents to the existence of other substances, i.e. to acknowledge that the world entails other individuals entitled to attribute the I-perspective to themselves. This acknowledgement leads the mind to the I-Thou-perspective: intersubjective knowledge and the awareness that other minds exist and are bearers of actions and propositional states as well.

I will argue that this judgment about the existence of other minds is as compelling as – and has the same epistemological status as– the judgment about the existence of an I-perspective. I will further argue that only once a mind acknowledges the existence of other substances, can it be committed to the normative dimension of moral, logical, and metaphysical knowledge. By normative dimension I intend not simply principles' intrinsic consistency and eventually the immediate assent rational agents can give to them. This is just a part of the normative force of principles. Principles have a normative dimension when rational agents further acknowledge that other minds are compelled to assent to them as well. Before acknowledging the existence of other rational epistemic peers, notions and principles have no normative status. They remain true, for their necessity or truthfulness cannot depend on the existence of minds (I will return on this point in chap. II.2.), but they cannot be acknowledged as necessary or compelling without the acknowledgement of other minds' and of God's existence. That knowledge, thus, does not primarily depend on the external world but on the existence of other substances as *rational agents*.[24] As Leibniz wrote in the letter to Sophie Charlotte, logical, metaphysical, and moral knowledge can be said to be *a priori* because they depend on the existence of intellectual substances and because a substance is innate to itself, this knowledge depends on its existence and not on the external world. We will thoroughly analyze Leibniz's conception of innateness in 2.3. I would like to point out now that *conscientia* implies a form of social knowledge and cannot be simply reduced to the act that makes a mind aware of its states.

This interpretation of *conscientia* and reflection is not of secondary importance for our analysis, since it explains how concepts are shared and that an explicit acknowledgment of concepts and general knowledge depends on the existence of other rational souls. *Conscientia* implies a more complex activity of spirits. For a mind to be said to have *conscientia* it must be able to (1) recognize itself as rational agent; (2) recognize other substances as rational agents; (3) retain its *actions* and not simply its states; (4) and act *harmonically* with other substances, i.e. in compliance with a shared representation of good and bad, and, therefore, in harmony

[24] Leinkauf also (2012, 67-90) argues that the reflective act, one that enables a mind to acknowledge itself as I, also enables it to simultaneously take the place of the other and, in so doing, to participate in the political sphere. See also (Leinkauf, 2004, 275-301). Both articles are re-edited in Leinkauf (2012).

and in cooperation with other minds. Rational agents' capacity for consciousness and reflection is the reason why human beings convene in a society. In order to be able to do this, a substance must reflect: be able to remember its previous states and reflect on those states.

Because of this, reflection—i.e. the capacity to conceive possibility, necessity, and so on—and *conscientia* are strictly related in spirits. Since a mind can represent itself and recognizes others as actors because it is capable of propositional reasoning, *conscientia* therefore is knowledge depending on the intellect. As we have already seen by analyzing the difference between human and animal cognition, I think we can conclude that with *conscientia* Leibniz means a special form of knowledge that pertains exclusively to spirits and is connected with the reflective ability of spirits. Consequently, animals can be *aware* of some perceptions, but they cannot be *conscious* of those perceptions, i.e. they cannot begin a reflective process taking other animals' actions into account. On the other hand, when spirits are *conscious* of their perceptions they cannot but judge about their perceptions, i.e. express their perceptual activity within the net of general principles and necessary truths acknowledged by other minds as well. This is the *spontaneity of reason*. Because of this, apperception, reflection, and *conscientia* are strictly woven when human cognition is at issue.

Before starting my analysis, I wish to draw attention to a passage in the letter to Treuer quoted in 1.2. There Leibniz writes that the will can only indirectly influence thinking by diverting thoughts to a different subject matter.[25] As we have seen, *voluntas* is always controlled by perception, since we judge when we perceive. This is the reason why Leibniz says "indirectly." The conclusion we should bear in mind is that we cannot decide what we judge. Judgment and *conscientia* are not a matter of *voluntas*. This will play a pivotal role in the argument for the existence of other minds.

1.5.3. Ruling out Solipsism: *Conscientia* as Source of Social Knowledge

Based on this interpretation, I can now frame an argument in order to avoid solipsism and consider the epistemological implication of what Leibniz writes to Sophie Charlotte: to recognize ourselves as "I" means to recognize other substances as "I". In 2.3. and 3.1., I will consider the epistemological consequences of this claim, both for forming concepts and for the logical and temporal orders of a subject's acquisition of knowledge.

[25] Leibniz an G.S. Treuer Lbr 939 Bl. 2: "Sed judicium tamen non est res libertatis, neque actus voluntatis, ut sibi Cartesiani persuadent; sed intellectus. Equidem voluntas aliquid indirect potest in intellectum veluti cum cogitationem alio vertit, sed cum eosque processimus ut connexionem idearum percipiamus, eo ipso judicium iam formamus."

The first part of Leibniz's writing "*On the method of distinguishing real from imaginary phenomena*" deals with determining the criteria for reality. As we have seen, the fact that a mind is affected by different thoughts is a truth of fact, and since it is immediate, one can assume the existence of oneself and of the things perceived. However, since the thought of a golden mountain is as immediate as any other thought, on what basis does a golden mountain not exist? Leibniz takes the criteria for reality to be coherence, both within a perceiver's perceptual states and with the perceptual states of others. Nevertheless, if the existence of other perceivers similar to oneself represents criteria for the determination of reality, then an epistemic subject cannot doubt of the existence of other minds:

> Validissimum autem utique indicium est consensus cum tota serie vitae, maxime si idem suis quoque phaenomenis congruere alii plurimi affirment; nam alias substantias nobis similes existere non tantum probabile, sed et certum est, ut mox. (A VI 4 1501)

The end of the writing deals with the existence of other minds. After having examined appearances, Leibniz has to consider those things which are not appearances but which could be inferred through appearances: other minds. When I see a human body, I see an appearance of a *compositum* moving in a certain way. However, a rational agent takes the appearance to be the manifestation of a rational mind: the body's movements are intentionally directed; the sounds the body produces express thoughts. Nonetheless, to use Descartes's thought experiment, one could imagine that a robot is the cause of the movement and, therefore, that there is no human mind manifesting itself through the body.[26] Leibniz resists the doubt with the following argument:

Thesis: Someone who says phenomena exist only in our minds does not state a falsehood, but only a half-truth.
Assumptions:

1- There must be reasons for us to exist;
2- Nothing prevents the existence of others minds, which are related to ours.

Demonstration of 2:
Assumption 1: All existing things are related to one other (*Omnia existentia autem commercium inter se habent*).
Assumption 2: There should be a cause for their relationship

[26] See Descartes, Meditations II (AT 32/CSM II 21)

Hypothesis: The only possible cause can be the cause that expresses the whole universe: God.

Conclusion: If God exists (and we know he does), since we experience that other minds have intercourses with ours, different minds must exist (A VI 4 1503).

This argument is incomplete and requires reconstruction. The whole argument is based on (1): that there are reasons for believing that *I exist*. But Leibniz believes we cannot doubt of our existence, so if (1) is true, and (2) corresponds to "varia a me cogitatur", there are different things thought by me and I take them as existent, the existence of other minds follows from the immediateness of our experience of various things and from our knowledge of God's existence.

Now, let us focus on (2). Leibniz argues that we are immediately aware of the intercourses between minds because *we*, from a *first person perspective*, experience other minds' as having intercourses with us:

> Hinc statim patet plures Mentes existere praeter nostrum et cum facile cogitate sit homines qui nobiscum conversantur tantundem causae habere posse dubitandi de nobis quantum nos de illis, nec ratio major pro nobis militet, etiam illi existent et mentes habebunt. (A VI 4 1503)

As we have seen, I cannot doubt my own existence, but I can doubt of the existence of someone talking with me. However, if I reflect that another subject has also a mind, and, as me, she cannot doubt her existence, even if she has the same reasons for doubting of my existence, I have to assume that the other mind has the same right to say I and to believe in her existence as I do. Therefore, I have to believe that other minds also exist.

As we can see, the passage makes explicit what Leibniz writes in the letter to Sophie Charlotte. This argument rests on the premise that the will cannot determine the judgment "I exist." I will compare this argument with an argument shaped by Leibniz himself, aimed at pointing out that the religion chosen by an individual is not a pure matter of choice; there are inscrutable reasons for it. Through this argument, I would like to demonstrate that the judgment about the existence of other minds has the same certainty as the judgment concerning the existence of the I.

Leibniz argues that the religion one chooses is not a matter of free will in a text titled "De obligatione credendi" (1677?). Here he demonstrates that we cannot be compelled to believe something. The demonstration interestingly follows from the definition of "believing" (*credere*), of "what is under our control" (*in potestate sunt*), and of *conscientia*. Believing is

defined as "being conscious of the reasons which convince us.[27] *Conscientia* is the memory of our past actions."[28] *In potestate sunt* are those things that depend on our will since we can do something if we want to.[29] According to Leibniz, to remember something that happened in the past is not under our control, i.e. it does not depend on the will. Therefore, *conscientia* is also beyond our control, i.e. it does not depend on the will what we are *conscious* of. Since to believe is to remember (be conscious of) the reasons which convince us, then to believe something is also not under our control. The conclusion is that we cannot be obliged to believe something.[30]

This argument, shaped in 1677, is still used in the discussion against Pellisson in order to point out that believing is not a matter of free choice,[31] and in the letter to Treuer of 1708, quoted above. As seen analyzing the passage in 1.3., Leibniz argues that the will only indirectly can redirect judging: we cannot decide what to perceive; we can only judge about what we perceive (GP IV 357). The dependence of judgment on perception and their independence from the will are cornerstones of Leibniz's epistemology. Since neither perceptions nor judgments are controlled by the will what we judge can be said to express the actual world and not what we simply imagine.[32] (Leibniz allows for deceptive states, but this

[27] A VI 4 2152: "def. 2 Credere est conscium esse rationum nobis persuadentium."
[28] Ibidem: "def. 5 Conscientia est nostrarum actionum memoria."
[29] Ibidem: "def. 3 In potestate sunt, quae fiunt si velis."
[30] A VI 4 2153: "Experimentum: Non est in potestate nostra nunc meminisse alicujus rei praeteritae, aut non meminisse.
Propositio I: Conscientia non est in potestate. Demonstratio: Nam conscientia est memoria *per defin. 5*. Memoria non est in potestate, per experimentum praecedens. Ergo nec conscientia in potestate est.
Propositio II: Credere aliquid aut non credere non est in potestate . Demonstratio: Nam credere est conscium esse rationum nobis id quod credendum est persuadentium *per def. 2.* Conscientia non est in potestate *per prop. 1.* Ergo nec credere in potestate est aut non credere.
Propositio III: Eorum quae non sunt in potestate nulla obligatio est."
[31] Priarolo, 2016: 745-64. As Priarolo shows in her paper, tolerance of other subjects' religion is the target of arguing for the lack of consciousness of compelling reasons that bring someone to believe the truth of A instead of B. See *Ibidem* p. 756.
[32] Phemister (2005, pp. 149-55) frames an argument for the ruling out of solipsism based on the role of minute perceptions. Starting from Leibniz's criticism to Descartes, which claims that "I exist" and "different things are thought by me" are both truths of fact, she argues for the existence of external things. Indeed, Leibniz interprets the thought that "I think of different things" as "I am affected in different way" (Ivi: 143). Therefore, Phemister analyzes the different ways in which one is affected, and the importance of passivity in perception. We perceive the whole universe, but we distinctly perceive only a part of it. Therefore, Phemister argues that "varia" must be interpreted as the minute perceptions which compose the distinct perceptions which I can think of, and since minute perceptions corresponds to minute organic bodies, which we cannot perceive but nevertheless compose the perceived bodies, they account for the reality of the external things presented in our thought. The next step of her argumentat consists in pointing out that Leibniz's claim—that God could have created only a single De Volder monad and nevertheless the world would have existed as it is—is only a hypothesis to show that God could have done it without being considered a deceiver. This possibility, however, is ruled out by the principle of perfection, plenitude and sufficient reason (ivi: 152). Since solipsism is inconsistent with Leibniz's principles, our perceptions must correspond to external things. I consider Phemister's argument to represent the metaphysical dimension of mine. The aim of my argument at is thus to suggest which epistemological reasons subsist so that a mind can be said to act consistently with its experience of the external world. In this sense,

can be avoided, as I argued in 1.2., because of our capacity of reflecting and considering the lack of coherence and harmony of the deceptive states with our previous experiences as well as the experiences of other minds.) Moreover, since perceptions harmonize among spirits because of God's creation, spirits cannot perceive reality independently from each other. In other words, reality *is* this coherence. Only due to this coherence do we avoid deceptive states by considering the discord of judgment among perceivers.

From this argument, then, a more fruitful conclusion should follow for our work, namely, the ruling out of solipsism as a believable hypothesis. If believing is not under a mind's control, in the moment in which I reflect on myself and acknowledge myself as I (first-person-perspective or I-perspective), I have to acknowledge that also other substances are, like me, entitled to say "I". Therefore, I cannot but believe the existence of other minds (I-Thou-perspective). In this sense, this proposition is a truth of fact, as the *cogito*, and depends on reflection. Moreover, because of the coherence among the perceptual states of substances, every time I perceive, I might reflect on this coherence and acknowledge that other substances exist. Since this convincing recollection of reasons is not under my control, the solipsistic hypothesis, according to which it is possible to believe that the world might be just a dream, is ruled out, since every time I perceive and act I must *believe* that there are other substances. Solipsism might be logically possible, but it cannot be *metaphysically* and *epistemically* consistent with our experience. Moreover, since beliefs have a practical dimension, believing in the existence of other substances means acting *as if* other substances exist. This is a necessary consequence of Leibniz's metaphysics, and in the second part we will analyze its epistemological implications.

Before moving to epistemology, we must resolve one possible objection, namely that it is still plausible for someone to *believe* in solipsism. According to Leibniz's terminology, this objection says that someone can still recall reasons for believing in solipsism and so contradict her experience. How is this possible? The reasons lie in the interdependence of the actual knowledge of a subject and her faculty of judging and discovery.

In several texts, Leibniz states that the actual knowledge of a subject and his capacity for judgment bear a relationship. Even in NE, when Locke analyzes the cause of our judgments, Theophile answers that "that varies a great deal according to individual temperament, the intensity of what one feels and the habits one has acquired" (NE 203). Moreover, at the beginning of book IV when Locke claims that knowledge is the perception

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solipsism is epistemologically ruled out by the fact that a mind has no control of its perceptual states. It can control only the judgment upon those states and it is at this level that errors occur.

of the agreement or disagreement of two ideas, Leibniz points out that knowledge can be considered more generally as concerning ideas and terms before propositions:

> La connoissance se prend encore plus generalement, en sorte qu'elle se trouve aussi dans les idées ou termes, avant qu'on vienne aux propositions ou verités. Et l'on peut dire que celuy qui aura vù attentivement plus de pourtraits de plantes et d'animaux, plus de figures de machines, plus de descriptions ou representations de maisons ou de forteresses; qui aura lù plus de Romans ingenieux, entendu plus de narrations curieuses, celuy là, dis je, aura plus de connoissance qu'un autre, quand il n'y auroit pas un mot de verité en tout ce qu'on luy en a depeint ou raconté. Car l'usage qu'il a de se representer dans l'esprit beaucoup de conceptions ou idées expresses et actuelles, le rend plus propre à concevoir ce qu'on luy propose; et il est sûr qu'il sera plus instruit, plus rompu et plus capable qu'un autre qui n'a rien vù ni lù ni entendu; pourvù que dans ces histoires et representations il ne prenne point pour vray ce qui n'est point, et que ces impressions ne l'empechent point d'ailleurs de discerner le reel de l'imaginaire, ou l'existant du possible. (NE 355-56; italics mine)

Exercising the principle of charity, we assume that Leibniz is not simply praising his education and attitudes here. How can knowledge begin with ideas and terms? We have seen that we cannot apprehend concepts and therefore terms which are not embodied in propositions. So, Leibniz does not hold that we have to acquire concepts and terms *before* being able to judge and form propositions; he does not propose a temporal determination of apprehension here (the simple before the complex). It seems to me that this activity (performed always through judgment) is a form of training of conceivability and therefore of the faculty of judgment or reflection. Since the recollection of reasons for believing does not depend on the will but on a sort of spontaneity of connections of reasons, the more a mind is able to abstractly conceive, the more it is able to *consider* (be *conscious* - considering the definition of *consideratio* of *De Affectibus*) of the reasons which determine it to judge so-and-so. In this sense, education is pivotal in shaping the ability to judge.

An explicit connection among *conscientia* (the capacity of judgment), knowledge, and education is claimed in some remarkable writings aimed at "die Verbesserung der Teutschen" (the improvement of the German folk). These passages make the quotation of NE less naïve.

The first text is a reflection on the reasons why a society of science (like the Royal Society or l'*Academie de Lettres*) should also be established in Germany. Leibniz contends that this society will improve public wellness insofar as it will improve *conscientia*.[33] Leibniz

[33] A IV 1 530: "Fragt sich nun ob sie aufzurichten, antwort: Ja, und zwar sowohl umb der Stiffter derselben als gemeinen Bestens willen. Die Stifftende seze ich also beschaffen zu seyn, daß sie hohen standes, vermögens, und ansehens wegen, nichts bedürffen als guthes gewißen und unsterblichen Ruhm, bey den unbetrüglichen Richtern, Gott und der Posterität."

defines here "gutes gewißen" (good *conscientia*) as the joy of the soul because of its hope for everlasting happiness.[34] Leibniz's definition of hope resembles evaluation and judgment. Indeed, hope is a belief in the future because of the veracity of the belief in the past. Put more clearly, we believe in the possibility of future actions because we know that some past actions obtained. The true belief, however, is not simply a matter of thought or a figure of speech, but a "practical thought." Therefore, to believe in God is to believe that God loves us, and, consequently, it brings us about acting by doing what will praise God (for instance, the exercise of knowledge and arts.)[35] Happiness, hope, and love are grounded in knowledge. The beauty of reason (whose contemplation is the source of love and therefore gives happiness to the soul) is the proportion and harmony between power and intellect. This proportion consists of understanding what someone is capable of doing and doing what she is capable of understanding ("daß ieder verstehe was er vermag, und vermöge so viel als er versteht"). Only because of this harmony can justice and order be secured. Separately they are *unnüz* (worthless); if one prevails on the other, monstrous consequences like tyranny follow.[36]

A more explicit interdependence between the faculty of judging, knowledge, and education is spelled out in another political text, *Memoire pour des personnes eclairees et de bonne intention* (1692). The issue is the frivolous nature of human beings, inclined to corruption.[37] According to Leibniz, human nature can be improved. Indeed, the causes of corruption are two-fold: a lack of attention (*negligence* in other texts[38]) and a lack of intelligence or communication.[39] The first part of his writing concentrates on the first cause.

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[34] A IV 1 530: "Gutes gewißen ist, daß ichs so zu sagen definire, eine freüde des gemüths wegen hofnung ewiger Glückseeligkeit."

[35] A IV 1 530: "Die Hofnung ist ein glaube des zukünfftigen, gleich wie der glaube so zu sagen eine hofnung des vergangenen. Denn glauben ist soviel, als hoffen, daß das vergangene so wie man sagt, wahr sey. Der wahre glaube nun, und die wahre hoffnung aber ist nicht nur reden, ja nicht nur dencken, sondern practice dencken, das ist thun, als wenns wahr were. An Gott Glauben, zu Gott hoffen, ist glauben daß Uns Gott liebe, und seine Liebe zu erweckung unser Gegenliebe durch unsern Heiland und Mittler uns angetragen."

[36] A IV 1 531: "Ist also Hoffnung und Glaube Gegründet auff Liebe, und alle drey auff erkäntnüß. Liebe ist eine Freüde des Gemüths aus betrachtung der Schönheit oder vortrefflichkeit eines andern. Alle Schöhnheit bestehet in einer Harmoni und proportion; die schöhnheit der gemüther, oder Verstand habenden dinge in der proportion zwischen verstand und macht, welches auch in dieser welt das fundament der Gerechtigkeit, der ordnung, der meriten, ja der form der Republick ist, daß ein ieder verstehe was er vermag, und vermöge so viel als er verstehet. Ist die macht größer als der Verstand, so ist der sie hat entweder ein einfaltig schaff, wo er sie nicht weis zu brauchen, oder ein Wolff und Tyrann, wo er sie nicht weis wohl zu brauchen. Ist der verstand größer als macht, so ist der ihn hat vor unterdrückt zu achten. Beyde sind unnüz, ja wohl auch schädlich."

[37] A IV 4 613: "Je trouve qu'encor les hommes éclairés intentionnés se laissent emporter le plus souvent par le torrent de la corruption generale, et ne pensent pas avec assez de force; aux moyens de s'en tirer, et de faire du bien."

[38] Theodicée §31 (GP VI 68): "Cette negligence est un defaut general de l'Humanité, qu'on ne doit reprocher à aucun en particulier. Abundamus dulcibus vitiis, comme Quinctilien le disoit du style de Seneque, et nous nous plaisons à nous egarer. L'exactitude nous gêne, et les regles nous paroissent des puerilités."

[39] *Ibidem*: "Deux choses en sont cause, le defaut de l'attention ou de l'application et le defaut de l'intelligence ou de la communication."

This amendment of human nature is important to improve personal and social happiness, as in the *Essay on the Institution of a Society of Arts and Sciences*. Namely, the lack of intelligence or communication is individuated in the incapability of human beings to collaborate for social wellness. Often, different people working on the same issue make no progress because they work in isolation; if they had collaborated, however, significant results would arise. Cooperation among human beings is the aim of a Society of Arts and Science because "rien n'est plus fort que la societé" (A IV 4 613).[40] For our purpose, however, it is important to understand how education, knowledge, and the faculty of judgment are connected.

In order to correct our natural negligence, we should brighten the intellect, fortify the will, and remove impediments to truth.[41] The latter task will be fulfilled by the Society of Arts and Sciences; the former two by knowledge and education. In order to brighten the intellect, we have to train the art of reasoning, or the way in which we judge and discover. To improve this art, we should recollect all the knowledge in a general inventory.[42] This claim cannot but recall the passages dedicated by Leibniz to his project of *scientia generalis* and the importance of this for *ars iudicandi* and *ars invenindi*. And indeed, he refers to the deep work he has dedicated to this enterprise.

Recalling the passage in NE, we can say that the training of the imagination is aimed at acquiring a habit, a disposition, a *readiness* to conceive. The more we know, the more easily we can direct our attention to the reason why something happens as it does. In this way we learn to connect notions and events not just in virtue of a contingent connection due to the temporal succession of their happening. This is the distinction, drawn in NE, between acting as an empiric and acting according to reflection. Indeed, attention and memory are not determined by the will. I cannot decide what draws my attention; science consists exactly in this: the acquisition of a habit for connecting knowledge domains and issues. In this sense, for Leibniz, attention depends on the knowledge we have of natural, logical, and moral things. The more we learn about the actual world, the more we are able to judge accurately and avoid deceptive states. Because of this, a *Society of Arts and Sciences* will improve not only arts and

[40] A IV 4 617-621.

[41] A IV 4 615: "Pour contribuer veritablement au bonheur des hommes, il faut leur éclairer l'entendement, il faut fortifier leur volonté dans l'exercice des vertus, c'est à dire dans l'habitude d'agir suivant la raison; et il faut tacher enfin d'oster les obstacles, qui les empechent de trouver la verité et de suivre les veritables biens."

[42] Ibidem: "Pour éclairer l'Entendement, il faut perfectionner l'art de raisonner, c'est à dire la methode de juger et d'inventer qui est la veritable Logique et comme la source de toutes les connoissances. De plus il faut faire enregistrer comme dans un inventaire General les verités de consequence qui sont déja trouvées, et qui se rencontrent non seulement dans les livres, mais encor parmy les hommes de toute sorte de professions. Et il faut enfin prendre des mesures propres à faire faire des recherches et des experiences pour avancer à l'avenir autant qu'il est possible. Chacun de ces points merite un Eclaircissement particulier, et j'ay assez medité là dessus pour pouvoir entrer dans un grand detail, s'il estoit lieu icy de le faire."

sciences themselves, but also the society and human *conscientia*. Interestingly enough, the fortifying of the will is also a matter of knowledge depending on education. There could be different ways to educate a subject, such as giving it precepts, but a subject might also learn from examples in order to be able to represent good and bad and examine its *conscientia*, i.e. its past actions.[43] Leibniz's words seem to echo the idea of a "historia magistra vitae". Indeed cultural history and linguistics are pivotal disciplines in his *Society of Arts and Sciences*. The point is that through examples a subject internalizes an *idea* of good which will lead her to correct judgments, and consequently, to act correctly.

Turning back to our question, someone can believe in solipsism because she cannot rightly consider things as they are, and her knowledge is deficient. For instance, she might not know the harmony among substances. However, experience contradicts her thought, and when she acts, she cannot but believe in what its perceptions present to her. Therefore, she cannot but act *as if* other substances and the world existed.

There is another criticism to avoid. One could compare normal experience to deceptive states. As seen, in deceptive states one continues to perceive the tower as round, though one can correct her judgment. Similarly, one could decide to perceive and judge *as if* things and other minds existed, though she has reasons to argue that this is not the case. At this level, an important role is played by harmony among perceivers' perceptual states. Since minute perceptions always represent an organic body actually affected by things in the external world, and this process, as seen, is a mechanical interaction of bodies, then if other bodies didn't exist, the mind would represent something nonexistent. This possibility entails that God would be a deceiver.[44] Moreover, perceivers' perceptual states harmonize, and so the coherence between the perceptual states of other perceivers and those of one's own mind inclines the mind to believe that the world's existence is more plausible than its nonexistence,

[43] Ibidem: "Pour rendre la volonté des hommes meilleure, on peut donner des bons preceptes, mais il n'y a que sous l'autorité publique, qu'on les peut mettre en practique. Le grand point est le redressement de l'Education, qui doit consister à rendre la vertu agreable, et à la faire tourner comme en nature. Mais quand on y a manqué dans la jeunesse; il faut avoir recours à la bonne compagnie et aux exemples, à une representation vive du bien et du mal pour faire aimer l'un et hair l'autre; a` l'examen de sa conscience et à des reflexions frequentes, en se disant souvent à soy même: *dic cur hic, hoc age, respice finem*;"

[44] GP IV 530: "Je n'ay dit cela que par une fiction, qui n'est point convenable à l'ordre des choses, mais qui a pû servir à rendre ma pensée plus intelligible. Car Dieu a fait l'ame en sorte qu'elle doit s'accorder avec tout ce qui est hors d'elle, et même le representer suivant les impressions que les choses font sur son corps organique, et qui fait son point de vüe. S'il y avoit d'autres mouvemens dans le corps que ceux qui ont coutume d'accompagner le sentiment de la faim et de la soif, l'ame n'auroit point ce sentiment. Il y est vray que si Dieu pouvoit se resoudre à detruire toutes les choses qui sont hors de l'ame, et conserver l'ame seule avec ses affections et modifications, elles la porteroient par ses propres dispositions à avoir les mêmes sentimens qu'auparavant, comme si les corps restoient, quoyque alors ce ne seroit que comme une espece de songes. Mais cela estant contraire aux desseins de Dieu qui a voulu que l'ame et les choses hors d'elle s'accordassent, il est manifeste que cette harmonie preétablie detruit une telle fiction, qui est d'une possibilité metaphysique, mais qui ne s'accord point avec les faits et leur raisons."

and given this inclination to believe that the world exists, the mind could choose to act according to its perceptions. The spontaneity of reason or the dependence of judgment on perception does ground our beliefs in the existence of other minds and things.

Another consequence follows from this: Analyzing Leibniz's conception of minds from this perspective makes it evident that the capacity for reflection is a natural possession of each mind; the capacity to correctly develop it, however—to actually exercise a mind's faculty of reason—depends on cooperation or on the necessary reciprocal aid and collaboration among substances. We have partially discussed the metaphysical reason for this necessary interdependence among substances by discussing *De Affectibus* and Leibniz's principle of the coherence and harmony among substances' perceptual states. The first consequence of this necessary interdependence among substances is intersubjectivism. The question about the individuation of a substance cannot be answered without considering its actions and therefore its relations to other substances. In this sense, a substance can act only in the I-Thou-perspective and not when considered *per se*.

1.5.4. *Commercium mentium*

As Leibniz writes in the already quoted letter to Sophie Charlotte, the idea of the I is the basis for moral, logical, and metaphysical knowledge; this is because when I acknowledge myself as an I, I am committed to the judgment that other substances exist, and that these can take on the first-person perspective. Nonetheless, scholars have read a risk of solipsism in Leibniz's theory of substance, since he explicitly conceives of substances as without windows,[45] i.e. he denies any form of direct causation between body and soul, and, as we have seen, he conceives substances' actions as actions *in* the mind—as defined in *De Affectibus*. On the contrary, all these aspects of Leibniz's philosophy can be reconciled with the thesis that the existence and interdependence of minds play a crucial role within Leibniz's metaphysical system and epistemology. The testimony of other minds on the personal identity of a subject has the same epistemological status as this subject's own knowledge of herself and her actions.[46] Moreover, the reality of phenomena is defined by Leibniz as the coherence among perceivers' perceptual states.[47] Simply based on these claims, we can already suggest that the existence of other minds has epistemological relevance to Leibniz's philosophy.

[45] Monad. §7/GP 607.
[46] See 2. 4. Also A VI 4 1503.
[47] In defining the reality of phenomena like movement, Leibniz claims that: "quorum realitas sita est in percipientium secum ipsis (pro diversis temporibus) et cum caeteris percipientibus harmonia." (GP II 270)

According to my understanding of Leibniz, we can further say that the assumption of the existence of other souls and especially other mind-like-souls is a necessary condition for his metaphysics and epistemology.

If we consider the evolution of *De Affectibus*, we can underline a sort of transition from the internal actions of an individual mind to the compossibility of actions with the actions of other substances. More precisely, after having considered the internal process which brings a mind about to determine its own actions according to its previous acts—the mere logical possibility of an action—Leibniz is concerned with the actual realization of actions.[48] It is only when *other minds* and their possible actions are implied in the process of evaluation that the concept of mere possibility is distinguished from actualized possibility (compossibility) through a principle of perfection defined as what contains more *realitas*.[49] Moreover, the actions of other substances take part in the decision-making of a rational agent because their actions can impede the actions of a mind.

The passages where Leibniz writes on impediment are numerous, and we can track a systematic consideration of this topic. If we consider two different minds, *per se*, something can follow from both iff the states of both minds are compatible. Leibniz offers us an example: If we consider the nature of two masses on a scale *per se,*[50] since both masses are constituted by matter, it must follow that both fall towards the ground. Thus, from the nature of each object considered *per se* the effect of falling should follow. But since both masses are on a scale, the states which should follow considering the two natures *per se* cannot follow: one, the heaviest, will fall causing the lightest to move to the top, which is not a state contained in the nature of mass *per se*. Therefore, the nature of the heaviest mass better expresses the conditions for its action to follow, but only considering the present state of affairs. On the contrary, the lightest mass undergoes the action of the other (*passio*).[51] In this

[48] As stated, a thought is defined as a nodus of possible candidates to continue the *series rerum*, and these candidates are made possible by the previous thoughts of a mind. In the second part, however, the point is how these possibilities "match" reality. Schepers (2014) is the first who considers *De Affectibus* a touchstone for Leibniz's elaboration of his concept of substance and for the logical frame of possible worlds. For further relevant analysis of Leibniz's paper, see Di Bella (2005, 99-111) and (2006)

[49] A VI 4 1428: "Causa determinationis est, ad unam seriem cogitandi potius quam ad aliam, cum cogitationes seriei unius plus involvunt realitatis quam cogitationes seriei alterius. Nam regula generalis est semper id fieri quod plus involvit realitatis, seu quod est perfectius."

[50] A definition of *potentia*: "Potentia est status ex quo quid sequi potest per se spectato (: vel ex quo per se spectato aliud aliquid possibile esse demonstratur :)" (A VI 4 1431).

[51] I have slightly modified the example in order to introduce the determination of action and passion. Leibniz writes of two equal masses. The result is the same, since both masses on a scale will impede their falling towards the ground and so reciprocally influence their states. My elaboration of the example better explains the incompatibility of the two actions. Here is the full text: "Actio est status rei quo quid sequitur ex ejus natura. Ut cum duo gravia aequalia aeque ab axe remota sunt in bilance, manifestum est ex uniuscujusque natura per se spectata sequi actionem (saltem quemadmodum a nobis concipiuntur moveri sponte). Sed cum ex alterius natura

sense, for Leibniz everything is in relation with everything else. And every mind acts on other minds and undergoes the actions of other minds. The only mind that does not undergo other minds actions is God, whose actions can be said to be fully spontaneous, i.e. dependent only on his nature.[52]

Moreover, Leibniz briefly demonstrates that impediments cannot be phenomenologically internal to a mind, which means that at issue is not the concurrence among two thoughts of a single mind. Since every mind acts according to the consideration of its previous states, and judgments about future action (the spontaneity of the mind) follow accordingly, therefore from an unimpeded mind it can follow only those states which are compatible with its previous states. Obviously only one state is really compatible with a mind's previous states; that is Leibniz's "determinism." But since we experience impediments to our actions and since our expected actions do not always follow, these impediments must be external to the mind, i.e. there must be other minds.[53]

Concretely described, I can think of going to the kitchen and eating the cookies I know to be there. This action is logically possible, and there is, I know, no physical impediment between the kitchen and me (so, I am physically in the condition to reach the kitchen). Hence, I *believe* I am able to eat the cookies. Nonetheless, when I go to the kitchen I find that someone else, e.g. my sister, has already eaten the cookies. Ergo, in my reflection on eating the cookies I did not consider another important aspect—namely the fact that other agents can perform the same action. Even if the example is naïve, I think it helps us understand Leibniz's view and draw a difference between the example of two masses and how other minds can be involved in the process of decision-making—not because of a direct action on ourselves but because we are able to attribute to these other minds propositional states and attitudes. To do so, however, we must consider other minds as I, viz. as entitled to say I as we are.

In performing my action I consider and judge based on the conditions that enable me to do something. This reflection better expresses reality if my knowledge of the conditions for

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sequatur tantundem, sitque una actio alteri incompatibilis, nec ratio sit cur una prae alia sequatur, utraque impeditur. Itaque utrumque corpus determinatum est, utrumque ab altero patitur sive in alterum agit. Sed neutrum agit id ad quod erat determinatum. Videtur actio quaedam species esse determinationis cum scilicet id ex quo quid sequitur est natura rei in [qua] sequitur. Spontanea maxime actio illa erit, cujus non species sed tantum gradus mutatus est, ut si fingamus grave semper recta descendisse versus centrum terrae, etsi media ejus celeritatem tardaverint" (A VI 4 1428).

[52] A VI 4 1430: "Hinc intelligi potest, Deo uno excepto nullius rei statum integrum esse totum naturalem seu spontaneum."

[53] A VI 4 1433: "Quae per se spectata ex aliquo per se spectato sequi possunt, neque se mutuo impediunt, ad ea dabitur determinatio, id est ex eo per se spectato sequentur. (: Nam si non sequuntur impedimentum est vel in ipso vel extra ipsum ex quo sequuntur. Non in ipso, quia nullum in ipso est, si per se spectentur, ergo tum demum si alia praeterea in ipso spectentur, id est si plura sint quae se impediant, sed hoc est contra hypothesin. Ergo sunt extra ipsum. Sed impedimenta solum extra ipsum ex quo sequi possunt esse, est sequi ex ipso per se spectato, id est ad ea determinationem dari. :)"

my actions appropriately represents the *actual* conditions for my actions. In order to better judge, then, I have to better know the world. The better I know the causal relations among things, i.e. the better I can judge the actual conditions of possibility of an action, the better I can act. (We do not have to forget that this process is valid also for scientific knowledge, e.g. hypothetical knowledge, since knowledge depends upon judging and judging is an action.)

A mind can know about the state of affairs in which it must act because of distinct perceptions, which, as we have seen, determine judgments. Distinct perceptions, however, are distinct states dependent on little perceptions, which can lead a mind astray in making judgments about states of affairs. As Leibniz writes in NE II 21, because of minute perceptions and the finitude of our mind, we have to deliberate upon our actions.[54] Consequently, we can never consider all the possible conditions of an action. In particular we cannot fully assume the point of view of other minds; we can only imagine what it is like to be another rational agent, starting from the background knowledge we have of the world and of the agent. Therefore we are unable to act fully rationally, i.e. in accordance with reality. For instance, I could not have known that my sister would have liked to eat the cookies. Nevertheless, I could have foreseen that she would, since she usually eats something sweet in the evening, and she likes cookies like me. Ergo, I could have attributed to my sister the propositional attitude to be willing to eat the cookies. But I did not. My state is therefore similar to the lightest weight. And yet my state can be said to be free not because of its lack of determination but because I can think of reasons for it and ground my belief. The lack of consideration in my sister's attitude (negligence) is the lack of reality in my judgment which makes me believe that I can eat the cookies. Nonetheless, even if I had considered the

[54] I refer to the already quoted passage of NE 177. The same concept is expressed with an example in NE 206: "En effect il faut bien des choses pour se prendre comme il faut lors qu'il s'agit de la balance des raisons; et c'est à peu prés comme dans les livres de compte des Marchands. Car il n'y faut negliger aucune somme, il faut bien estimer chaque somme à part, il faut les bien arranger, et il faut enfin en faire une collection exacte. Mais on y neglige plusieurs chefs, soit en ne s'avisant pas d'y penser, soit en passant legerement là dessus. Et on ne donne point à chacun sa juste valeur, semblable à ce teneur de livres de compte, qui avoit soin de bien calculer les colonnes de chaque page, mais qui calculoit trés mal les sommes particulieres de chaque ligne ou poste, avant que de les mettre dans la colonne; ce qu'il faisoit pour tromper les reviseurs qui regardent principalement à ce qui est dans les colonnes. Enfin aprés avoir tout bien marqué, on peut se tromper dans la collection des sommes des colonnes, et mème dans la collection finale, où il y a la somme des sommes. Ainsi il nous faudroit encore l'art de s'aviser, et celui d'estimer les probabilités et de plus la connoissance de la valeur des biens et des maux, pour bien employer l'art des consequences: et il nous faudroit encore de l'attention, et de la patience aprés tout cela, pour pousser jusqu'à la conclusion. Enfin il faut une ferme et constante resolution pour executer ce qui a esté conclu; et des adresses, des methodes, des loix particulieres, et des habitudes toutes formées, pour la maintenir dans la suite, lorsque les considerations, qui l'ont fait prendre, ne sont plus presentes à l'esprit.» Another passage in support of my explanation can be found on NE 203 where Leibniz compares false judgment upon the consequence of an event the false judgment upon deceptive states : both are caused because we cannot be aware of all little perceptions : "C'est une autre espece de faux jugement lorsque l'attente du bien ou du mal à venir est aneantie parce qu'on nie ou qu'on met en doute la consequence qui se tire du present; mais hors de cela l'erreur qui aneantit le sentiment de l'avenir est la mème chose que ce faux jugement dont j'ai déja parlé, qui vient d'une trop foible representation de l'avenir qu'on ne considere que peu ou point du tout."

possibility that my sister too wanted to eat the cookies because she always eats something sweet in the evening (so there are reasons), I cannot, for instance, foresee that my father would eat the cookies too, since normally he does not like sweets. This is just to point that no matter how accurate I evaluate "what is likely to happen if", due to the finitude of our minds, closed in their perspectives and incapable of fully taking into account the perspective of all other minds, our judgments—and thus our actions—structurally consist in a lack of reality.

In other words, when we act we actualize possibilities, but these possibilities have to be compossible with other minds' points of view in order to actually exist. Since we have no science of individual substances, we are not able to foresee their actions and consequently fully determine our actions internally. If we consider the structure of action theoretically, then we have to consider its internal causes; if we analyze those internal causes or the reasons which bring me to judge such and such and to act so and so, we have to say that those "internalized" reasons are "external" conditions, i.e. the existence of other substances. The "internalization" is due to the capacity to acknowledge other minds and assume their points of view (to take their place). Thanks to reflection and concepts we are capable of attributing to them propositional attitudes. The other condition for internalization is the independence of minute perceptions from the will and the harmony among perceivers' perceptual states.

Analyzing Leibniz's theory of action from a point of view of a constitutive lack of reality points to a new interpretation of the role of affects in decision-making, supposition and pretense. In a nutshell, affects account for the complexity and variety of causes hinting on a single individual mind and its incapacity to process those infinite inputs consciously. Affects, hence, are first confused responses to a world we are not capable of understanding fully and that yet demands our response. Affects allow for human minds empathy and inclination to types of responses starting from an emotional response to a certain situation. Minute perceptions find a first "interpretation" in feelings: When I realize that the cookies have been eaten by my sister I will be angry with her and I will act according to that anger. When we act we also undergo the actions of other substances, just as other substances undergo our actions; Leibniz writes "omnia autem existentia commercium habere inter se" (A VI 1503). Because of this we never act completely rationally according to Leibniz. Affects are reasons for our deviation from the rational causal order of thing. But they are not wholly negative. Due to its finitude, a mind is not able to consider all the details that bring it to action. Affects express all the minute perceptions we are not able to consciously express but that, nevertheless, connect a mind to other minds and therefore to the actual world. Therefore, if I am angry with my sister

over the cookies, then my mind, occupied by this emotion, will result in performing an action whose metaphysical reason locates itself in the totality of the actual created world.

Even if perceptions are the necessary condition for this harmony, they are not, on their own, a sufficient condition. The difference between masses and minds is that masses are physically necessitated to their states. Because of this, if we know the conditions that cause their states we can reliably foresee what should follow from those conditions. The same cannot happen with other minds. According to Leibniz, minds do not undergo physical necessity, but they respond to other rules, namely the realm of ends and the necessity to tend to new states and actions. Because of this, endeavors (*appetitus*) are among the fundamental activities of souls along with perceptions. Of course, in determining actions, one must take also physical impediment into account, since in the concept of possible actions physical impediments are also entailed. Because of this, knowledge and action are intimately related. For instance, if I want to reach the first floor from the fourth, I will not think to jump from the window, though this way would be more economical (faster in time and shorter in spatial distances since I will cover a straight line). However, I will not intention this as a possible alternative to taking the stairs since I know that my body will fall to the ground and probably will not survive. Therefore, the sphere of possible actions finds its first limitation in physical necessity. But when the impediment is represented by other minds, I cannot consider only physical conditions. Which is not to say they cannot play any role. (For instance, I wouldn't believe my sister was able to eat the cookies, if she lived in a different country.) Physical limitations apart, we have to take into account other minds' intentional states, which respond to other rules and cannot be deduced only by virtue of physical conformity as for masses, since they respond to the realm of ends. In order to determine other minds' intentional states, a mind must be able to reflect—it must deduce reasons from previous states and conceive possible actions. This implies that a mind must be capable of both recognizing other minds as similar to itself, and conceiving of other minds' perspectives in order to attribute to them intentional states.

Leibniz argues that the capacity to put oneself *à la place d'autrui*[55] is the ground of morality and social order. This is the capacity to recognize not simply the existence of other mind-like substances but, further, their being substances like me with thoughts, feelings, and experiences. This capacity is the ground for understanding someone else's point of view.

[55] A VI 4 2723: "enfin nous devons songer à ce que le public souhaitte de nous et que nous souhaitterions nous mêmes si nous nous mettions à la place des autres, car c'est comme la voix de Dieu et la marque de la vocation."

Let us consider the relation with other substances from the moral perspective. Should I be ashamed of something I did if I did not know that what I did can hurt someone else or that I will be judged by others? How could I feel ashamed if other substances didn't exist and I couldn't access their minds? If I could not be able to recognize other minds as similar and be able to conceive *what it is like to be the other*, I would never be able to act morally or to cooperate with other minds.

We have partially analyzed the metaphysical and epistemological reasons for this *commercium mentis*; as we have seen, an important role is played by reflection and the capability to conceive distinct concepts and express them through signs. In section 2.3., we must show that a mind is able of conceiving of what it is like to be another mind because a mind has concepts. Concepts cannot be private contents of minds but must be shared because they enable minds to frame scenarios; and they can be shared because minds are able to process their perceptions in an analogically similar way. Leibniz point out against Locke that this similarity is grounded in the intellect, considered both as the sources of necessary truths and as a determined faculty.

From this perspective, I think that Leibniz's claim in the letter to Sophie becomes less obscure. He means to refer not to the apprehension of me as self and substance as the source of knowledge; rather he means to refer to the apprehension of our commitment to the existence of other minds and all the consequences of their existence. The first consequence, as we have seen, is that I have to interpret the existence of those minds as influencing my own sphere of action. Even if minds have no windows, metaphysically speaking, other minds are expressed through reflection on perceptual states which are harmonious among perceivers. The next step of part II is to analyze how perceivers can share concepts without saying that these concepts are innate.

1.5.5. Conclusion

The analysis carried out in chap. 1.2. has shown the relevance of judgment for the cognitive activity of spirits. The analysis of Leibniz's theory of judgment highlights the distinction between distinct perceptions and reflective activity so that attributing perceptions and apperceptions to animals does not imply to attribute to them any form of reflection. Reflection is linked with thought and judgment, which have the basic form of propositions like "A is B" or "A is –B". As is well known, Leibniz endorses compositionality as constitutive for thought: Thoughts are composed of distinct notions. Distinct notions allow

rational souls to be able to consider things independently from the actual perceptions of those things, a capability which animals lack. Because of this, rational souls are able to act internally in themselves, to figure out possible scenarios, and to conceive the conditions for something to happen. The consideration of generality enables minds to act freely, since they can determine their will in virtue of the reasons they consider, and, more importantly, to be in a society, since they are able to recognize other minds as similar and attributes propositional attitudes to them.

Moreover, reflection enables minds to consider not the perception, but the notions. Signs are necessary for this process since they enable minds to consider a notion and involve the imagination and the senses in the process of thinking.

In the next section, we need to focus on distinct notions, the way in which minds can form them, and whether they are innate or acquired. Through this analysis, we shall understand how minds can share notions and acquire general knowledge. As already pointed out, the fact that minds share concepts is important to be able to attributes propositional attitudes and to take the place of the other. Consequently, part 2 deals consequently with the shareability of knowledge.

Concepts and Ideas

2.1. Leibniz's Theory of Concepts

2.1.1. On the Cognitive Role of Signs and Imagination

In section 1.2., I argued for the distinctions between perceptions and notions on one hand, and notions and thoughts on the other.[1] Moreover, I have tried to highlight the importance of judgment as the basic cognitive activity of minds. Judgment, we have seen, is a mind's thinking activity involving general and distinct notions, distinct from a mind's perceptual activity. In part 2, I would like to begin by highlighting how the cognitive role of signs leads us to the question of what concepts and ideas are and how minds acquire knowledge. This excursus allows me to explain why language and thought develop mutually and what this interpretation of language and thought implies.

Concerning the relation between signs and distinct notions, we have seen that thinking necessarily implies general notions. Only rational souls capable of reflection can possess distinct notions, which in turn are the components of thoughts. Furthermore, an essential feature of distinct notions is their link to signs. Notions, expressing generality and not particular individuality in the world, need to be distinguished *per notas* through the conceptual marks that compose them. However, when we think of notions, we express instead a judgment upon their existence or possibility (NE 398), and since we have seen that judgment is determined by perception, we cannot think of notions without our imagination or senses being actually affected somehow. Rational souls' cognitive activity thus necessarily implies the involvement of perceptual activity, and signs fulfill this task. Signs are, in fact, the *perceptible* marks of notions and thoughts.[2]

The cognitive role of signs consists therefore in supporting reasoning by involving perception and imagination even in the absence of the perceived thing. In a nutshell, signs, being perceptible, can substitute for actual perceptions of particular things and also enable minds to reason about them in their absence. Through signs, minds concentrate not on a thing's particular fashion but rather on the conceptual marks that make that thing *an instance of a concept*. Notice that perceptible signs do not actually need to be sensed in order to guide the cognitive process: Exactly as one can imagine a circle without drawing it on paper, one

[1] This distinction concerns the operations of our mind according to the classical distinction between *notio*, *enuntiatio*, and *oratio*. As several authors argue [(Mates, 1986, 40); (Ishiguro, 1972, 27)], sentences can be considered complex concepts in logic due to Leibniz' principle of "praedicatum inest subjecto".

[2] A VI 2 500: "Signum est quod nunc sentimus et alioquin cum aliquo connexum esse ex priore experientia nostra vel aliena judicamus."; A VI 4 916: "Characterem voco notam visibilem cogitationes repraesentantem."

can just imagine the written sign or its sound in order to distinguish thoughts and notions abstracted from their objects.[3] In this respect, the partial dependence of humans' cognitive activity on their organic bodies or sensitive souls is evident: Like animals, rational minds need the support of perception and imagination for their thinking activity. The difference with animals is that human beings can use words, written and spoken, as signs of distinct notions that primarily express not things but possibilities. One can think of BOOK as made of PAPER and HAVING A COVER and distinguish BOOK from PEN because of other conceptual marks which characterize PEN but not BOOK and not because of the actual sense perception of two objects; nevertheless, in order to do this one must be able to distinguish one thought from another, and what allows us to do this is the use of signs, which, being perceptible, involve the imagination in the cognitive process. One can distinguish those thoughts because the concepts involved are represented by different signs, and by virtue of these marks one can consider different thoughts simultaneously in what some scholars have called the logical space [(Mugnai, 1992); (Nachtomy, 2007)].

When we have to deal with complex notions, however, the reflection upon complex notions is possible thanks to the use of signs that are *cognitiones caecae*, as Leibniz writes in his MCVI. As mathematical numbers allow us to deal with notions of quantities not by virtue of their ideas but only by virtue of their signs, [4] words and languages fulfill the same role in regards to notions of things: They enable minds to reason and reflect about complex notions without having to consider the ideas themselves.[5] Since we could not perform those complex operations without any perceptible support and since signs, as representative of thoughts are structured thanks to imagination, this latter is always involved in the thinking process.[6]

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[3] According to Leibniz, sounds are imaginable. For a thorough discussion on the topic of audible perception and a comparison with contemporary topics on brain and perception, see the work of Siroka (2014).

[4] See the well-known passage of the letter to Gallois, A II 1 353-4: "Etsi in rebus valde compositis soleamus uti symbolis in ratiocinando, sine ulla consideratione ipsarum idearum, quas cogitationes voco caecas, cum in iis contenti simus analogia parvarum simpliciumque distincte comprehensarum, ut cum 100 000 dicimus, nemo omnes hujus numeri unitates sibi mente fingit, scit enim eo labore sibi post symbola supersedere licere. Et in eo consistit ars symbola excogitandi, ut sint compendiosiora ipsis Ideis, et tamen confusionis expertia, aptaque ad omnis generis proportiones in ipsis non inus facile, quoad ejus fieri potest detegendas ac si in ultima elementa, fuissent resoluta, seu clare distincteque intellecta."

[5] NE 186: "Et les mots font ordinairement le mème effect en cela que les caracteres d'Arithmetique ou d'Algebre. On raisonne souvent en paroles sans avoir presque l'objet mème dans l'esprit. Or cette connoissance ne sauroit toucher, il faut quelque chose de vif pourqu'on soit emû. Cependant c'est ainsi que les hommes le plus souvent pensent à Dieu, à la vertu, à la felicité; ils parlent et raisonnent sans idées expresses; ce n'est pas qu'ils n'en puissent avoir, puisqu'elles sont dans leur esprit. Mais ils ne se donnent point la peine de pousser l'analyse."

[6] The relevance of imagination to thinking will emerge more fully in part III. For now, I bring to the reader's attention that a sign need not be necessarily sense-perceived in order to carry out its cognitive function. We can also imagine the sound of a word or its written expression when we think. The imagined sign will carry out its function as if I actually perceive the sign, since one of the function of the imagination is to make the absent present. Pasini (1996) and Favaretti Camposampiero (2007, 236) have drawn scholars' attention to the physiological role of signs and the physical aspect of the imagination, thought by Leibniz to be a faculty that

The function of imagination as the faculty which supports the representation of thoughts through signs is clear if we consider the passages of Leibniz where he explicitly states the involvement of the imagination in the cognitive process of conceiving ideas. In "*De mente, de universo, de deo*," Leibniz underlines the necessity of imagination for thought and the limits introduced by our dependence on perceptions in knowing. He writes that we cannot possess the idea of a circle because to have such an idea would mean to be able to simultaneously think of all the conceptual marks composing this idea. Since we cannot do this unless one senses or imagines parts composing the idea of the circle by virtue of characters, we do not know the idea but the essence or definition of the circle:

> Et hoc facit, ut non possimus facile judicare de rei possibilitate, ex cogitabilitate eius requisitorum, quando singula eius requisita cogitavimus, neque in unum conjunximus. Quoniam autem non possumus in unam conjungere cogitationem ideas diversas, etsi ope caracterum unire possimus, et cogitationum diversarum seriem totam simul repraesentare, ideo non possumus judicare de impossibilitate cogitando, nisi singulas ideas simul repraesentemus nobis; quod non potest fieri nisi sentiendo sive imaginando simul caracteres omnium, quod fit characteribus repraesentatis imaginationi illis, qui sunt singuli caracteres ideae unius. Et quoniam aliquando tantus est caracterum numerus ut totus imaginationi obversari non possit, opus est delineatione in materia; ut ordine examinantes, certi interim simus dum ad posteriora progredimur priora non elabi. Itaque nulla est in nobis idea circuli, ut in Deo est, qui omnia simul cogitat. Imago aliqua circuli est in nobis; est et definitio circuli, et ideae sunt in nobis eorum, quae ad circulum cogitandum necessaria sunt. Cogitamus de circulo, demonstramus de circulo, cognoscimus circulum: essentiam eius habemus cognitam; sed per partes. Si essentiam circuli totam simul cogitaremus, haberemus circuli ideam. Solius Dei est ideas habere rerum compositarum. Interea essentiam circuli cognoscimus, cogitando eius requisita per partes. Ideae defectum in nobis supplet imago aliqua sensibilis, aut definitio; sive aggregatum characterum, in quibus nulla opus est similitudine. Semper ideae locum supplet phantasma aliquod quod totum simul sentitur. Imagines sensus excitant, characteres cogitationem: illae ad operandum, [hi] ad ratiocinandum aptiores. (A VI 3 462-3)[7]

When we have to reason of complex notions or of the series of thoughts (a discourse, for instance) we need to imagine or sense the signs which represent them. Therefore, we do not possess the idea (which would imply simultaneously conceiving of all the marks which compose it in a single, cognitive, intuitive act). What we have is an essence, what is, in

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requires a material position within the organic body. This is an important aspect of Leibniz's conception of harmony and of the union between the body and the soul. See also Favaretti Camposampiero (2009, 437-472).

[7] This passage is discussed in Mugnai (1976, 32-34).

Leibniz's jargon, a possibility—something that says, "if something like A exists, it will be such and so."[8] In this sense, we need to represent notions always *per partes*.[9]

One could object that this is an early writing (1672-6) where Leibniz, following the Hobbesian philosophy of mind, does not clearly distinguish between concept and image,[10] and therefore the passage is actually not relevant to the aims of this inquiry; imagination in the philosophical tradition, it might be argued, is a faculty mediating body and soul (Pasini, 1996). It follows that a study on imagination should take into account the evolution of Leibniz's conception of the interaction of body and soul and also consider whether the role of imagination changes within a different conception of body and soul. According to such an inquiry, one might object that Leibniz, in the quoted text, still believes in the interaction between body and soul, as argued by (Garber, 2009), for example. One could hence conclude that imagination plays a more important role in this period than in the later period, when Leibniz denies body-soul interaction alongside his full-blown theory of harmony. Pasini (1996, 146-204), for instance, finds no place for a theory of imagination within Leibniz's epistemology. Because of the harmony between body and soul, there is no space for the mediatory role of imagination, and, therefore, the function of this faculty gains less relevance within the knowing process for the "late-Leibniz." Although Pasini highlights some important functions of the imagination, as for the symbolic reasoning, he denies that any theory of imagination as a unified faculty (and not as a bundle of functions) can be find in Leibniz's writings (Pasini, 1996, 198). Following the analysis conducted in the present work, this approach appears to lead us astray since the mediatory role of the imagination is not between two ontologically distinct categories—body and soul—but rather between two cognitively distinct functions and activities: the perceptual activity proper of all real unities, on one hand, and on the other a higher level activity of unification and representation of these perceptual activities in non-rational and rational souls: images and notions. Moreover, as argued in the chapter on animal and human cognition [1.3.], the role and ends of imagination differ in animals and humans. If in the former the scope of the imagination is merely to form and retain images, then in spirits, i.e., rational souls capable of general notions, its scope is to represent the particular so that it can be subsumed under the general, and, further, to find constant "figurative" rules capable of representing what *per se* would be "immaterial" and independent from particular instances: thoughts composed of distinct notions.

[8] I will analyze the implications of a conception of concepts as possibilities in 2.1.4.

[9] For a comment on the passage, see (Meier-Oeser, 2011, 663-4).

[10] A VI 4 1411: "Conceptus seu imaginatio est cogitatio ex qua sequitur actio ad extra."

Imagination finds constant rules in representing the particular under the universal, and in this sense it mediates between perception and thought. This function emerges clearly when we analyze the origins and evolution of natural languages in section III. Considering natural languages, these rules are represented through the semantic-syntactical connections expressed in a ruled system of signs. This "rational" aspect of syntax and grammar—an interest of Leibniz not just as a *characteristica universalis*, but one ubiquitous throughout his philosophical career—is the "ploughed" ground capable of welcoming the logical articulation of thoughts and of their expression.

This is why I believe that inquiring into the evolution of Leibniz's conception of the relation between body and soul in order to determine the mediatory role of the imagination is a mistake. The perceptual activity mirrors at the cognitive level the role played by bodies and their interaction at the ontological level. The problem lying in the background is: how can material bodies "enter" into the immaterial mind? Leibniz settles the problem by assuming only the cognitive side of this process. The interactions among bodies can be apprehended by virtue of perceptions. Therefore our privileged access to representations in the external world is by means of perception. Consequently, the problem is not whether there is causality and how this causality can be explained. Leibniz's approach concentrates on the cognitive processes that characterize the mind, and the method has a phenomenological flavor. The focus is not, hence, whether our representations truly represent the external world *because* there is some sort of causal relation between external existing things and knowledge; The question about knowledge takes into account the existence of other minds and their harmonic perceptions and representations of the world, as seen in 1.5.

The problem that emerges from this perspective is therefore how different minds can process perceptions in an analogically similar way and come to represent things analogously. The cognitive limits and capabilities of substances are therefore at the core of Leibniz's inquiries, and the result is an analysis of the cognitive faculties that support cognition. The assumption of a harmonious correspondence between perceptions and perceivers' perceptual states sets aside the problem of a direct causality and reduces it to an *as if*-condition: Minds perceive *as if* external, material objects cause their perceptions; if one asks how a mind knows the object, however, the answer can be only "because of perceptions." We would not have direct access to the external world were it not for perceptual activities. Therefore, it cannot be by virtue of perceptions that one can gain certainty about the existence of the external world. Only the community of other minds and the fact that *we* share knowledge can make me believe that a world exists. Within this framework, the degree of obscurity of perceptions and

the infinite amount of minute insensible perceptions enable us to represent the whole universe. At cognitive levels, minute perceptions take the place of bodily interaction at the ontological level. Further, perception is an activity of the soul which is not caused directly by external factors. Therefore, at the cognitive level the notions of "corporeal" and "material" gain a re-semantization since the mediation of the imagination which allows the use of signs in order to express immaterial thoughts has the aim of making thoughts perceptible and material for other minds. "Material" means that signs, as bodies are therefore perceptible entities, and can be perceived and represented by other perceivers, albeit thought is not corporeal *per se*. Through imagination one is capable of representing incorporeal thoughts through corporeal expressions: a ruled system of signs.

> Quoyque l'homme raisonne sur des choses abstraites et qui surpassent l'imagination, il ne laisse pas d'avoir dans l'imagination des signes qui y repondent, comme sont les lettres et les caracteres. Il n'y a jamais un entendement si pur qu'il ne soit point accompagné de quelque imagination. Ainsi il y a tousjours dans le corps quelque chose de Machinal qui repond exactement à la suite des pensées, qui est dans l'esprit de l'homme, autant que l'imaginable y entre, et par consequence l'Automate de son corps n'a pas plus besoin de l'influence de l'ame, ou de l'assistance surnaturelle de Dieu, que celuy du corps de la bête. (GP IV 541) [11]

"Corporeal" therefore means perceptible and imaginable.[12] It is not by chance that Leibniz defines signs as *machinae spirituales*.[13] As is well known, *machina* expresses a notion of regulated organization. Leibniz preserves the term for bodies which are *machinae naturales*. The coinage of the expression "machinae spirituales" for signs, drawn from Leibniz's reflection on bodies and organism, suggests that as organisms are unities due to an order given to them by true unities, i.e., substances, signs as corporeal receive a unity and a meaning through something immaterial: thought.

This being said, I think that the passage discussing the idea of the circle entails theses which Leibniz has always endorsed. First there is the fact that we cannot conceive of the possibility of a complex notion relying only on the conceivability of its requisites. Following Leibniz, we can intuitively conceive of only simple notions. Since simple notions have no parts, we can grasp them via intuition; for complex notions however, like the idea of a circle, or of God, we need the support of signs. Consequently, distinct but inadequate notions he

[11] This passage is also quoted and discussed by Pasini (1996, 199) and Favaretti Camposampiero (2007).
[12] Meier-Oeser (2011, 660-6). The process of representing what is beyond the senses is the subject of part III.
[13] Letter to Gallois, A II 1 353-4.

calls *cognitiones symbolicae* (A VI 4 587-8), i.e., notions which we have and can think of because of the support of signs.[14]

Another aspect to notice is the role played by imagination for conceivability. In a passage presumed to be from 1694, Leibniz defines essence as a *cogitabilitas distincta* and existence as a *sensibilitas distincta*, but he subsequently writes that both terms must be respectively substituted by conceptibilitas/imaginabilitas and perceptibilitas (LH IV 8 Bl. 1). In his re-elaboration of the *Nova Methodus*, he applies this distinction systematically: [15]

> Ut adeò nostri respectu dici possit Essentiam rei nobis esse conceptibilitatem (seu imaginabilitatem) ejus distinctam, Existentiam ejus perceptibilitatem (seu sensibilitatem) distinctam. Nempe qualitatum simul sumtarum compositum seu conceptibilitas constituit rei essentiam; perceptibilitas (ut scilicet per rem non stet quominus actu sentiatur) existentiam ejus probat. (NMDDJ A VI I 285)

Now, from the distinction between essence and existence, Leibniz draws a distinction between relations of co-essence and relations of co-existence. Interestingly enough, he considers co-essence as dependent on *imaginabilitas* and not on *conceptibilitas*. He writes:

> Nam ex imaginabilitate seu coessentia oritur comparatio, diversum; unum; plura, simile, dissimile contrarium. Ex comperceptibilitate seu coexistentia oritur conjunctio, ordo, duratio et mutatio, necessarium, contingens, connexum, causa, etc. Hinc fluit Metaphysica universa. (NMDDJ A VI I 285)

Recalling the passage on the circle and the definition of *cognition symbolica* of MCVI, we need signs to reflect upon complex notions and the relations among them, and the faculty involved in this operation is the imagination.

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[14] A VI 4 587: "Plerumque autem, praesertim in Analysi longiore, non totam simul naturam rei intuemur, sed rerum loco signis utimur, quorum explicationem in praesenti aliqua cogitatione compendii causa solemus praetermittere, scientes aut credentes nos eam habere in potestate: ita cum Chiliogonum seu Polygonum mille aequalium laterum cogito, non semper naturam lateris et aequalitatis et millenarii (seu cubi a denario) considero, sed vocabulis istis (quorum sensus obscure saltem atque imperfecte menti obversatur) in animo utor loco idearum quas de iis habeo, quoniam memini me significationem istorum vocabulorum habere, explicationem autem nunc judico necessariam non esse; qualem cogitationem caecam vel etiam symbolicam appellare soleo, qua et in Algebra et in Arithmetica utimur, imo fere ubique. Et certe cum notio valde composita est, non possumus omnes ingredientes eam notiones simul cogitare: ubi tamen hoc licet, vel saltem in quantum licet, cognitionem voco intuitivam. Notionis distinctae primitivae non alia daturcognitio, quam intuitiva, ut compositarum plerumque cogitatio non nisi symbolica est." For a thorough analysis of the cognition symbolica in Leibniz, see (Favaretti Camposampiero, 2007).

[15] The text is from *Nova Methodus discendae docendaeque iurisrpudentiae*, published in 1667, but the quoted text is a passage from Leibniz's re-elaboration of the published version. From 1694 until 1708 Leibniz worked intensively on the text at three different stages. As we know from a letter to Placcius, his intention was to publish a revised version of the text, but he never accomplished his aim. Leibniz's notes and comments are published as footnotes of the published text in A VI I. Leibniz to Placcius, 25 June (5 July) 1695, A II 3 51: "Ego ante multos annos cogitaveram de Metodo mea recudenda et augenda, quin et subinde corrigenda."

In the passage on the idea of the circle quoted above, Leibniz distinguishes ideas we can conceive, such as the ideas of the ego, of thought, of will, of identity and diversity, from those we cannot conceive without the use of signs. In this latter case we think of the essence of something or of its definition, but not of its idea (A I 21 337; A VI 3 461). Now, if we consider the rough list of innate ideas Leibniz sketches in some writings like NE,[16] we notice that this list overlaps with intelligible ideas not considered dependent either on imagination or on the senses but which originate in the intellect only (Leibniz to Sophie Charlotte 1702, I 21 339). These ideas can be conceived because they are a *proprium* of the understanding.

However, as we have seen analyzing the idea of the "I", this idea does not exclude that one has to use any perceptible medium in order to think of it: Rather, we must distinguish between the question of the origin of ideas and the question of how they can be involved in our cognitive process. In order to answer the second question, one has to assume the involvement of signs in cognition. On the contrary, the former question is related to an analysis of the faculties which support the conceivability of those ideas. For this reason, notions from mathematics and geometry require the support of imagination; notions of the senses require experience whereas intelligible notions require reflection. We can further say that the question of the origin implies the consideration of notions according to the logical order of nature, as Leibniz calls it. Hence, intelligible notions are also considered the source of all other notions because mathematical notions as well as sensible notions both require those ideas in order to be thought. All those notions require the assumption of a mind, an I, which thinks of those notions, as well as the idea of identity and contradiction and so on. However, this logical order of ideas is distinct from the order of our discoveries or the ontogenetic order of a single mind's acquisition of those notions. It is in this second order that signs play an indispensable role, as I will explain in 2.3 and 3.1.

It is worth noting that signs play an essential role when they are comprehended in a language: a grammatically and syntactically-ruled system of signs composed by a "matter", or a categorematic part, and a "form," or a syncategorematic part.

In the following chapters, I shall argue for the view I have just sketched. I shall start with analyzing Leibniz's innatism and investigate whether concepts are innate in the mind (2.1.) and what Leibniz's theory of concepts implies (2.2.); then, I shall explain why Leibniz

[16] NE 111: "On m'opposera cet axiome receu parmy les philosophes, que rien n'est dans l'ame qu'i ne vienne des sens. 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. Cela s'accorde assez avec vostre Auteur de l'Essay, qui cherche la source d'une bonne partie des idées dans la reflexion de l'esprit sur sa propre nature."

has to distinguish between concepts and innate ideas, and why innate ideas must be considered to be constraints on thought (2.3.).

I shall start with the problem of Leibniz's innatism. First I observe that since the basic operation of thinking is judging (as seen in 1.2.4.), and since judging is a regulated connection among notions, rational souls' activity require signs as part of a grammatically and syntactically-ruled system: a language or, better yet, the capacity for a language. Language fixes the expressions of the connection among notions through the relations among signs and makes it available and shareable among rational souls. In order to be able to analyze this aspect of Leibniz's conception of language, we must determine what notions are, why they are proper of finite minds, how they can be acquired, and what relation there is between thought and signs. This is the subject of 2.1. to 2.3., whereas in part III I shall inquire into Leibniz's systematic theory of language emergence, based on the results of part II.

2.1.2. The Priority of Thought over Language: Leibniz as Innatist

The thesis of the cognitive role of language as a grammatically and syntactically ruled system of signs may appear too hasty or even false given Leibniz's criticism of Hobbes' (and, in his opinion, Locke's) ultra-nominalism. In several texts, Leibniz argues against the claim that truth is arbitrary because definitions are arbitrary by pointing out that we have to distinguish between connections of words and connections of notions.[17] Even if words are arbitrary, truths are not. Truths rest on the connections of notions which remain the same even if we use other signs to express them.[18] More simply, the sense of man as rational animal remains the same even if the signs used to represent it change. In other words, signs are arbitrary, and are in no way essentially connected with notions. I don't think, however, that this point contradicts my theses, as I don't argue that a particular language is essential to thought but that the capacity of forming a language (qua a grammatically and syntactically

[17] A VI 4 24: "animadverto si characteres ad ratiocinandum adhiberi possint, in illis aliquem esse situm complexum, ordinem, qui rebus convenit, si non in singulis vocibus (quanquam et hoc melius foret) saltem in earum conjunctione et flexu. Et hunc ordinem variatum quidem in omnibus linguis quodammodo respondere. Atque hoc mihi spem facit exeundi e difficultate. Nam etsi characteres sint arbitrarii, eorum tamen usus et connexio habet quiddam quod non est arbitrarium, scilicet proportionem quandam inter characteres et res; et diversorum characterum easdem res exprimentium relationes inter se. Et haec proportio sive relatio est fundamentum veritatis. Efficit enim, ut sive hos sive alios characteres adhibeamus, idem semper sive aequivalens seu proportione respondens prodeat. Tametsi forte aliquos semper characteres adhiberi necesse sit ad cogitandum." A similar argument can also be found in NE 396.

[18] I have already discussed Leibniz's criticism of Hobbes in 1.2.1. and pointed out that it is controversial whether Hobbes (as well as Locke) can be considered "ultra-nominalist." See (Hübner, 1977); (Paganini, forthcoming).

ruled system of signs) is essential to the development of knowledge-acquisition and thought. Rather than undermine my claim, it makes it stronger, as it implies that a different sign-system can influence our conception of truths. Language, therefore, allows for the sharing of knowledge. Since connections among notions are expressed through signs, once we agree with what the words "man," "rational," and "animal" refer to, then the relations among the words are necessarily regulated by the relations among notions, such that whoever accepts the aforementioned convention cannot signify MAN, RATIONAL, and ANIMAL with other signs and simultaneously pretend to be understood by others who also accept that convention.[19] Since signs are arbitrary, one can always employ other signs; the question is whether one aims at communication with other rational souls. I will return to the question of how rational souls can establish and accept already established conventions, but for the moment I would like to focus on the link between signs and thought, particularly on the relations between signs and notions.

One could deploy a particular criticism of my reading. Leibniz's criticism of Hobbes seems to affirm the priority of notions over language whereas my interpretation seems to suggest a mutual development between language and thought. If thinking is articulated in judgments, and in turn judgments are composed of distinct notions—notions which necessarily imply their distinction through signs—then without signs a mind cannot think *at all*. A mind thus needs to know a language in order to think of notions and propositions, and, in turn, propositions will depend on words. This interpretation could lead to the opposite thesis: the priority of language over notions. In my opinion, this is true if we ask how a rational being comes to acquire notions in her developmental history (going from infancy to full-fledged rational status). From this ontogenetic perspective, it is true that rational beings, as members of a linguistic community, come to know words before their notions: A child uses the words "I" and "we," but is not aware of what "I" or "we" properly mean. For her these words carry out the function of expressing a different perspective in discourse. The point is that in addition to an ontogenetic point of view, there is also a natural order of ideas, an order which states the logical interdependence and genesis of concepts. According to this order, first stated in the letter to Sophie Charlotte, and analyzed in 1.5., the concept of the I is the source of all metaphysical, logical, and ethical notions, because one can only consider others as

[19] A VI 4 25: "Vides utcunque pro arbitrio sumantur characteres, modo tamen in eorum usu certus ordo et modus servetur, semper omnia consentire. Quanquam ergo veritates necessario supponant aliquos characteres, imo aliquando de ipsis characteribus loquantur (ut theoremata de abjectione novenarii agentia) non tamen in eo quod in iis est arbitrarium, sed in eo quod est perpetuum, relatione nempe ad res consistunt semperque verum est sine ullo arbitrio nostro, quod positis talibus characteribus talis ratiocinatio sit proventura, et positis aliis, quorum nota ad priores relatio sit, alia quidem; sed etiam relationem servans ad priores ex characterum relatione resultantem, quae substituendo vel comparando apparet."

substances and as similar to oneself if one first thinks of oneself as substance. The idea of the I grounds the acquisition of all other notions, even of sensible ones. (I will argue for this perspective later in 3.1.3.) From this perspective arises both the issue of an evolution and clarification of concepts—not simply of words—as well as a human system of beliefs: The human acquisition of truths is profoundly historical. If this is true, if minds in their ontogenetic life acquire notions and language mutually, as I shall prove, notions and knowledge are not innate, but evolve. We must therefore analyze why scholars see concepts as innate and why innatism about concepts implies the interpretation of concepts as dispositions. Whereas in the next chapter I discuss why concepts cannot be dispositions, in what follows I address the problems and aporias raised by interpreting Leibniz as an extreme innatist.

A common reading of Leibniz takes as related the notions of innatism and the priority of thought over language.[20] Leibniz's innatism holds that all conceivable concepts and knowledge are already virtually inscribed in its soul, as a sculpture of Hercules is already inscribed in the marble block which will represent it (NE 52). As knowledge is already inscribed in the soul, perceptual activity is only an occasion to pass from a virtual notion (already present in the mind) to an actual one (in Leibniz's words, from the virtual Hercules to the actual one). According to this reading, the "actual Hercules" is a judgment or actual thought expressed through signs and language, whereas ideas are innate dispositions that enable a mind to actually think of something.[21] For instance, my actual judgment that "there is a dog" or that "there are avaricious men" are actualizations of thoughts based on my perceptual activity and due to the fact that I have already had dispositions to think of DOG, MAN, AVARICE.[22]

This reading of Leibniz's theory of concepts fits well into his theory of substances and complete concepts. Minds, having no windows, do not communicate directly, neither among themselves nor with the external world. Scholars consider the lack of communication among

[20] Innatism is commonly assumed within Leibniz's studies, for instance, by Barth, (2012), Jolley (1984), Bolton (2011; even if she acknowledges that human minds have to form notions of sensible qualities), and Ishiguro (1972).

[21] Ishiguro (1972) and Cowie (1999) read Leibniz along these lines, though both interpretations present many differences.

[22] I sketch only the main features of Leibniz's innatism as usually described; of course there are some variations in this picture. A position very similar to the one described here is held by Cowie (1999: 32). However, according to Cowie, Leibniz holds an extreme innatism based on the poverty of the stimulus argument: Considering the encompassing aspect of our concepts over all possible instances of concepts, we have to assume that we cannot acquire concepts via experience; therefore they must be innate. I will grapple with Cowie's reading later in the work because I argue that Leibniz is not using a poverty of the stimulus argument and that concepts are acquired. Concept innatism is also accepted by others like Bolton (2011) and Barth (2012, 351). The latter also considers propositional contents to be innate.

substances and the consequent negation of direct causation between body and soul as a pivotal aspect of Leibniz's philosophy, compelling him to extreme innatism. Since nothing can come from the "outside" into the mind, everything must already be in the mind. And indeed, this position is further confirmed by Leibniz's conception of the completeness of substances: Everything that happens to a substance comes from its own depth and is expressed by the complete concept which corresponds to that substance. Considering Caesar, for instance, the fact that he crossed the Rubicon is virtually entailed in his soul, and the notion of Caesar entails the fact of Caesar's crossing which makes the fact true. [23]

We find the ultimate affirmation of these theses at the logical level: All truths are analytic which means that "praedicatum inest subjecto," the predicate is already entailed in the subject.[24]

The first skeptical question I raise against the extreme-innatist view of Leibniz is whether all these theses are really compatible with extreme innatism, and whether they exclude the thesis of concepts acquisition. My answer is no.

2.1.3. Leibniz as an Extreme Innatist?

Scholars have recently criticized, and for good reason, the narrative according to which the 17th century was characterized by an opposition between rationalism/innatism and empiricism resolved by Kantian philosophy. Even if this narrative easily explains oppositions and differences among philosophers, it frames too neatly a rationalist/innatist position which denies to our knowledge any contribution from experience, as opposed to an empiricist position which on the contrary holds that all our knowledge originates in experience. This narration exaggerates and misleads the interpretation of the relevant philosophical positions.[25] Since rationalism denies that experience can determinatively contribute to our knowledge, rationalism is committed to innatism, i.e., the epistemological position holding that ideas are

[23] DM §§8- 9 (A VI 4 1540-1), in particular: "Que chaque substance singuliere exprime tout l'univers à sa maniere, et que dans sa notion tous ses evenemens sont compris avec toutes leur circomstances, et toute la suite des choses exterieures."

[24] A VI 4 1515: "Verum est affirmatum, cujus praedicatum inest subjecto. Itaque in omni Propositione vera affirmativa, necessaria vel contingenti, universali vel singulari Notio praedicati aliquo modo continetur in notione subjecti; ita ut qui perfecte intelligeret notionem utramque, quemadmodum eam intelligit Deus, is eo ipso perspiceret praedicatum subjecto inesse. Hinc sequitur omnem scientiam propositionum quae in Deo est, sive illa sit simplicis intelligentiae, circa rerum Essentias; sive visionis circa rerum existentias, sivemedia circa existentias conditionatas, statim resultare ex perfecta intellectione cujusque termini, qui ullius propositionis subjectum aut praedicatum esse potest; seu scientiam a priori complexorum oriri ex intelligentia incomplexorum."

[25] Vanzo (2013, 53-74).

innate in the mind. It follows that the main challenge in characterizing a philosopher as rationalist or empiricist is answering the question of whether or not she accepts innate knowledge. As in every narrative, one needs a philosophy that can typify the patterns presented in that narrative. Leibniz's philosophy has been considered the innatist philosophy *par excellence*, while Locke or Hume are considered exponents of the empiricist side. My aim is to argue against this common narrative and to show why, in my opinion, this opposition is not suited to capture the goals of Leibniz's epistemology. In criticizing this opposition, I shall show why we cannot fully understand Leibniz's philosophy by relying on the contemporary discourse on concepts and innate knowledge. I shall therefore interpret his philosophy as an attempt to reconcile two different views of knowledge discussed at his time: nominalism and rationalism (see 1.2.1.)

Following this narrative, Leibniz's philosophy can be described as an (extreme) innatism due to his open rejection of empiricism in NE. This is in virtue of the fact that the rejection of empiricism means the denial of the claim that we can learn concepts through experience. If concepts cannot be acquired then they must be innate. Accordingly, the contemporary debate in the philosophy of mind and cognitive psychology recognizes the two oppositions of innatism with empiricism, and nature with nurture as rooted in the 17th century opposition between rationalists and empiricists, among which figures like Leibniz and Locke (and their virtual controversy) stand out. Jesse Prinz, for instance, wants to revise many features of Locke's empiricism in order to limit common nativist assumptions in the contemporary philosophy of mind which could be traced back to authors like Chomsky and Fodor.[26] Chomsky, as is well known, maintains that natural languages are acquired by virtue of an innate universal grammar (UG), and he elaborates his theory from what he calls a "Cartesian linguistic" as shorthand for 17th century linguistic and grammatical theories of language, to which Leibniz, with his ideas of a rational grammar, also contributed.[27] Fodor, on

[26] According to Prinz, innatism dominates the philosophy of mind. See: Prinz (2002, 2): "I defend a dissenting view. While certain traditional forms of empiricism are untenable, a properly modernized empiricist account shows tremendous promise. It turns out that Locke's thesis can be reconciled with, and even supported by, the findings of cognitive science. More to the point, a modernized version of concept empiricism can outperform its rivals. A modernized empiricism can counter objections to older empiricist theories as well as objections to nonempiricist theories."

[27] Chomsky (1966, 100): "In focusing attention on the innate interpretive principles that are a precondition for experience and knowledge and in emphasizing that these are implicit and may require external stimulation in order to become active or available to introspection, Herder expressed much of the psychological theory that underlies Cartesian linguistics, just as he emphasized those aspects of cognition that were developed by Descartes and, later, by the English Platonists, Leibniz, and Kant. The psychology that develops in this way is a kind of Platonism without preexistence. Leibniz makes this explicit in many places. Thus he holds that "nothing can be taught us of which we have not already in our minds the idea," and he recalls Plato's "experiment" with the slave boy in the Meno as proving that "the soul virtually knows those things [i.e., truths of geometry, in this case], and needs only to be reminded (animadverted) to recognize the truths. Consequently, it possesses at least

the other hand, develops his conception of a Language of Thought (LOT) based on the idea that all lexical concepts (concepts expressed by a single word in natural language) cannot be acquired, and, therefore, they are innate.[28] Now, contemporary leading figures of the debate explicitly acknowledge that even if there are some parallels between 17th Century and contemporary debates, they actually fall apart insofar as the contemporary debate is exclusively aimed at determining the psychological abilities and mechanisms which bring a subject to know "that p," whereas the historical debate was also concerned with the justification of "that p."[29] For example, since the knowledge of God and of mathematics was considered necessary and universal, the idea of God and knowledge about mathematics have been considered innate for a long time. Clearly this is not the aim of contemporary cognitive psychologists and philosophers of mind.

Notwithstanding the different aims and methods characterizing the two debates, some theses held in the contemporary debate are, in my opinion, too easily retrospectively attributed to the 17th century debate, such as those regarding the incompatibility of nurture and nature.[30] If one assumes ideas to be innate then one has to exclude that anything could be learned via experience. Leibniz explicitly rejects this aut-aut, an aspect of his philosophy neglected by those scholars who try to trace a genealogy of the contemporary debate. In NE, Leibniz writes: "je ne saurois admettre cette proposition: tout ce qu'on apprend, n'est pas inné" (NE 85). The reason for attributing this alternative to Leibniz lies in the contemporary conception of concepts and experience. Concepts have definitions. That a concept is learned via experience means that concepts can be reduced to simple features ("simple ideas," in the jargon of the seventeenth-century debate, particular Locke's) which are nowadays called

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the idea upon which these truths depend. We may say even that it already possesses those truths, if we consider them as the relations of the ideas" (§26)."

[28] Fodor (2008, 129-168): "There was, however, a striking consensus about chapter 2 of LOT 1, which argued (circa p. 80) that primitive (i.e. undefined) concepts must ipso facto be unlearned; and that since most quotidian concepts (TREE, CHAIR, CARBURETOR, HORSE, UMBRELLA, and the like) are primitive, it follows that most quotidian concepts must be unlearned."

[29] Laurence & Margolis (2013, 694): "The contemporary innatism–empiricism debate is related to the historical philosophical disagreements between such figures as Locke and Leibniz, but the contemporary debate is exclusively concerned with questions about the nature and origins of psychological traits broadly construed (mental representations, processes, mechanisms, faculties, and so on). Historically, similar concerns were intertwined with epistemological questions about justification. From a contemporary perspective, however, it is clear that justification is one thing and psychology another. In principle, a belief that requires empirical justification could be innate (e.g., the belief that humans have hands), while a belief that is justified a priori might not be (e.g., the belief that arithmetic is incomplete)." Cowie (1999: 7): "Especially during the heyday of innatist theorizing in the seventeenth century, questions about how beliefs are acquired were frequently mixed up with questions as to their justification." It follows a commitment of innatism towards rationalism. However, Cowie tries to show that innatism per se is not an epistemological theory.

[30] The opposition is used in the contemporary debate as shorthand for a theory which assumes concept acquisition via experience on one hand, and a theory which does not on the other.

sensorimotor representations or simple qualities.[31] Experience furnishes the mind with those building blocks of all our concepts that in turn combine and form complex notions. In other words, empiricists stress the importance of the senses over the intellect.

Since rationalists reject experience as a source of knowledge, they deny that all definition ultimately consists of sensorimotor representations and consequently, they deny that senses primarily and significantly contribute to our knowledge. Experience in both cases is considered to be sensory perceptual activity caused by an object external to the mind. To know TRIANGLE, one must experience instances of triangles (particular triangles) that enable one to abstract the quality BEING-TRILATERAL or BEING-TRIANGULAR and to form the knowledge of TRIANGLE. This implies that someone's perception of triangles *actually is* caused by triangles. At issue, then, is whether one can acquire a concept such as TRIANGLE only by abstracting it from instances of triangles presented by experience or whether some other knowledge independent from experience is required. Leibniz does not put the problem in these terms; the question he raises is not where the *content* of a concept comes from but where *the possibility to think of a concept* originates in. The intellect is the source of concepts. This is the reason why concepts are virtually innate, an aspect that does not necessarily exclude the fact that concepts must be learned via experience. It is the possibility of a concept, its conceivability, which cannot be derived from experience only, whereas knowledge about the existence and compossibility of things (how the world looks) needs the recollection of data via perceptual experience. This idea forms the core of my interpretation of Leibniz; because of this, the analysis of some common views on innatism and Leibniz's distinction between notions and ideas represent two important aspects I will focus on in order to explain why I think Leibniz offers an alternative to the innatist/empiricist distinction. I start by focusing on Leibniz's innatism.

I do not want to go into detail about the contemporary debate; my aim is to simply offer references showing why Leibniz is considered an extreme innatist and to explain why in my view this reading characterizes a false genealogy of the seventeenth-century debate based on a simplistic opposition between nature and nurture. In order to do this, I would like to

[31] Carey (2009, 27-28): "According to British empiricists such as John Locke, all human concepts are grounded in a set of primitive representations—in Locke's terms, "ideas." The primitive ideas are the output of sense organs—they are sensory representations. They are primitive in two different senses. First, these ideas are definitional primitives. All concepts are either primitive or complex, and all complex concepts are defined in terms of primitive ones that themselves are understood without any definition […] Second, these ideas are developmental primitives. The acquisition of concepts is explained by a specification of the set of innate primitives and by the associative mechanisms through which complex concepts are built from them. The 18th-century British empiricists' picture of conceptual development finds articulate and ardent defenders to this day." See also Prinz (2002, 32-48).

discuss Cowie's interpretation (Cowie, 1999, 30-50) of Leibniz's innatism, which permits us to uncover some interesting insights into Leibniz's conception of faculties and to work out the difference between 'innate' and 'virtually innate'.

For Cowie, the reason why Leibniz must be an innatist is clear: Since Leibniz denies any direct actions of objects upon the mind, subjects cannot acquire knowledge via experience, and this is because Cowie understands experience to be the perceptual activity caused by an object. If it is not the object that presents the property BEING-TRIANGLE to cause my thought that "I see a triangle," then we have to deny that we know it via experience. And since experience cannot cause anything in the mind then everything must be already in the mind (Cowie, 1999, 40). According to Cowie, Leibniz aims at the innateness of all our knowledge in NE; however, Leibniz's argumentative strategy is more subtle. It consists of two steps, and the first step assumes the poverty of the stimulus (APOS henceforth) in order to show that the faculties which underpin a mind's learning process, according to empiricists, are too meager and must be replaced by domain-specific faculties. The first step is aimed at undermining the empiricist picture in order to prepare for the second step. The second step denies any form of knowledge acquisition via experience through the metaphysical argument which rejects any direct causation between body and soul.[32] If Locke would have been prepared to grant that something is in the mind he would have also been compelled to accept that everything is in the mind due to the thesis of the windowlessness of substances. Even if Cowie's terminology may differ from Leibniz's, it should not sound alien to a reader used to seventeenth-century terminology: General faculties are what Leibniz calls the bare faculties of the Schoolmen whereas fine-grained faculties are innate ideas. What's notable is what Cowie categorizes as fine-grained faculties: some specific contents related to specific domains of knowledge.

For the moment, I will focus on what Cowie takes to be Leibniz's first step of argumentation. In her opinion, Leibniz, as well as all other innatists in the history of philosophy, especially Plato and Descartes, argue for innatism from a poverty of the stimulus argument. The APOS is a powerful argument, used today by Chomsky, which is based on the assumption that experience is too meager and consequently insufficient to explain how minds

[32] Cowie (1999, 50): "Leibniz is sometimes willing to criticize his opponents from within their own empiricist perspective, advancing on the basis of poverty of the stimulus arguments a innatism that is limited to our acquisition of certain sorts of ideas or beliefs. But in fact his own metaphysics, and in particular his view that individual substances have 'no windows', is deeply hostile to empiricism. So, where he considers them from within a properly 'Leibnizian' perspective, Leibniz argues that empiricist acquisition theories are fundamentally inadequate. He concludes, on these grounds, that everything in our minds is innate." The reason is that: "Since Leibniz does not accept that anything (except God) can act upon a substance since he holds that the soul has no windows he cannot accept that experience can provide the soul with ideas or beliefs."

can form concepts that are more encompassing than any given instance.[33] The argument is framed by Plato for mathematical ideas like "equality." If someone shows us two sticks, we can say that they are not perfectly equal and fall short of equality. But since we cannot find two things exactly equal, everything in nature is just an approximation of our concept EQUALITY which instead seems to be more encompassing than any instances (Cowie, 1999, 14).

On Cowie's reading, in the history of philosophy Descartes also endorses an APOS, especially to argue for the innateness of God's ideas and mathematical ideas. To sum up Descartes' conception as reported by Cowie, mathematical ideas like TRIANGLE cannot originate in experience, since there are mathematical ideas, like CHILIAGON, which we cannot find in nature. In his controversy with Gassendi, Descartes stresses that even if we could believe in finding straight lines or triangles in nature, any of those instances cannot present a STRAIGHT LINE or a TRIANGLE since they lack in perfection. If we look closely at a straight line with a lens, we can notice that it is not actually straight (Cowie, 1999, 35-6). As Cowie remarks, an innatist experience can therefore justify beliefs like "all NBA stars are tall men" but not propositions like "all triangles have three angles." Since we cannot acquire the concept TRIANGLE via experience, this belief is a priori (Cowie, 1999, 32). Therefore, it is clear that both Plato and Descartes argue from APOS.[34]

Now according to Cowie, Leibniz also adopts APOS in NE, and she bases her interpretation on the following two passages. Since Cowie quotes in English, I quote in English too:

> For it cannot be denied that the senses are inadequate to show their necessity, and therefore the mind has a disposition (as much active as passive) to draw them from its own depth; though the senses are necessary to give the mind the opportunity and the attention for this, and to direct it towards certain necessary truth rather than others. (NE 80)
>
> Although the senses are necessary for all our actual knowledge, they are not sufficient to provide it all (NE 49)

Cowie understands the passage to say that Leibniz maintained a belief in the senses are insufficient to give us all our knowledge. Consequently, she continues, Leibniz argues against

[33] For a discussion and a critique of POS in the context of Chomsky's thesis of the Universal Grammar, see Laurence & Margolis (2001, 217-276).

[34] There are reasons to doubt Cowie's interpretation of Plato and Descartes as well, but my case for this doubt goes beyond the scope of my argument here. The discussion of Cowie in this context involves her interpretation of Leibniz.

Locke from the perspective of APOS. However, Leibniz's aim differs from Descartes or Plato. With APOS he aims to undermine the sufficiency of general faculties (senses and reflection) as being the *only* faculties underpinning knowledge acquisition. For Cowie, Leibniz's first argumentative step has a potentiality that does not immediately rule out empiricism. As she writes, empiricism does not say that our mind is a blank sheet, since empiricists too have to assume some faculties proper to all minds: senses and reflection. Accordingly, Leibniz's main aim is not to affirm any concepts or contents as innate but rather to show the necessity of assuming more specific faculties than the one suggested by Locke. Cowie refers to the block of marble passage in NE 52 where Leibniz manifestly does not deny the necessity of experience to work out the content of our knowledge (Hercules). He contends, rather, that the statue of Hercules could have been shaped without the help of the veins that already determine its shape. Following Cowie's interpretation, the veins are a more specific determination of the *contents* a mind would come to know, according to its experience and some faculties. In this sense, they are an *augmentation* of knowledge in the mind, and this augmentation, which cannot be acquired via experience, must be already present to the mind (Cowie, 1999, 40-1). For this reason, Leibniz's innatism as presented in the marble block passage agrees with the postulation of dedicated faculties for those domains about which experience seems to be insufficient to justify our *knowledge* about those domains, e.g., mathematics, God, and so on. We must postulate some more domain-specific contents that help us process experience. We can reduce Cowie's reconstruction of Leibniz's argument to the following steps:

1- Experience is too impoverished to provide all our knowledge (POS).
2- Senses are not sufficient to provide all our knowledge;
3- Therefore, the knowledge we can acquire about some domain cannot be acquired based on senses alone;
4- We need more specific faculties in order to explain how we come from an impoverished context to our knowledge about that domain;
5- Therefore, our mind must already be furnished with some specific contents (the veins) about a domain, in order to know about that domain according to its experience of that domain.

Cowie's interpretation deserves some discussion. She evidently interprets the assumption of innate knowledge as an *escamotage*, in order to explain how we can acquire knowledge if sensory experience cannot contribute to its acquisition. She isn't completely wrong here, but she does gloss over the distinction between contents and faculties. Whereas this glossing over

might be permissible in contemporary psychology, where "psychological track" can be interpreted both as contents and mechanisms, contents and faculties are very much distinct, both to Leibniz and the 17th century debate in general, as well as to the scholastic tradition in which it is partially rooted. Faculties and contents (their acts) are different since we cannot conflate the power with its acts.[35]

It is worth noticing how important to Cowie's argument the stress on content innateness is. It serves to explain Leibniz's second step: the endorsement of the impossibility argument, an argument stating that nothing can be acquired via experience because of the absence of direct causality between body and soul. According to Cowie, Leibniz first wants to convince Locke that some contents must be innate, in order to garner his assent that all contents are innate. Further, Cowie's confusion of faculties and contents could be induced by Leibniz's texts since Leibniz explicitly criticizes the "bare faculties of the Schoolmen," "bare power without any acts" (NE 110). As we will see, Leibniz rejects the notion that a power can subsist independently of any acts. If it is a power, it must be exercised and active, and since we cannot think in the absence of perceptual activity, experience is necessary to thought (3.1.5.).[36] There cannot be a faculty that merely reflects, but a faculty that reflects upon something, and the mind must therefore have pre-existing contents. Despite this, innate ideas cannot be interpreted as contents. I think that we should distinguish on the one hand between concepts, or notions, being knowledge a mind has and can recall, and on the other, ideas, or constraints on thought that enable minds to conceive of notions of things as possibilities. Following this interpretation, "innate ideas" is another one of Leibniz's expressions for the intellect, intending the intellect as the faculty of reasoning. Consequently, ideas are innate as constraints of the mind, as determinations of what is thinkable. Since the mind already possesses some constraints, all acquired knowledge and concepts depend on those constraints since they are determined by them.

Though I disagree with Cowie's interpretation for reasons I will explain, she has accurately highlighted the point of divergence between the two philosophers: It is not a primarily epistemological issue that Leibniz contends for against Locke but a psychological one: how the understanding has to be structured in order to acquire the knowledge we have,

[35] As we have seen in 1.4., Aquinas distinguishes between synderesis and conscientia: The former is a *habitus* or a mere potency whereas the latter is the act of the application of principles to a particular case. Leibniz, on the other hand, rejects any appeal to substantial forms intended as bare faculties, as we shall see in 2.3. The topic of Leibniz's reintroduction of substantial forms in metaphysics has been recently discussed in a collective volume edited by Nita (2015).

[36] NE 110: "L'experience est necessaire, je l'avoue, à fin que l'ame soit determinée à telles ou tells pensées, et à fin qu'elle prenne garde aux idées qui sont en nous."

and how a mind can have actual knowledge. Nonetheless, I don't think that the epistemological question about the justification of our knowledge is answered by assuming the innateness of some knowledge like God or mathematics, as Cowie suggests. The determination of the powers and limits of our understanding must explain the conditions of possibility for the justification of knowledge. The knowledge of God or of mathematics is not true because we already possess some ideas; it is true because we can come to that knowledge and assent to it by virtue of some constraints on thought that characterize every mind (See 2.3.).

Because of this, I reject the notion that Leibniz bases his arguments in NE on POS as well as that he is an anti-empiricist and, consequently an extreme innatist. As pointed out already, the power of POS is to argue that the contents in our mind are richer than their instances presented by experience. As I am going to argue, this claim contrasts with Leibniz's nominalist ontology and his assumption that there is an immeasurable gap between how we divide things in nature and how we divide terms.[37] In other words, Leibniz does not hold that our concepts of things are richer than things but simply that concepts as we have them do not exist in nature. They are of a different kind from things.

Moreover, in the passages quoted by Cowie, at issue are necessary truths and not the content of our knowledge. From this perspective, then, it is worthwhile to determine what innate ideas are and why they are necessary for acquiring concepts. I hope therefore to be able to show how the innateness of ideas, which determines the logical order of knowledge, is not incompatible with the learning of concepts via experience, which is the historical order of the acquisition of knowledge by minds. Leibniz does not deny that we actually learn concepts; he simply denies that the simple fact that we have already perceived instances is necessary, but not sufficient to explain why we frame a concept representing particulars as instances of a general notion.

The point I shall argue for is that the assumption of innate ideas is necessary in order to avoid the challenge posited by assuming a nominalist ontology. A closer analysis of Leibniz's criticism of Locke's philosophy shows that Leibniz argues not from POS but from a viewpoint assuming Locke's nominalist ontology which claims that only individuals and their modifications exist [(Mates, 1986, 171-3); (Mugnai, 1990, 153-7)]. Experience presents a far more variegated and rich scenario where no boundaries among individuals exist: a world of particulars without boundaries of species and genus, which in turn are traced by minds. Locke, for instance, assumes that particulars exist in the world by virtue of an inner

[37] See Di Bella (2004); Mugnai (2000).

constitution that is beyond our possibility to know. It follows that we cannot be sure that nature actually distinguishes between particulars as we do, namely by relying on species and genus like ANIMAL, HORSE, and so on. This kind of ontological assumption, hence, represents nature as more variegated in causes than we can know. In this sense, Leibniz aims at showing that despite our inability to know the inner constitution of things, we have reason to believe that what we distinguish is also distinguished by nature. It follows that Leibniz's argument assumes VOS (variety of the stimulus) and not POS (poverty of the stimulus) in order to point out that a modal interpretation of particulars *as if* they belonged to genus and species cannot be learnt via experience since experience presents only particulars that vary among them. Modal concepts like necessity and contingency depend on the need of minds for general terms and general concepts to introduce regularity in the contingent world. This is exactly what the intellect contributes to knowledge: necessity and certainty.

As we have partially seen (1.3.), the knowledge of modality relies on the assumption of distinct notions as possibilities (and not merely as definitions): It is by virtue of the concepts, and not of the particular historical individuals, that one determines truths and can reliably draw consequences from those truths and, for example, determine actions and judgments. The *truth* that "I can sit if there are chairs" relies on the concepts involved in this proposition; the *fact* that I actually sit because there is a chair in this room depends both on perception, which presents me something I can recognize as a chair, *and* on my knowledge about chairs.[38] It seems to me that Leibniz aims at distinguishing these two levels of knowledge and, hence, he frames a theory of concepts based on an intensional account of concepts distinct from an extensional account. This account implies a distinction between essences and beings or the *subjectum inhaesionis* from the *subjectum praedicationis*. Such a distinction is required in his

[38] Specifically, the fact that I sit when I see a chair may also not depend on knowledge but on some acquired habit. As we have seen, Leibniz states that rational beings act like animals in three-fourths of their actions. This means that in everyday life, we perform a lot of actions upon which we do not have to reflect since we are used to them: The fact that I wake up, dress up, take my bicycle, and go to work is a process I do not have to explicitly reflect upon. (Pace Fodor, who thinks that we process a kind of algorithm in doing these actions; for a discussion of Fodor's account in the contemporary debate, see Bartels, Jung, & Newen (2011). Even the obstacles I encounter on my way to work can be avoided because of a kind of sub-reflectional activity due to perceptions and attentions. This activity does not need to involve distinct knowledge. In contrast to this is a case where I try to imagine how to travel to my office today since it is raining. In this case, I might have to reflect since there is a new perceptual environment that does not fit into the habitual framework of performing that action. (It is started by perceiving the fact that it is raining, but from this fact I move to the problem of determining how I can reach my office and from this I may have to reason that it is better to take the bus since the bus will take me to work). In this latter case, distinct notions enable rational beings to figure out possible scenarios by relying on what BUS, RAIN, etc are, independent from the fact that it is actually raining or there is a bus in front of me. I also may imagine what I would do if it were raining. This is different from me wanting to actualize my thought and take the bus. In this case a particular bus has to exist. In this latter case, as Leibniz writes, the actualization of my thought is due to the fact that this thought entails a conatus to act, an act of the will caused by an actual perceptual states (A VI 4 1411).

view in order to avoid difficulties raised by a nominalist ontology, which, as evident in Locke's or Hobbes' philosophy, leads to a ultra-nominalist epistemology: truths depend on words. In Leibniz's view, however, this proposition is not completely false. Truths depend on terms, an approach compatible with an axiomatic approach to truths which implies that truths depend on reason and not only on experience (A I 18 372-3). Therefore, my aim now is to explain this aspect of Leibniz's epistemology.

2.1.4. Leibniz's Commitment to the Variety of the Stimulus Argument

The analysis of Cowie's interpretation has shown that it fails to embed Locke-Leibniz's virtual controversy within its historical context. Above all, Cowie does not consider an aspect upon which both Leibniz and Locke agree. The ontological nominalist assumptions that (i) only individuals exist and (ii) properties or accidents are modifications of individuals [(Mates, 1986, 171-3); (Mugnai, 1990, 165)] which means that common essences intended as ontological principles (what makes a thing exist as an instance of a particular species or genus) do not exist in reality. As is well known, Leibniz describes his own position as a nominalism *par provision*.[39] As already discussed (1.2.1.), Leibniz holds his nominalism as different from that of Hobbes and Locke, but nonetheless, the basic assumptions of their nominalism are assumed within Leibniz's philosophy. Locke and Leibniz thus argue from a common ground: general essences do not inform particulars. And yet this common assumption is spelled out in different way in their philosophies respectively and leads to different conclusions:

We have to understand the difficulties a nominalist ontology implies for the empiricist scenario. Locke himself explains the problem of abstracting notions by resting only on the senses or perceptions. Assuming a nominalist ontology means to deny that *abstracta* exist in reality as forms or essences of things; in other words, it means to deny that I can learn what MAN is because I am able to distinguish the essence of MAN from particular men.[40] MAN is not an essence which informs all existing men and that I can know *post rem*. Existing things are individuals things, and individuals present only differences and modifications: The white in snow is not the white in chalk; a body changes from one moment to another.[41]

[39] See A VI 6 422 quoted in 1.2.1.

[40] According to Bolton (1996, 1-12), this is only one kind of abstraction. Another kind is the use of general terms which Leibniz has never denied. I agree with Bolton, and I shall return to this point below.

[41] See EHU II Chap. 27 on personal identity where Locke seems to argue that the identity of a tree as belonging to the nominal essence "oak" cannot be guaranteed by the materiality of the tree, exactly as the identity of the

Consequently, the humanity in Peter is not the humanity in John, or, better said, there is no HUMANITY in Peter or John; there are rather Peter and John. From this it follows that classification is based on the nominal essences of things (and not on their real essences). Nominal essences are for Locke the product of human understanding and depend on a convention among humans that, in compliance with their praxis, establishes some shorthand expressions as convenient ways to refer to things. All genus and species are the workmanship of the human mind (EHU III 3).

Leibniz agrees that only individuals and their modifications exist and that we are unable to know the real essences or constitutions of these individuals.[42] Ever since his *Disputatio de principio individui* he rejects realist ontologies such as those of Scotus and his followers.[43] Yet neither does he agree with the ultra-nominalists, who conclude that that all classifications and definitions are only a product of human understanding and are therefore arbitrary.[44] To avoid this conclusion, Leibniz embraces two theses: (a) that definitions and distinctions among species and genus are grounded in similarities among things (*similitudo rei*) and (b) that ideas are in God's intellect. Leibniz endorses both theses in order to overcome the following difficulty presented by Locke, i.e., the acknowledgement of the variety of the standards presented by nature (henceforth: VOS).

According to Locke, nature does not furnish us with any standards by which we individuate MAN or HORSE; otherwise we have to assume that things are as they are because of essences. Locke frequently argues in favor of this thesis, as in this passage:

> And when general names have any connection with particular Beings, these abstract Ideas are the Medium that unites them: So that the Essences of Species, as distinguished and denominated by us, neither are, nor can be any thing but those precise abstract ideas we have in our minds. And therefore the supposed real Essences of Substances, if different from our abstract Idea, cannot be the Essences of the Species we rank Things into. For two Species may be one, as rationally, as two different Essences be the Essences of one Species: And I demand, what are the alteration may, or may not be made in a Horse or Lead, without making either of them to be of another species? In determining the Species of Things by our abstract Ideas, this is easy to resolve: but if any one will regulate himself herein, by supposed real Essences, he will, I suppose, be at a loss: and he will never be able to know when any thing precisely ceases to be of the species of a Horse or Lead (EHU 415-6).

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person cannot be guaranteed by the corporeal texture of the body since in its development it constantly undergoes to changes.

[42] NE 309.

[43] For a discussion of Scotus and Scotism in the *Disputatio*, See De Candia (forthcoming).

[44] For a critical discussion of Leibniz's ultranominalist interpretation of Hobbes, see fn 18.

Locke briefly points out that, assuming ideas to be abstract terms referring to nominal essences, a horse is a horse because of our ranking and not because it belongs to that general species by nature. Thus we can make sense of the differences among individuals and still say that they are of the same species. Consequently, if we agree that GOLD is MALLEABLE and GOLD-COLORED then malleable gold-colored things may be said to be gold. The fact that we choose these features as features of GOLD does not depend on gold itself but on our notion of it. The connection between GOLD, MALLEABILITY, and DUCTILITY is therefore not *per se* determined by a convention among humans [See 1.2.2.]. Put simply, there is no connection between DUCTILE and METAL in GOLD except for one established by rational beings who choose to comprehend "ductile metal" under the name "gold." If, by contrast, we assume that things are ranked in a certain way necessarily, due to substantial forms, then we run into difficulty in explaining how nature allows for the existence of things undefinable by any of our general terms, such as monsters. Assumption the distinction of nominal essences from real essences implies that truths depend on the name on which rational beings agree. This allows us to explain why there might be cases that cannot be reduced to our categorization, e.g. monsters. Nominal essences are therefore a workmanship. Through the discussion of borderline cases, like that of monsters, Locke aims at pointing to a variety of standards: Since based on things alone we cannot find a unique standard for what our concepts HORSE or MAN stand for, we have to assume that these standards are fixed arbitrarily by rational beings. Nature does not put boundaries around things; rational beings do.

From what has been said about Leibniz's nominalism, it follows that Leibniz also agrees with Locke's main assumption, namely that there are no general essences in things which make them what they are. If something like essences exists, they are particular essences or the particular constitutions of things that make those particular things those very things. However, from the fact that things are particular things it does not follow that our concepts and classifications are not grounded in the nature of things and that the connection among ideas is arbitrary:

> Nous pouvons donc dire, que tout ce que nous distinguons ou comparons avec verité, la nature le distingue ou le fait convenire aussi, quoyque elle est des distinctions et des comparaisons que nous ne savons point et qui peuvent estre meilleurs que les nostres. (NE 309)

Leibniz argues that Locke's distinction between nominal and real essences is not appropriate. The assumption of a nominal essence that does not exist in reality makes our

definition chimeric since one should assume that the distinction of things we affirm to exist might also not conform to nature. As the quoted passage suggests, Leibniz's main concern is that in order to justify knowledge and to affirm that rational beings can know truths they need a guarantee of the fact that "what they distinguish and compare according to truth, nature distinguishes it too." 2.2. deals with Leibniz's guarantee for general knowledge. Before that, however, we must understand why Leibniz thinks that Locke's appeal to nominal essences makes definitions and notions chimeric (2.2.1.).

Leibniz favors the distinction between nominal and real definitions as more appropriate than that between nominal and real essences. Through this appeal, Leibniz points out that the reality to which we refer is one even if we can express it in different ways. There is only one essence and only one possible real essence. Nonetheless, minds have different ways to express it by the use of names and languages:

> J'aimerois mieux de dire suivant l'usage receu, que l'Essence de l'or est ce qui le constitue et qui luy donne ces qualités sensibles, qui le font reconnoistre et qui font sa definition nominale au lieu que nous aurions la definition reelle et causale, si nous pouvions expliquer cette contexture ou constitution interieure. Cependant la definition nominale se trouve icy reelle aussi, non pas par elle mème (car elle ne fait point connoistre a priori la possibilité ou la generation de ce corps) mais par l'experience, parce que nous experimentons qu'il y a un corps, où ces qualités se trouvent ensemble. (NE 294)

It is clear, from this quote, that Leibniz believes there can be different standards for expressing the same thing. He nonetheless disagrees with Locke's conclusions, namely that definitions are arbitrary. Leibniz's position is that concepts of natural kinds represent what he calls "possibilities inherent in the resemblances" that are not Locke's nominal essences:

> Si vous prenés les essences réelles pour ces modelles substantiels, qui seroient un corps, et rien de plus, un animal et rien de plus specifique, un cheval sans qualités individuelles; vous avés raison de les traiter de chimeres. Et personne n'a pretendu, je pense, pas meme les plus grands Realistes d'autres fois, qu'il y ait autant de substances qui se bornassent au generique, qu'il y a de genres. Mais il ne s'ensuit pas que si les essences generales ne sont pas cela, elles sont purement des signes; car je vous ai fait remarquer plusieurs fois que ce sont des possibilités dans les ressemblances. C'est comme de ce que les couleurs ne sont pas toujours des substances ou des teintures extrahibles, il ne s'ensuit pas qu'elles sont imaginaires. Au reste on ne sauroit se figurer la nature trop liberale; elle l'est au delà de tout ce que nous pouvons inventer, et toutes les possibilités compatibles en prevalence se trouvent realisées sur le grand Theatre de ses representations. (NE 323)

Firstly, Leibniz's definition of concepts as "possibilities inherent in the resemblances" entails exactly what Locke points out. We could have categorized reality differently, or to put

it in another way, the date we acquire via experience might have been consistent with standards other than the ones we're used to: Today, whales are mammals, while our ancestors categorized them as fish (Ishiguro, 1972. 61). Using a Leibnizian example, we consider water to be a liquid, but water could be found also in a solid form, ice. It is only due to the physical laws of the existing world and our observation that we consider water to be liquid.

> Fort bien, et c'est dans ce sens, que les Philosophes aussi, distinguant si souvent entre ce qui est de l'Essence, et ce qui est de l'Existence, rapportent à l'Existence tout ce qui est accidentel ou contingent. Bien souvent, on ne sait pas même si les propositions universelles, que nous ne sçavons que par experience, ne sont pas peut etres accidentelles aussi, parce que nôtre experience est bornée. Comme dans le pays où l'eau n'est point glacée, cette proposition qu'on y formera, que l'eau est toujours dans un etat fluide, n'est pas essentielle; et on le connoit en venant dans des pays plus froids. (NE 433) [45]

Leibniz, hence, fully endorses the view that our definitions are conjectural or provisional:

> Il est vrai qu'on n'en sauroit juger precisement faute de connoitre l'interieur des choses; mais comme j'ai dit plus d'une fois, l'on juge provisionellement, et souvent conjecturalement. Cependant lors qu'on ne veut parler que de l'exterieur, de peur de ne rien dire que du seur, il y a de la latitude: et disputer alors si une difference est specifique ou non, c'est disputer du nom; et dans ce sens il y a une si grande difference entre les chiens, qu'on peut fort bien dire que les dogues d'Angleterre et les chiens de Boulogne sont de differentes especes. Cependant il n'est pas impossible, qu'ils soyent d'une mème ou semblable race eloignée qu'on trouveroit si on pouvoit remonter bien haut; et que leurs ancestres ayent eté semblables ou les mèmes; mais qu'aprés de grands changemens, quelques uns de la posterité soyent devenus fort grands, et d'autres fort petits. On peut mème croire aussi sans choquer la raison qu'ils ayent en commun une nature interieure constante specifique, qui ne soit plus sousdivisée ainsi, ou qui ne se trouve point ici en plusieurs autres telles natures, et par consequent ne soit plus variée, que par des accidents; quoi qu'il n'y ait rien aussi qui nous fasse juger que cela doit estre necessairement ainsi dans tout ce que nous apellons la plus basse espece (speciem infimam). Mais il n'y a point d'apparence qu'un Epagneul et un Elephant soyent de meme race, et qu'ils ayent une telle nature specifique commune. Ainsi dans les differentes sortes de chiens, en parlant des apparences, on peut distinguer les especes, et parlant de l'essence interieure, on peut balancer: mais comparant le chien et l'Elephant il n'y a pas lieu de leur attribuer exterieurement ou interieurement ce qui les feroit croire d'une meme espece. (NE 325)

[45] He continues in the same passage (NE 433-4): "Cependant on peut prendre l'accidentel d'une maniere plus retressie, en sorte qu'il y a comme un milieu entre lui et l'essentiel; et ce milieu est le naturel, c'est à dire, ce qui n'appartient pas à la chose necessairement, mais qui cependant lui convient de soi, si rien ne l'empeche. Ainsi, quelqu'un pourroit soutenir qu'à la verité il n'est pas essentiel à l'eau, mais qu'il lui est naturel au moins d'etre fluide. On le pourroit soutenir, dis-je, mais ce n'est pas pourtant une chose demontrée, et peut-etre que les habitans de la Lune, s'il y en avoit, auroient sujet de ne se pas croire moins fondez de dire qu'il est naturel à l'eau d'etre glacée."

Nonetheless, we *can* reliably think that there is something in common between two dogs despite their differences, and there is something true in our disinclination to compare dogs with elephants. In other words, despite our ignorance of the internal constitutions of things, we have reasons to say that our categorizations are based in nature and that, therefore, our distinctions represent natural distinctions by analogy. Evidently these passages still do not argue for how rational beings can know that their distinctions are reliable and that their representations of natural distinctions are veridical. That will be the subject of 2.2; our aim here is merely to understand why Locke's ideas are chimeric.

2.2. Concepts as Possibilities

2.2.1. The Chimerical Character of Locke's Ideas

Leibniz objects that Locke's conception of ideas is chimerical. The term "chimeras" assumes in his philosophy a very specific meaning and role since it is opposed to possibility.[1] Chimeras are terms that refer to (i) things that do not exist and (ii) things that are somehow impossible. Nonetheless, the term is distinguished from (a) "possibility," which describes things that can be conceived without contradiction and that therefore have a notion, even though we cannot be sure of their existence and (b) "fictions", i.e., terms that express something that is conceivable (though not distinctly so), but are nonetheless an aid to reasoning. Examples of fictions are the infinitesimal in mathematics or in the fictions of jurisprudence. In this sense, fictions are distinguished from chimeras which seem to have a proper negative meaning. Note that from this brief distinction it is clear that Leibniz relates concepts or notions to modal concepts (possibility and impossibility), since he defines notions or consistent termini as terms whose possibility can be demonstrated, i.e., they involve no contradiction.

In NE, Leibniz describes "chimerism" and "obreption" as an abuse of the intellect. .

> Il est encor à propos de considerer qu'il y a deux abus considerables dans les definitions, qu'on peut commettre en voulant former des idées: l'un est ce que l'excellent Jungius appelloit obreption l'autre est ce que j'appelle chimerisme, par exemple si quelqu'un raisonnoit ainsi: il m'est permis de combiner les idées, et de donner un nom à ce qui en resulte; prenons donc l'idée d'une substance où il [n'] y ait rien que de l'etendue et appellons cela corps, donc les corps qui sont dans la nature n'ont rien que de l'etendue, il y auroit à la fois ces deux fautes dans ce raisonnement. […] Le chimerisme est icy d'avoir fait une combinaison impossible, car on n'accorde point qu'il est possible qu'il y ait une substance qui n'ait que de l'etendue. (NE 30-1)

[1] A VI 4 558: "Terminum voco quicquid per se est, seu quod subjectum vel praedicatum alicujus propositionis esse potest ut Homo, Chimaera; excluduntur itaque particulae. Terminus est vel possibilis vel impossibilis. Possibile est, quod distincte cogitabile est sine contradictione; ut Ens, Deus, Calor, Non Ens. Impossibile est quod confuse quidem cogitabile est, at si distincte cogitare tentes, comperies notiones, ex quibus componitur inter se pugnare, seu contradictionem involvere. Ut Motus celerrimus, circulus maximus, Mens corporea. Possibile est vel Affirmativum, ut Ens, vel Negativum ut Non Ens. Utique enim Non Ens nullam involvit contradictionem, ac proinde inter Terminos possibiles recensetur." A VI 4 869-70: "Ens est distincte cogitabile. Existens distincte perceptibile. Chimaera seu Ens falsum quod est cogitabile, sed non distincte." A VI 4 1168: Non Ens vel negationis est, vel rationis. Non Ens negationis purae ut negatio formae in subjecto incapaci non purae privatio. Rationis, quod nullum habet esse nec actuale nec possibile, sed fingitur vel rationis ratiocinantis ut chimaera; vel ratiocinatae quod fundamentum in re habet, ut genus species. See also the text "*Alia est rerum, alia terminorum divisio*" edited by Mugnai (2001, 258): "Terminus est vel Nihil ut Blitiri,vel aliquid. Aliquid est subjectum propositionis verae, estque vel impossibile, quod dicitur chimaera vel Ens. Ens est aliquid possibile, ut Deus, homo, scientia, scriptio, motus."

Leibniz brings the example of the body in critical opposition to Descartes and the abuse seems to be this: We can arbitrarily combine ideas into a single composition. For instance we can combine the idea of "substance" and that of "extension" and we have, according to Descartes, the idea of "body". This idea is chimeric, as we associate two ideas according to what we find conceivable and attribute existence to them. Chimerism is thus not an impossible idea per se, but an illegitime move to believe that what we conceive must exist exactly as we conceive it: as a body which has no further attribute that to be extended. Notice, however, that the combination is impossible because from this act of conceiving there is no manifest reason to believe that an extended substance that is nothing but what we can *imagine* to exist. This is evident if we analyze what Leibniz says about the second abuse in reasoning "*obreption*" (creeping):

> L'obreption y seroit en ce qu'ayant donné au mot: corps, la definition qui bon me semble (ce qui est en quelque façon arbitraire), je veux par aprés l'appliquer à ce que d'autres hommes appellent corps. C'est comme si dans la Geometrie quelqu'un donnoit à ce mot: ovale, la definition que d'autres Geometres donnent à l'Ellipse, et vouloit prouver par aprés que les ovales de M. des Cartes sont des sections du cone. […]Je sçais que ces Messieurs veulent se justifier de l'obreption, en disant qu'on ne sçauroit concevoir autre chose dans les corps qui sont dans la nature, que ce qu'ils ont mis dans leur definition; mais en cela ils commettent une fausse supposition, ou bien ils confondent concevoir et imaginer; car il est bien vray qu'on ne sçauroit imaginer que ce qui est étendu, mais ils reconnoissent eux mèmes ailleurs qu'on conçoit des choses qui ne sont pas imaginables. Ouy, diront ils, mais ce n'est que la pensée qu'on ne peut point imaginer. Je reponds, qu'en cela ils font encor une autre fausse supposition en pretendant que rien ne sçauroit estre conçu que pensée, et étendue, oublians qu'ils parlent souvent eux mêmes de la force qui n'est pourtant ny l'un ny l'autre, outre qu'ils n'ont point prouvé qu'il n'y a rien de possible que ce que nous concevons. (NE 31)

Once a subject has formed a notion of a thing based exclusively on what she can conceive as part of that notion, the second step is to find a definition and also believe that another subject can conceive of the notion in the same way and use the definition (which is arbitrary) in the same way. In doing this, she conflates imagining with conceiving. The conflation lies in the fact that something that can be only conceived as an idea of the intellect, by extension, is imagined to exist in reality. Another example is the idea of force that is something we can neither sense nor imagine, and nonetheless it is not simply an *ens rationis* or something that exists in thinking only. In other words, Leibniz argues that the mere act of conceiving of an idea is insufficient to conclude that it is true of the actual world exactly as

we can conceive of it, as there are things that we can conceive of but do not exist in the actual world as conceived.

The background for his criticism of Locke's conception of ideas is his theory of modality based on the distinction between essence (possible) and existent (compossible): Essences are things that can be conceived without contradiction, while existent in the actual world are those things that can coexist (are compossible) with other things that are part of the world. The conceivability of a notion does not therefore enable a subject to conclude that that notion is also compossible in the actual world, i.e., represent individuals that can exist. The consequence is that the passage from *conceiving extension* to claiming its existence is an abuse of the intellect that pretends that what it can conceive must also exist. The chimerism consists in pretending that the world conforms to our conception of it, and not the other way around.

In other passages, Leibniz connects chimeras not simply to the act of composing an idea by gathering together different conceptual features that prove to be incompatible but with the act of believing that, in so doing, we represent something that exists in reality *exactly as* we have imagined it.[2] Now we have to understand how this idea of chimeras represents a criticism of Locke's ideas.

The marks of a "chimera" are that (i) it is something conceived, which involves a kind of *ens rationis ratiocinantis*, i.e., a distinction of the intellect that does not have any foundation in nature, but yet (ii) pretends to determine how nature is. In other words, it states the possibility of something by moving from how a subject conceives of something to the conclusion that since one conceives of something in a certain way then she can also conceive that it exists as she conceives it.[3]

Consider what Locke says about the formation of ideas of substances. For Locke, a subject can form the idea of "gold" simply by combining marks he abstracts by observing instances of golden things. In so doing, the subject does not refer to something GOLD as a common essence of golden things but only to her perceptions of GOLD. In other words, through reflection a subject can imagine GOLD (in Locke's jargon a 'nominal essence') as constituted by some general ideas, and this act relies only on what *she can conceive of* that notion based on the agreement or disagreement she explicitly perceives among the marks of the complex notions. In so doing she thus imagines that something like GOLD exists "outside" her mind, in the world, exactly as she can think of it. The problem is that this

[2] NE 265: "il semble que le meilleur est de dire que les idées possibles deviennent seulement chimeriques, lors qu'on y attache sans fondement l'idée de l'existence effective."
[3] GP IV 356.

nominal essence GOLD cannot refer to anything, since Locke denies both that there is a common essence GOLD of which the nominal essence is an expression and that the nominal essence can stand for something other than the ideas in the mind of the subject that thinks of the idea. In other words, the subject supposes an *ens rationis* that cannot exist but attributes existence to it. This is however only one part of the error. The next step is to find a definition and believe that other minds also use the term and the definition in the same way, i.e., that she cannot intend anything other than what she intends when she talks of GOLD. Locke's ideas are thus chimerical because they are something imagined as existing by a mind but they do not refer either to anything existing externally, or to other ideas in someone else's minds. They cannot guarantee that human minds, in referring to the idea of GOLD, are referring to the same thing since the nominal essences cannot but exist in the mind of the one who thinks of them only in the way in which she can think of them. Ideas are in this sense only particular mental acts of a particular mind, a conception that leads to a sort of private language.

The other aspect of Leibniz's criticism is that subjects, on Locke's framework of the cognitive faculties are not capable of determining the possibility of notions. For Leibniz, notions are real when they represent something's possibility. The possibility of a notion consists in the absence of contradiction. According to him, there are two ways of determining the possibility of something: The first is a priori, the second a posteriori.[4] Determining the possibility of a notion a priori would mean to find a real definition since we would be able to conceive that the marks that compose the notion cannot produce a contradiction. In other words, we would be able to determine what a thing is and that it is possible by the mere fact that we conceive of it.[5] This kind of knowledge is nonetheless beyond finite minds' power

[4] Because of this, Leibniz rejects Locke's distinction and understands nominal essences to be chimeras, i.e. something we can conceive indistinctly only by virtue of names. NE 293: "Il me semble que vostre langage innove extremement dans les manieres de s'exprimer. On a bien parlé jusqu'icy de definitions nominales et causales ou reelles, mais non pas que je sache d'essences autres que reelles: à moins que par Essences nominales on n'ait entendu des Essences fausses et impossibles qui paroissent estre des essences, mais n'en sont point; comme seroit par exemple celle d'un decahedre regulier, c'est à dire d'un corps regulier compris sous dix plans ou hedres. L'essence dans le fonds n'est autre chose que la possibilité de ce qu'on propose. Ce qu'on suppose possible est exprimé par la definition, mais cette definition n'est que nominale quand elle n'exprime point en mème temps la possibilité, car alors on peut douter si cette definition exprime quelque chose de reel, c'est à dire de possible; jusqu'à ce que l'experience vienne à nostre secours pour nous faire connoistre cette realité a posteriori lorsque la chose se trouve effectivement dans le monde, ce qui suffit au defaut de la raison qui feroit connoistre la realité a priori en exposant la cause ou la generation possible de la chose definie. Il ne depend donc pas de nous de joindre les idées comme bon nous semble, à moins que cette combinaison ne soit justifiée ou par la raison qui la monstre possible, ou par l'experience qui la monstre actuelle, et par consequent possible aussi."

[5] NE 265: "PHILAL. Mais les idées composées des substances, comme elles sont toutes formées par rapport aux choses, qui sont hors de nous, et pour representer les substances, telles qu'elles existent reellement; elles ne sont reelles, qu'entant que ce sont des combinaisons d'idées simples, reellement et unies et coexistentes dans les choses qui coexistent hors de nous. Au contraire celles là sont chimeriques qui sont composées de telles collections d'idées simples qui n'ont jamais esté reellement unies et qu'on n'a jamais trouvé ensemble dans aucune substance; comme sont celles qui forment un centaure, un corps ressemblant à l'or, excepté le poids, et

since it would imply an adequate notion of the thing that can be known only intuitively, a possibility that Leibniz denies. This is why finite minds can determine if a notion of something is possible only by relying on a posteriori inquires, i.e., on experience. It is the fact that nature shows us that something like GOLD is possible that one assumes that something like GOLD is possible.

At this point, one could ask why Locke's ideas should be chimerical whereas Leibniz's ideas are not. In the end, they are not saying extremely different things, at least according to Leibniz; for Locke, as for Leibniz, we do not form our notions arbitrarily, but we rely on experience. I take the difference for Leibniz to be the reference of those ideas. Locke's ideas can refer only to the mental act, and so ideas of substances are never adequate, since they refer to an archetype which is outside the mind (EHU II 29). But the archetype of these ideas do not exist, in Locke's view. There is no ground for them, therefore they are simply something we conceive of but which does not exist.

Ideas refer only to a subject's own actual understanding and conjoining of notions in her mind. One could object that this is not Locke's intention, since he believes ideas to have actual referents, and hence to refer to golden things *actually* existing in the world. Even if we accept this interpretation –though we have pointed out that it is problematic, since Locke denies general essences as substantial forms of things in the world– it follows that when we take ideas to refer to something outside the mind, we make a mistake and the ideas are false. If ideas of substances cannot refer to something external, Leibniz objects that proposition upon instances of those ideas are always false because the substance is anything existent. In this sense, they are chimerical: They simply assume that what they imagine exists as they imagine it, but they cannot prove it. Moreover, Leibniz argues, if we assume ideas to mean extensionally only, the annihilation of all members of a class implies that the idea of that class is chimerical, with the consequences that all propositions about that class would be false.[6]

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plus leger que l'eau; un corps similaire par rapport aux sens, mais doué de perception et de motion volontaire, etc.

THEOPH. De cette maniere prenant le terme de Reel et de Chimerique, autrement par rapport aux idées des Modes que par rapport à celles qui forment une chose substantielle, je ne voy point quelle notion commune à l'un et à l'autre cas vous donnés aux idées reelles ou chimeriques. Car les modes vous sont reels quand ils sont possibles, et les choses substantielles n'ont des idées reelles chez vous que lors qu'elles sont existentes. Mais en voulant se rapporter à l'existence, on ne sauroit gueres determiner si une idée est chimerique ou non, parce que ce qui est possible quoyqu'il ne se trouve pas dans le lieu ou dans le temps où nous sommes peut avoir existé autres fois ou existera peut estre un jour, ou pourra mème se trouver déja presentement dans un autre monde ou même dans le nostre, sans qu'on le sache; comme l'idée que Democrite avoit de la voye Lactée que les Telescopes ont verifiée."

[6] NE 263: "Une idée aussi sera reelle, 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 deviendroit chimerique."

Leibniz's conclusion is that on both interpretations of Locke's ideas (i.e., as referring to ideas in the mind or as referring extensionally to things), the result would not change: If we accept Locke's theory of ideas, we cannot have any certitude in science. Since all our general knowledge would be grounded on ideas that in either case are chimerical—and hence impossible—it would be impossible for us to determine truths logically. From a logical point of view, indeed, a proposition that implies a chimera or an impossible term cannot be used as a premise of a consistent argument since from a false proposition both the truth and the falsity of the consequent follow:

> On peut manquer en suivant ses idées [of Locke] lors qu'elles sont fausses et chimeriques. Car alors on ne se peut pas fier à leur agrément ou desagrément, par ce que les idees chimeriques et impossibles enveloppant des contradictions, il y peut avoir de l'agrement et desagrément en meme temps. On voit par la qu'il falloit donner cette marque propre à discerner les idées vrayes des fausses, c'est ce que j'ay fait dans la meditation alleguée cy dessus suivant ce que j'avois appris des Geometres. Voicy comment je m'y estois expliqué: la marque d'une idée vraye et reelle est lorsqu'on en peut demonstrer la possibilité, soit a priori en donnant ses requisits, soit a posteriori, par l'experience: Car ce qui existe actuellement ne sçauroit manquer d'estre possible. Ainsi ceux qui se rapportent a leur idées sans les pouvoir verifier par la raison ou par l'experience sont à peu pres comme les Enth[o]usiastes, qui n'ecoutent point la raison, par ce qu'ils se fient à leur visions. (Letter to Burnett 1702 A I 18 372-3)[7]

As Leibniz writes in the passage, Locke's ideas can be verified neither by experience nor by reason. In this sense, their conjunction is comparable to the idea of enthusiasts who rely only on their imaginations and how they intend things.

Moreover, on this account subjects can rely only on their notions and their conceptions to determine the nature of things, which in Leibniz's system implies a transition from conceiving to affirming the existence of the notion conceived. This transition is not legitimate since it would imply that anything that we can conceive of exists exactly as we conceive of it. This conception makes Leibniz's theory of possible worlds collapse into a necessitarianism:

[7] Interestingly, the same criticism is addressed to Locke from the pages of "Monatlicher Auszug" in the very same year. The occasion for this criticism is a résumé of two chapters from Locke's Essay added in the edition of 1699: Chapter 33 of book II "On the Associations of Ideas" and Chapter 29 of book IV "Enthusiasm." (Notice that in the quoted passage of the letter to Burnett a theory of connection of ideas based on ideas as Locke intended them is compared to the knowledge an enthusiast can achieve, who connects ideas without being able to prove their connection, based only on her imagination). According to A VI 6, Leibniz himself is not the author of this résumé. However, we can consider him the author of the "Zusatz," a sort of comment that follows the summary of Locke's chapter if we consider both the content of the criticism expressed there and the fact that Leibniz actively took part in the publication of "Monatlicher Auszug" suggesting books that could have been reviewed. The topic of EHU II 33 is the object of the comment. Leibniz agrees with Locke that affects are mostly the reason why we connect ideas—tendencies that we share with the "shadow of reasoning" possessed by animals—but we also connect ideas because of a "Leichtgläubigkeit" towards beliefs and propositions (ie credulity, or an inclination to believe things without thorough analysis). This can be avoided by analyzing ideas, i.e., by not assuming ideas as perceptions and actual thought, but as possibilities. Mon. Ausz. 1701-2 p. 313-330.

Only the world which exists can be conceived. Leibniz's conception of possibility is disconnected from existence: What is possible is what is conceivable without contradiction. If one can conceive of something without contradiction she can believe that this something is possible in another world. The knowledge of something's possibility, however, does not enable minds to conclude that it can also exist since, if possibilities are the same thing as actualities, then everything possible must exist. It would follow that either every possible world exists or that only the existing world is possible. If this were the case then God could not have chosen the actual world as the only existent world among the possible ones. In this way Leibniz's metaphysics would have be irremediably committed to necessitarianism, i.e., the view that everything that exists necessarily exists, which is exactly the position he aims at denying through his theory of possible worlds.

The main consequence is that according to Leibniz, Locke's theory of ideas cannot explain general knowledge since it is committed to a kind of private language: ideas can only be ideas in the mind of a subject as she intends them. They are chimerical and cannot be part of logical reasoning, for any proposition implying a false term turns out to be false and hence cannot be used as a premise for hypothetical arguments (required by science, according to Leibniz) that ground truths. It follows that within Locke's epistemology, rational beings cannot explain their capacity for achieving general knowledge and sharing it.

As we can understand, the notion of possibility—used by Leibniz to define concepts—assumes a strategic role in order to overcome the difficulties presented by (Leibniz's interpretation of) Locke's theory of ideas. Because of this, we have to inquire into the notion of concepts as possible.

2.2.2. Concepts as Possibilities and Finite Minds' Mathematization of the World

A further problem raised by the difficulty in determining the referent of Locke's ideas is clarifying how we form general terms. Debating Locke, Leibniz contests that one does not form general ideas because of experience primarily but rather because of reflection, and, consequently, reflection is more essential to general terms than experience. Consider the case of animals again. It is not by chance that the third book of NE "On Words", dealing with the question of how we form general words, begins with a discussion of animals. Leibniz uses this example strategically in order to make clear that if animals have perceptions—as he believes and as Locke did not explicitly state against Descartes's philosophy (as claimed in

the quoted letter to Treuer quoted in 1.3.) —and if ideas depend primarily on the impressions of things on our senses, then animals also must possess general terms and be able to express them through general signs. However, this is not the case. Therefore, the contribution of reflection or intellect—contribution recognized also by Locke but diminished in favor of experience—must be more decisive than the senses.

Therefore, Leibniz maintains that rational beings can frame concepts because they can conceive of possible general beings such as CHAIR; WISDOM; VIRTUE, MAN. Reflection allows them to consider particular beings, which qua existent are differ from each other, as if they were all identical beings falling under the same notions "MAN", "TABLE"; or all states of affair characterized by the same mode, "VIRTUE"; WISDOM. In other words, rational beings make *as if* reality conformed to idealization such as CHAIR, TABLE, VIRTUE, WISDOM, and HUMANITY. The difference with Locke's account relies on the very notion of possibility: Possible is not something we simply conceive since what is possible is possible independently from how we conceive it (I will analyse this notion when dealing with Leibniz's conceptualism.)

The capacity to conceive of possibilities distinguishes humans and animals, and this is the contribution of reflection. As Leibniz writes, concepts as possibilities representing essences are mathematical representations of species and genus. By mathematical or logical representations Leibniz means that one assumes species to be rigid terms made up of features so that if one denies, e.g., the feature MALLEABLE to GOLD, she is designating a different species as GOLD (NE 401). Nonetheless, one has to bear in mind that, physically considered, things change, and two things can be said to be of the same species even if they present different properties, such as water and ice.[8] In another passage from a letter to Sophie Charlotte of 1706, Leibniz points out why finite minds need to appeal to notions:

> V.A.E. l'avoit bien connu, lorsqu'elle dit à feu M. d'Alvenslebe dans le jardin de Herrenhausen de voir s'il trouveroit deux feuilles dont la ressemblance fût parfaite, et il n'en trouva point. *Il y a donc tousjours divisions et variations actuelles dans les masses des corps existens, à quelque petitesse qu'on aille. C'est nostre imperfection et le defaut de nos sens, qui nous fait concevoir les choses physiques comme des Estres*

[8] NE 325: "J'ai distingué cy dessus les differentes acceptions du mot Espece. Le prenant logiquement ou mathematiquement plutot, la moindre dissimilitude peut suffire. Ainsi chaque idée differente donnera une autre espece, et il n'importe point si elle a un nom ou non. Mais physiquement parlant, on ne s'arrete pas à toutes les varietés, et l'on parle ou nettement quand il ne s'agit que des apparences, ou conjecturalement quand il s'agit de la verité anterieur des choses, en y presumant quelque nature essentielle et immuable, comme la raison l'est dans l'homme. On presume donc que ce qui ne differe que par des changemens accidentels; comme l'eau et la glace, le vif argent dans sa forme courante et dans le sublimé; est d'une meme espece: et dans les corps organiques on met ordinairement la marque provisionnelle de la meme espece dans la generation ou race; comme dans les corps plus similaires on la met dans la reproduction."

> *Mathematiques, où il y a de l'indeterminé.* Et l'on peut demonstrer qu'il n'y a point de ligne ou de figure dans la nature, qui donne exactement et garde uniformement par le moindre espace et temps les proprietés de la ligne droite ou circulaire, ou de quelque autre dont un esprit fini peut comprendre la definition. L'esprit en peut concevoir et mener par l'imagination à travers des corps, de quelque figure qu'ils soyent, quelque ligne qu'on veuille s'imaginer, comme l'on peut joindre les centres des boules par des droites imaginaires, et comme l'on conçoit des axes et des cercles dans une sphere qui n'en a point d'effectifs. *Mais la Nature ne peut point, et la sagesse divine ne veut point tracer exactement ces figures d'essence bornée, qui presupposent quelque chose de determiné, et par consequent d'imparfait, dans les ouvrages de Dieu. Cependant elles se trouvent dans les phenomenes ou dans les objets des esprits bornées:* nos sens ne remarquent point, et nostre entendement dissimule une infinité de petites inegalités qui n'empechent pourtant pas la parfaite regularité de l'ouvrage de Dieu, quoyque une creature finie ne la puisse point comprendre. *Cependant les verités eternelles fondées sur les idées mathematiques bornées ne laissent pas de nous servir dans la practique, autant qu'il est permis de faire abstraction des inegalités trop petites pour pouvoir causer des erreurs considerables par rapport au but qu'on se propose; comme un ingenieur qui trace sur le terrain un polygone regulier ne se met pas en peine si un coste est plus long que l'autre de quelques pouces.* (GP VII 562; italics mine)

As the passage goes, our concepts are not reacher than our experience but a kind of postulation of limited essences (essences bornées) that represent things in nature. They are a kind of approximation to our experience which is characterized by continuous changes in particular things: Since minds are finite and cannot deal otherwise with the variety presented by experience than by considering things *as if* they were mathematical objects (statical essences that do not undergo to any change) they can neglect those continuous changes in things without being afraid of errors.[9] Consequently, only because of minds' purposes can one abstract from those differences and consider, for example, John and Claire each as MAN even if phenomenologically they are two very different individuals and, consequently, one can attribute all the general properties essential to MAN to all particular men, regardless of all differences. Let us consider a very simple example.[10] Two dogs, a mastiff and a little poodle, for instance, are both DOG, but they surely are very different. Despite this, no one will compare a dog and an elephant (NE 325).

[9] Mugnai already (1982, 22) observes that knowledge apprehends the general and salient common marks among things while neglecting the differences. Gensini (1991, 167-8) also insists on interpreting ideas as possibilities entailed by God's intellect. Gensini, nonetheless, does not recognize the difference between concepts and innate ideas.

[10] I prefer to use examples connected to everyday situations in order to point out that, according to Leibniz, rational beings constantly rely on notions as mathematical essences, hence notions based on the capacity of thinking of the possible/impossible are an essential aspect of minds. We do not rely on these essences only when we define or are engaged in logic, as Ishiguro (1972, 27) seems to suggest. Of course, due to habits we can perform operations and thinking without needing to appeal to the notion.

As a further example, consider what one does when she book a train ticket on the internet. She assumes, for instance, that there is a seat. Now, one does not need to see the real train or the seat, and everything inside in it in order to know that she can sit on the train. What I mean is that the seat one finds on a train in, let's say, Rome, is very different from a sit on a train in Germany; nevertheless it is a SEAT because it corresponds with her expectations. This is the mathematical consideration of things due to concepts which allow rational minds to draw possible scenarios and derive truths from those scenarios without the need to actually perceive them.[11]

Given this background, I want to argue in the rest of the book that when Leibniz says that this kind of knowledge is virtually innate, he simply means that it does not depend on the fact that something like seats and train exist but rather that minds, capable of representing the world thanks to distinct notions, exist. A seat might also exist but if there were not minds capable of thinking of SEAT or MAN there would not be any truth to SEAT or MAN but only concrete particular things which present only actual differences and changes. This is one of the consequences Leibniz wants to avoid and therefore he states that truths depend on God's intellect. There would be truths about MAN even if no finite minds existed since MAN remains a possibility in God's intellect. I will leave that aside for now. I want just to point out that the theory of notions as possibilities in God's intellect must avoid the problems faced by Locke's theory of ideas. According to Leibniz, indeed, our concepts refer neither to things nor straightfarwardly to our own actual thinking but to possibilities that as such are everlasting in God's intellect. Our concepts, hence, represent those possibilities always partially through the use of nominal definitions that we can ground in the *similitudo rei* which is real because things exist (see below, 2.2.6.).

Does this interpretation foster the idea of a Leibnizian idealism? It depends on what idealism means. If under idealism one understands a knowledge independent from the real world I do not think this is the case of Leibniz. This "approximate" or "provisional" knowledge can be assumed by rational minds because it can be applied to reality. Idealizing concrete things means finding patterns of what SEAT is or what VIRTUE is and assuming reality *as if* it corresponded to those patterns. Nonetheless, this kind of knowledge works because one actually can deal with reality *as if* it was reducible to that kind of mathematical description. I can have knowledge of SEAT and use that knowledge to frame possible scenarios on SEAT because those scenarios *can* exist. Only because SEAT "fits" in reality

[11] Of course, reasoning also depends on the knowledge a particular mind has of the world, so errors or misrepresentations may also arise. I will discuss this point in the next chapter. For the moment, I refer to NE 354.

can one accept SEAT as representing some real things that actually fall under the category SEAT.

This is, in my opinion, Leibniz's point against the arbitrariness of concepts held by Locke: a kind of externalism stating that meanings of words are not determined exclusively by a linguistic community but also shaped by the nature of things. Our use of concepts works not only because our speech acts score in a linguistic community but also because the nature of things "fits" in our descriptions and one can reliably think that "if there are seats, one can sit." As we will see, nonetheless, this kind of knowledge does not only depend on how things are but also on *how rational minds can think of* things. Consequently, I do not think one should be afraid of speaking of a Leibnizian idealism, if with this word one understands the necessary idealization of reality through concepts which allows finite minds to "govern" and deal with the variety and continuous changes in the real ontological world.

From this perspective I believe one can understand why the contemporary interpretation of the classical theory of definition, which I will discuss in the next paragraph, is not suited to describe Leibniz's theory of definitions. There is not only one definition according to Leibniz; concepts have many definitions, and if we pick out one as typical it is only because minds for practical reasons connected to communication need to determine a standard for things. According to his distinction between real and nominal definitions and the fact that rational spirits possess almost nominal definitions, a definition does not do the work of picking out all the instances comprehended under the definition;[12] it rather allows minds to deal with and acquire knowledge about reality.[13] Definitions are a necessary simplification of rational minds and they can also be mistaken in representing a possibility that turn out to be not comprehended in the actual world. (Consider for instance concepts such as ATOM: nowadays it does not refer to "not further divisible unity of matter", as for Aristotle, but to a

[12] NE 294: "Pour mieux distinguer aussi l'Essence et la definition, il faut considerer qu'il n'y a qu'une essence de la chose, mais qu'il y a plusieurs definitions qui expriment une même essence, comme la mème structure ou la même ville peut estre representée par des differentes Scenographies, suivant les differens costés dont on la regarde."

[13] A VI 4 A 159: "Sed Geometria ad haec assurgere necesse non habet. Nam etiamsi non darentur in natura nec dari possent rectae ac circuli, sufficiet tamen dari posse figuras, quae a rectis et circularibus tam parum absint, ut error sit minor quolibet dato. Quod satis est ad certitudinem demonstrationis pariter et usus. Posse autem dari hujusmodi figuras non difficulter demonstratur, modo admittatur hoc unum; aliquas dari lineas.Quarum idearum definitiones perfectas (id est possibilitatem rei a priori ostendentes) habere ab initio difficile est, earum interim adhibebimus definitiones nominales, id est ideam ejus rei resolvemus in alias ideas, per quas concipi potest, etsi non possimus progredi usque ad primas. Et hoc tum sufficiet cum experimento constat rem esse possibilem. Exempli gratia ignem definire possumus vaporem calidum et lucidum, iridem definire licet arcum in nubibus coloratum, satis enim constat experimento hujusmodi conceptus esse possibiles, tametsi non statim initio possimus ostendere eorum possibilitatem a priori, explicando generationem seu causam."

structure composed by smaller part of matter.[14]) Even if I know what GOLD is, I can fail at recognizing this piece of gold as gold for a variety of reasons.

If my remarks are correct, Leibniz is not committed to a poverty of the stimulus but rather to a variety of the standards which affirms exactly the contrary of the poverty of the stimulus: We experience particulars that present many further distinctions as those we can comprehend in our concepts. Our conceptual apparatus is a sort of simplification for that variety in order to refer to things smoothly, and enable human beings to share and have general knowledge. Consequently, Leibniz's conception of concepts is based on an analysis of the cognitive limits of finite minds rather than on the need to justify some domains of knowledge by assuming innate contents, as Cowie holds. Following my interpretation, conceivability of notions seems to play a pivotal role in the determination of a notion's possibility. And indeed, Leibniz defines possibility and conceivability reciprocally: Possible is what can be conceived, and what can be conceived is free of contradiction, i.e., possible. We have to return to this point because, as seen in 2.2.1. by analyzing Leibniz's criticism of Locke's ideas as a chimerism, mere possibility is yet not sufficient to determine the reality of a notion: the fact that a concept represents something that can also exist. Leibniz stresses the point that conceivability of notions is not a matter of free choice. The way in which rational beings distinguish species in the region of ideas is not an arbitrary choice of combinations of features that characterize things: It depends on the nature of things and on our thinking capacities (NE 309).

Now I shall argue why, considering the role played by concepts just described, Leibniz needs to assume a distinction between essences and existences of things. This distinction implies a different interpretation of concepts: Concepts are not determined and defined by virtue of their extension, i.e., the individuals they refer to, but rather by virtue of their intensional relations with other concepts. This distinction, in turn, includes a distinction between the questions of what concepts are, how they can contribute to the truth of propositions—which is their logical role—and how they are acquired by minds, which is their psychological role.

Through the distinction between intensional and extensional interpretation of concepts, I present another reason why I think that Leibniz does not endorse POS. The issue with POS is its basic assumption: the poverty of the experience. POS questions the relation between our conceptual apparatus and experience, and it provokes an immeasurable gap between the imperfection of our experience and the perfection of our conceptual apparatus. In doing so,

[14] For a more recent account of errors and change of referent for concepts, see (Oliveri, 2016b).

however, POS assumes an intrinsic dependence of concepts on their instances: Either concepts depend on their instances—this would satisfy empiricists—or instances depend on concepts—which would appeal to innatists. In both ways, however, the picture that dominates is the interpretation of concepts based on their extension, which is exactly the point that Leibniz aims to deny. In this sense, even if it is true that Leibniz states that there is a gap between beings and concepts, this gap is of a different nature than the one implicitly assumed by POS. Leibniz bases his interpretation of concepts on intensionality rather than extensionality. According to this picture, even if concepts do not depend on instances, they are able to do the psychological work since they imply a form of individuation. This different account enables him, further, to distinguish between the psychological work of recognition and individuation of concepts from the logical work played by concepts.

2.2.3. An Axiomatic Approach to Truths: Intensional Interpretation of Concepts

Leibniz's theory of concepts based on intensionality bears significative consequences on his theory of definitions. According to Leibniz, ultra-nominalism claims the arbitrariness of truths because of the arbitrariness of definitions. Definitions depend on words, therefore they are arbitrary as words are. It is worth noting that Leibniz does not reject that truths depend on terms. He maintains, however, that his philosophy can contrast the conclusion that truths are arbitrary because he assumes a different account of concepts and ideas. In a letter to Burnett in 1702, Leibniz explicitly claims that the assumption that truths depend on terms does not necessarily lead to the arbitrariness of knowledge if we "correct" what Locke intends under the word "ideas". This correction, Leibniz argues, will allow us to conciliate the dependence of truths on terms with an axiomatic approach to truths, without the inconvenient conclusion that truths are arbitrary because words are:

> Supposant donc cette Rectification des idées, je crois que pour le reste M. de Worcester et M. Lock se pouvoient accorder entre eux et avec moy à l'egard de la maniere de s' en servir. Car M. de Worcester vouloit que nos connoissances se devoient acquerir par les Axiomes, et par les consequences qu'on en tire conformement aux regles de la bonne Logique. Et suivant M. Lock ces Axiomes mêmes dependent de l'agrement ou desagrément des Idées, c'est ce que les philosophes de l'Ecole avoient dit en effect en observant qu'on ne pouvoit manquer d'accorder les axiomes, lors qu'on en entendoit les *termes*. Cependant il semble qu'on n'a eu qu'une connoissance vague de cette source des axiomes et de la maniere de les demonstrer, aussi bien que de l'importance de ces demonstrations, on se contentoit de dire que les axiomes dependoient de la connoissance

> des termes ou idées, mais on ne monstroit pas comment, c'est ce qui fait, qu'on n'a pas assez compris la veritable Analyse des verités intelligibles. (A I 18 373)

The dependence of truths on terms, Leibniz says, is something Locke recognizes too. Terms, as we will see, means a concept designated by a particular linguistic expressions, e.g. MAN designated by "man". There is a sense, hence, in which it is true that knowledge of the axioms depends on language too, but not as Locke argues. The aim of this section is to understand why truths depend on language and words, but this does not imply that truths are arbitrary.

According to Leibniz, we have seen, Locke's ideas are chimeras from which both the truth and falsity of something can be derived. In my opinion, Leibniz defines Locke's ideas as chimeras because they are only *entia rationis ratiocinantis*, which means that they exist only in the mind of who *is thinking* of them: They are particular mental representations that depend on a mind's actual thinking of it. The consequences are twofold: (i) Truths depend on the finite knowledge of things a mind can acquire in compliance with its experiences (how a particular mind represents things), and (ii) if no minds existed, truths would not exist. If we assume that ideas depend on experiences of instances and that rational minds derive those ideas from their own particular experiences but that, nonetheless, the connections that form complex ideas are arbitrary then these complex ideas cannot represent anything in reality but the ideas in the mind of a subject.[15] Therefore, since this subject may perceive her ideas distinctly, it follows that she has no objective criteria for determining truths but the fact that she perceives an idea distinctly. In other words, concepts depend on particular minds presently thinking of them and, thus, as Locke conceives them, concepts cannot play any normative role since truth will depend on every single act of conceiving presently thought by a particular mind. In this sense, as seen above, ideas are chimerical.

On the contrary, Leibniz believes he can settle the problem by distinguishing between degrees of ideas and therefore he refers to his MCVI in the passage of the letter to Burnett quoted in 2.2.1. Through a neat distinction between perceptions (clear but confused ideas)

[15] This aspect is also acknowledged by Locke scholars such as (Lenz, 2009). According to Lenz, the origins of ideas are not a sufficient condition to determine the standard which can fix the use of words and terms in a society. Consequently, minds adjust their concepts according to the use of words embedded in propositions in a linguistic society (See also 3.2.). Formigari (2003, 177-85) tries to settle the problem by relying on a sort of intuition which accompanies abstraction. Abstraction is not an enumeration of all properties a thing may possess, but rather an "intuition" of the salient mark which compose a thing and distinguish it from all other things. Implied in this approach is the consequence that mental representations are always of particulars and therefore that only words are general. And indeed, Formigari maintains the thesis that words are real compendia loquendi, and only words can play the role of Kantian schemata. The assumption of a sort of intuition which underpins the abstraction of salient aspects of things is problematic, however. In any case Formigari does not give an account of what this intuition is and how it can explain why different minds select the same marks as "salient."

and concepts (clear and distinct ideas or *cognitiones caecae*), Leibniz can argue that a concept does not depend on its instances (MCVI, A VI 4 A 590-1, as seen in 1.3.4.). This aspect opens the way for an intensional interpretation of concepts as linguistically structured and based on intensionality. As we will see soon, this approach implies nonetheless a strong commitment to the existence of the Leibnizian God. If truths do not depend on the actual thinking of minds, they must nonetheless exist in the mind of God. Because God does not think of just the actual world but all possible worlds, composed of all possible individuals, truths subsist even if no mind is actually thinking of them or if all individuals of a species disappeared. This interpretation implies a further strong assumption: Rational minds and God share the same criteria for the determination of what is possible. They differ regarding the extension of knowledge about the world: minds cannot determine if something possible will exist or not, whereas God knows it.

Through an axiomatic approach to truths combined with the assumption of concepts as possibilities, Leibniz believes to be capable of avoiding solipsism. In contrast to Locke's theory of ideas, Leibniz thinks his theory to be capable of explaining why two different subjects can have two different actual conceptions of the same notion while nevertheless one assumes they are referring to the same notion, and hence, that they share the same concept. For this conception, as we will see, the assumption of ideas as innate constraints is required since innate ideas as constraints on thought guarantee that different minds can cognize the world in an analogically similar way.

2.2.4. Typicality Effects: Between Psychological and Logical Use of Concepts

The point that concerns me now is to determine why the distinction between nominal and real definitions, as well as the intensional interpretation of concepts can avoid the conclusion of the arbitrariness of truths. Through an intensional interpretation of concepts, Leibniz distinguishes the question of the origin of concepts from the question of their normative and epistemological role in the determination of science, i.e., between the psychological and the logical inquiry into concepts. Why does he have to distinguish the two questions? He does so because Locke conflates the two issues and tries to undermine the theory of definition from this perspective.

Locke discusses the case of monsters from the perspective of the thesis of the variety of the standard. The acknowledgement of borderline cases like monsters, Locke believes,

should represent convincing proof that definitions depend on convention. In order to deny the view that definition can determine references because they are grounded on real essences, Locke argues that since some individuals—for instance a, b, and c—should be considered instances of MAN but do not present a property believed to be essential to MAN, i.e., rationality, (either because of a disease or because of some genetic modification, like monsters), we have to conclude that definitions, extensionally interpreted, cannot be based on the knowledge of essences and, therefore, are arbitrary. This criticism of an extensional interpretation of definition is based on what is today called the typicality effect. It is assumed that a definition has to pick out all things in the world that have the quality represented by that very concept, e.g. BEING-A-MAN. The truth of a definition is, therefore, determined by its aptness of determining the class of things that fall under that concept, i.e., the validity of a definition is determined due to its extension. Basically, the typicality effect claims that "not all instances of a given concepts are on equal footing" (Laurence & Margolis, 1999, 24). In a nutshell, even if a definition is supposed to pick out all instances which must fall under a concept indistinctly, there are instances considered better fitting than others. For instance, robins are more easily considered to belong to BIRD than chicken or vultures; apples are more easily considered FRUIT than olives. This kind of answers also depends on the experiential background of the subject: A subject who has been living in Brazil would probably consider a pineapple as FRUIT more easily than a subject who has been living in Alaska.[16] This argument is leveled today against the interpretation of concepts as having definitions, a point contended also by Locke in his EHU.

And indeed, the controversy around monsters reminds us of this problem. If we consider that changelings were born from human beings, we have to consider them humans; nonetheless, due to their aspect we are not able to recognize them as belonging to HUMAN BEING. On the other hand, it might also be that creatures which look like men do not show reason. Should we consider them as human beings? How should we consider speaking animals? If it were to find a perfectly reasonable parrot, Locke argues, we will call it a "reasonable parrot" and not a man, although it is a rational animal (EHU II 27).

Locke argues that because some subject, due to her limited knowledge, can be unable to recognize some individual as having the property R (being rational), then MAN as RATIONAL ANIMAL cannot be true. In other words, Locke pretends to prove the possibility of the concept MAN from the fact that all instances of the concept MAN must possess all the essential properties of the concept. It follows that if a subject possesses the definition, then

[16] See Laurence & Margolis (1999, 10-27; especially regarding the typicality effect: 24-7).

she must be able to recognize all instances of that concept as instances of that concept without ambiguous cases: All instances of a concept must be on equal footing. But since some subjects cannot decide if those instances count as man or not, we thus have to deny that MAN is grounded in reality; therefore, MAN and its definition is arbitrary. It follows that a theory of concepts that assumes that concepts have definitions cannot explain errors: It cannot explain how ignorance and errors about concepts are possible. Only if we consider MAN as a result of a convention, rather than as a concept grounded in nature, can we make sense of ambiguous cases and of why rational beings lack in definitions and categorizations. This analogy allows us to remark that Locke's argument from the variety of standards rests on a psychological conception of concepts, itself based on an extensional interpretation. The possession of a concept should put a subject in the state to aptly recognize all instances which fall under the concept. [17]

Given the previous section, Leibniz's concern clearly extends more widely to the logico-epistemological, as well as the practical consequences of Locke's criticism. In response to Locke's criticism, he presents a theory which assumes concepts to be *possibilities*.

To reiterate, general notions are possibilities; they enable rational beings to frame scenarios, and therefore to reflect on those scenarios and determine their action on the basis of the knowledge of "what follows if 'p' is true." This view implies the following: That concepts can represent possibilities so long as (i) they can reliably represent the external world, i.e., if we assume that things are so not because of our way of ranking them; (ii) they are possibilities that are interconnected, independent of both the actual existence of things, and from our actual thinking of them; (iii) and they are shared by other individuals, since intercourse among minds is possible because they can frame scenarios and attribute propositional attitudes to other minds. The second aspect to underline is that concepts enable the framing of possible scenarios that may not subsist in reality, and they can do this because the ideal world does not depend on the historical world. Since concepts are independent from the actual existence of individuals, they can play the role of possibilities and enable rational souls to make deductions and inferences.

[17] One could object that Locke's argument is based on the fact that the very thing does not possess the property; in this sense the argument is not based on how other rational beings conceive of that very thing. In my opinion, Leibniz does not read the argument this way for one simple reason: A rational being never stops thinking or exercising its activity as a thinking substance; it is simply not aware of that activity. In this sense, even if a disease deprives John of an apparent rationality, it does not deprive him of thought in which rationality consists. In the discussion about monsters, Leibniz also points out that we cannot decide whether they are human or not as long as they do not manifest reason because the fact that they actually do not manifest reason is still not sufficient enough to conclude that they do not have reason or that they cannot develop it. See also NE 331.

The role played by concepts in the establishment of sciences is to allow us to recognize the *reasons* why a subject can believe that something that has already happened will happen again. To argue for this position, Leibniz points out that we have to distinguish between the ideal and the real world, i.e., between essences and existences:

> Si vous prenés les idées pour les pensées actuelles vous avés raison. Mais je ne voy point qu'il soit besoin d'appliquer vostre distinction à ce qui regarde la forme mème ou la possibilité de ces pensées, et c'est pourtant de quoy il s'agit dans le monde ideal qu'on distingue du monde existent. L'existence reelle des estres qui ne sont point necessaires est un point de fait ou d'Histoire, mais la connoissance des possibilités et des necessités (car necessaire est dont l'opposé n'est point possible) fait les sciences demonstratives. (NE, 301)

The distinction between the ideal and the existing historical world grounds the demonstrative sciences, argues Leibniz against Locke. An intensional interpretation of concepts allows a subject to derive conclusions and to determine the truths of these conclusions without needing to know if the proposition is instantiated in the world. As scholars have noted, the intensional approach avoids the problem of *constantia subjecti*, as Leibniz also writes in NE, and enables individuals to handle notions apart from actual perceptions of their instances and, therefore, of their existence [(Ishiguro, 1972, 53); (Mugnai, 1976, 88-92); (Rauzi, 2001, 164-7)]. The problem of *constantia subjecti* states that if the subject of the sentence does not exist, then anything can be concluded from the sentence. The proposition "Pegasus has four legs" is simply inconsistent: Since it entails a *non-ens*, any truth can be derived from an argument that uses the proposition as a premise. As Leibniz writes:

> Les Scholastiques ont fort disputé de constantia subjecti, comme ils l'appelloient, c'est à dire, comment la proposition faite sur un sujet peut avoir une verité réelle, si ce sujet n'existe point. C'est que la verité n'est que conditionnelle, et dit, *qu'en cas que le sujet existe jamais, on le trouvera tel*. (NE 447 italics mine)

On the contrary, an intensional approach states that "*if* something like Pegasus exists, it will have four legs." In other words, it allows minds to conclude truths about scenarios based only on the use of terms. In this sense, the theory of concepts as possibilities and the need of signs capable of representing them are necessary assumptions for an intensional interpretation of concepts.

The core assumption of intensionality is that the generality of a concept is not determined due to the instances it represents but due to the conceptual features it can be

decomposed into. METAL is more general than GOLD because GOLD entails METAL among its conceptual requisites whereas in turn GOLD is not an essential features of METAL. If I think that I need a metal to conduct electricity, this does not mean that I need gold (I might use iron). Therefore I will look for any metal, not just gold. But if, on the other hand, I need a precious metal to give as a present, I will probably look for gold instead of other metals. It seems evident that an intensional interpretation implies a sort of individualization: The more requisites a concept contains, the more it can specify the represented thing. Therefore, an intensional approach may be subject to an extensional interpretation: The class of golden things will be comprehended in the class of metallic things, whose extension is therefore wider. The more requisites a concept entails the more specific it is, all the way down (potentially) to complete concepts of individuals.[18]

Following Ishiguro (1972, 125-26), I think the role played by intensionality is that it allows for the consideration of particular instances, and therefore, of particular contingent propositions as universal contingent propositions. It thus enables rational beings to handle the variety and contingency of reality, and to reduce it to what Leibniz in the above-quoted letter to Sophie Charlotte called a "mathematical" interpretation of reality. Even if I have never met John nor have ever been to Singapore, I can attribute to John all the attributes I will hold as true for MAN. In the same way, I can hold the proposition "if there are chairs in Singapore, I can sit" to be true. Concepts as possibilities thus allow inferring that "if something like chair exists in Singapore, it will be such and such" and "if John is a man, he will be such and such." Following Ishiguro's analysis, all singular propositions may be treated as universal which can be treated as hypothetical (Ishiguro, 1972, 125). Ishiguro analyzes the proposition "every laugher is a man; therefore some man is a laugher." According to an intensional interpretation, the universal proposition is true even if no man existed; the existential proposition is not true unless some man exists who can laugh, according to an extensional interpretation. Nonetheless, the sentence considered from an intensional point of view is true if we rest within the limits of possibility, i.e., when we consider "man" not as an existing entity but as a species. Following this interpretation, Ishiguro correctly concludes that non-

[18] As Lenzen has showed, indeed, both accounts may be reconciled (Lenzen, 1983, 129-48) Nonetheless, the issue regarding the real impact of an intensional interpretation towards logic has concerned scholars since Couturat, who believed that Leibniz was not able to justify such an approach (Couturat, 1901, 361). An article by Rescher, who tried to work out an intensional approach to logic, and a response by Dummett, who criticized Rescher's attempt and posed the question of an effective difference between intensional and extensional approaches (according to Dummett, Leibniz needs to appeal to concept extensions), complicated the framework of the discussion [(Rescher, 1954, 1-13; (Dummett, 1956, , 197-9)]. I shall set aside the question of logic based on intensionality, because it outstrips my main concern; I shall rather posit the question of the import it can have for a philosophy of language capable of settling the epistemological problem that Locke's conception posits.

existing but possible entities like Pegasus are not like chimeras—or logically impossible entities—and we can thus form propositions and determine truths about them without being concerned with their existence (Ishiguro, 1972, 126).

I consider this a very interesting insight on Leibniz's theory of concepts for two reasons. First, for him the capability of framing scenarios and anticipating reality thanks to hypothetical reasoning is an essential feature of thought. Rationality is committed to a modal interpretation of reality based on the logical distinction between possible and impossible, and the ontological distinction between contingent and necessary. Only through a modal interpretation of reality, according to which particulars are considered *as if* they were identical to possibilities expressed by our concepts, and are independent from our actual consideration of them, rational beings are able to acquire scientific knowledge because they can trace regularity in the variety of things presented by experience. Since the subjects of general knowledge are not straightforwardly individuals but possibilities, an intensional interpretation of concepts is required. Does this mean that experience does not contribute to this kind of knowledge? I do not think so. It means that experience contributes to knowledge, but in a different way. Experience enables rational beings to determine the possibility of things *a posteriori* and to distinguish the merely possible (like Pegasus) from the actually possible (like CHAIR), and to avoid to attribute existence to things that we can only conceive. The processing of our perceptual experience, which is the basic activity of any substance, enables minds to determine reality due to compossibility: to recognize dependences and relations of things that can coexist in the actual world through the conceiving of relations between the concepts that represent them, and hence, can coexist in a logical space. Only by considering something not just as possible but as perceptible, i.e. as existent, can a mind separate the merely fictive notions from notions grounded in reality.[19]

Such a theory of language, moreover, opens up the possibility for a theory of truths in literature and history, areas of knowledge where the subjects of truths may not exist, either because they are fictive or because they no longer exist. Even in dealing with fictive scenarios, we can still determine if a proposition about a romance such as "Romeo killed himself" or a proposition about historical truths implying non-actually-existing entities such as Caesar or Cicero are true because of the terms involved in those propositions. In the latter case, for example, we say that "whatever is Caesar, he crossed the Rubicon," and so we can consider this fact of Caesar true even if he does not exist.

[19] A VI I 285, quoted in 2.1.1. p. 133.

It is clear, then, why Leibniz writes to Burnett that his theory of truths requires the assumption that truths depend on terms involved in propositions: If the truth of a proposition does not depend on the existence of instances, it depends on what terms mean. What consequences does this assumption bear on the framework of a cognitive theory which states that there is no thought without signs?

2.2.5. Essences and Beings

As scholars like Mugnai (1976, 80-6) and Di Bella S. (2004,15-49) have shown, the *salva veritate* principle assumed by Leibniz's theory of truth implies a distinction between terms and beings, which in turn implies an intensional interpretation of concepts. The *salva veritate* principle states that two terms are the same iff we can substitute one with the other without a change in the truth-value of a proposition.[20] From some of Leibniz's remarks, the *salva veritate* principle must help in solving ambiguous contexts where the substitution of a term by another that has the same extension changes the truth-value of the proposition. Briefly, then, *salva veritate* holds that an extensional interpretation of concepts bears odd consequences when we have to deal with propositions where the intension means something that cannot be derived by considering the extension only. A classical example is reduplicative context, as I shall soon analyze (Mugnai, 1979, 32-44).[21]

By analyzing Leibniz's definitions of the principle, Ishiguro points out that it is questionable whether one has to interpret "two things" as objects or as terms. Some scholars, indeed, tend to identify the *salva veritate* principle with Leibniz's law on some occasions, and with Leibniz's principle of identity of indiscernible on others (Ishiguro, 1972, 17-20). Leibniz's law claims that if A and B are identical, then everything true of A is true of B; Leibniz's principle of identity of indiscernible states that if everything true of A is true of B

[20] A VI 4 154: "Si a est b et b est a, potest unum pro altero substitui salva veritate. Subjectum substitui potest in locum praedicati seu si a est b, et b est c, etiam a est c."; A VI 4 275: "Idem est quod ubique in alterius locum substitui potest salva veritate. Ex. gr. aequilaterum aequiangulum quadrangulum, et: aequilaterum rectangulum quadrilaterum, et denique quadratum, haec tria sunt idem, et unum pro altero substitui potest. Nam eadem res quae quadrata est etiam aequilatera rectangula quadrilatera est et contra." A VI 4 282: "Eadem sunt quorum unum in alterius locum substitui potest, salva veritate, ut Triangulum et Trilaterum, Quadrangulum et Quadrilaterum." The topic of the salva veritate criterion of truth of propositions is a focus of discussions about Leibniz's logic. Scholars like Russell have interpreted the principle as necessary for an analytic account of truth: the salva veritate principle has been associated to praedicatum inest subjecto principle. Since all propositions must be reduced to the form subject-predicate, the criterion for their truth is analyticity (Russell, 1900, 7-8). This kind of reading is assumed also by Quine in its famous "Two Dogmas of Empiricism", but with the aim of showing the vagueness of the term "analytic" (Quine, 1951, 30); see fn 21. Other scholars, like (Ishiguro, 1972) and (Mugnai, 1976), hold a different position, stating that salva veritate is a criterion for the identity of concepts.

[21] A german translation of Mugnai's paper is available: Mugnai (1979, 82-92).

and vice versa, then A and B are identical. If one equates Leibniz's *salva veritate* principle to Leibniz's law or to the principle of indiscernibility, odd consequences arise, since she should conclude that triangle and trilateral are not terms for the one and the same object since there could be propositions that are true for trilateral but not for triangle. In Ishiguro's view, this difficulty arises if we miss the fact that "two things" in Leibniz's definition of the principle must be interpreted as "two terms." From here it follows that the *salva veritate* principle determines the identity of concepts and therefore the truth-conditions of propositions and not the identity of beings.[22] In a nutshell, distinctions and relations between terms differ from separations and relations between beings, and this clear distinction aims at making sense of propositions where the extension remains the same (i.e., when two words designate the same being, e.g. "trilateral" and "triangular"), but nonetheless the truth-value of a proposition changes according to the terms involved. Classical Leibnizian examples such as "triangle *quatenus* triangle has 180°" are reduplicative propositions [(Mugnai, 1976, 84-5); (Mugnai, 1979, 82-92)], propositions whose truth-value will change if we substitute triangle with trilateral. The intensional interpretation of concepts that assumes that a concept is determined by the conceptual features it implies permits us to consider different aspects of a very being and to deduce or to give reasons for truths from these aspects. Another example is "Socrates *qua* musician can sing well" and "Socrates *qua white*-man can sing well": The deduction of the proposition "Socrates can sing well" does not follow from the consideration that he is a man since to be a man *per se* does not imply the ability to sing well.[23] From these

[22] Ishiguro (1972, 19): "[h]ere Leibniz is attempting to provide a criterion of identity for what he calls 'terms'." A definition of the salva veritate principle is found in GP VII 236: "Eadem seu coincidentia sunt quorum alterutrum ubilibet potest substitui alteri salva veritate. Exempli gratia, Triangulum et Trilaterum, in omnibus enim propositionibus ab Euclide demonstratis de Triangulo substitui potest Trilaterum, et contra, salva veritate." See also Mugnai (1976, 80), who offers a translation suggesting that the expression "two things" must be interpreted as "two terms." Mugnai points out that even if the common definition of the principle entails the world "eadem," it must be translated as "identic are those things...," since Leibniz is talking about truth or falsity which can belong only to propositions, we have to interpret "those things" as terms. Moreover, this reading is suggested by the more complex definition of the principle where Leibniz explicitly refers to terms and not to things.

[23] Di Bella S. (2004, 39). The passage Di Bella is referring to is a note to Temmik presented in the *Vorausedition* (VE 1082) which says: "Albus Socrates, et Musicus Socrates, sunt unum idemque nam etsi Socrates qua Musicus bene canant, et qua albus non canant, verum tamen est album Socratem canare et quicquid de Musico Socrate, etiam de albo dici potest, nisi quod praedicationes hic excludimus reduplicativas, quibus formales rationes praedicatorum albedo scilicet et Musicae peritia distinguuntur. Et sane revera Socrates qua Musicus bene canit est enuntiatio praegnans constans ex his Socrates canit, Socrates est Musicus, et Nisi Socrates esset Musicus non bene caneret. Itaque non semper alius est Musicus et alius albus, ac proinde non sunt disparata." As Quine points out in his "Two Dogmas of Empiricism", cognitive synonymy shows that "necessarily true" refers to an intensional and not an extensional context. Quine, (1951,30): "So we must recognize that interchangeability salva veritate, if construed in relation to an extensional language, is not a sufficient condition of cognitive synonymy in the sense needed for deriving analyticity in the manner of Section I. If a language contains an intensional adverb 'necessarily' in the sense lately noted, or other particles to the same effect, then interchangeability salva veritate in such a language does afford a sufficient condition of cognitive synonymy; but such a language is intelligible only if the notion of analyticity is already clearly

considerations, we can conclude that the intensional interpretation of concepts is relevant in order to determine the inferential connections among propositions and to establish a normative use of terms (Brandom, 1981, 447-79).[24] Intensional interpretations of concepts, then, permits the foundation of science.[25] Since the sciences are based on hypothetical truths[26] (which establish connections between antecedents and consequents), it is due to the meanings of terms and not their instances in the world that rational beings can determine truths even if they do not experience some states of affairs. Galileo, for instance, can contradict the Aristotelian theory of motion thanks to a thought experiment, and he does not need to prove it through experience.

Nonetheless, according to this conception which assumes the distinction between beings and essences, a further modal distinction between possible and compossible is required. Even if due to the conceivability of terms, i.e., their logical possibility, we can derive hypothetical truths from the assumption of propositions, the answer to the question of whether these propositions can be also instantiated in the actual world needs further consideration concerning whether the possible terms represent possible existing entities, a

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understood in advance." Of course, for Quine this is a disadvantage, because one cannot assume an analytic approach to logic until one has given an account of what analytic means. Therefore, Quine interprets the intensional account of concepts as Leibniz's attempt to realize the predicate-in-subject idea of truth of propositions. In my opinion, as we will see, it is more than an attempt to develop an analytic account of truth; it is the attempt to develop an inferentialistic interpretation of concepts and truths capable of grounding hypothetical statements about future and past truths where the subject never subsisted nor subsists any longer.

[24] Brandom (1981 479): "Inference is the root notion in terms of which representation and its varieties are explained. It is this in which Leibniz's rationalism consists: that where empiricists begin with a primitive notion of representation and seek to ground in it whatever inferences are to be recognized (as Hume attempts to ground causal and inductive inference), he as rationalist begins with inference and explains the notion of representation in terms of it. It is in this sense that percepts are assimilated to concepts (efficacious ideas, as modeled on them, though we have seen that in no way can the difference between them be described as merely one of ‚degree'". Brandon (1981, 555) writes that: "it is sufficient for the distinctness of an idea that it be inferentially developable ('a priori' being for Leibniz a mark of what pertains to reason, inference, and thought)" and some pages later: "Each distinct ideas codifies an inference, for example, from attribution of resistance to a cupel and to aqua fortis to characterization as gold. Perceptions which play inferential roles are thoughts, and only spirits have them". From these quotes it follows that the assumption of distinct notions as abstract concepts distinguished intensionally through the determination of conceptual features requires a language as a system of signs and aims at grounding an inferential system of truths established by the determination of terms. The difference, however, between Leibniz's and contemporary inferentialism is the way in which this system is established: the existence of a linguistic community is not per se a sufficient reason for explaining the normativity of concepts. As we will see soon, this point is made by Leibniz against nominalism. In his view, an inferentialistic system of concepts can be normative iff one can explain how this system has been established and shared among minds and for doing this one has to assume rationality of the members of that linguistic community. However, rationality means that rational beings share some constraint or limits which enable them to represent things in an analogically similar way. The question Leibniz is eager to answer is why we can understand and accept conventions established in a society: in a word, to articulate what rationality is.

[25] On this point, see also Bolton (1996, 2-3), who correctly argues for two different kinds of abstraction in NE. A first kind of abstraction consists in separating some properties from the existing thing; the second kind of abstraction is the use of general terms necessary for hypothetical truths and therefore fot sciences. Contrary to what Mate proposes, Bolton points out that Leibniz refuses only the former kind of abstraction, but not the latter.

[26] Schepers (2014, 26-28).

kind of inquiry that Leibniz defines as the compossibility of terms.[27] It is false, then, that experience does not contribute to knowledge; it contributes in a different way, such as is suggested by Locke: Experience shows the possibilities of things, their possible existence that we cannot deduce a priori. However, the possibility of reflecting and deriving truths from those notions does not depend on experience alone.

The difference between beings and terms reveals a further insight into Leibniz's theory of concepts that can be concisely expressed with the motto "alia est rerum, alia terminorum divisio," which raises the question of the unity of the real subject (*subjectum inhaesionis*) and the unity and multiplicity of the subject of the proposition (*subjectum praedicationis*). If we consider a particular human being, Claire, Claire *qua* individual presents a multiplicity of properties which are nonetheless united in her substance; the fact that they can be found to inhere all together in a real subject does not preclude their conceptual separation (Di Bella S., 2004). A man could be both wise and rich, but RICHNESS and WISDOM are two different terms.

> Sed ut vere intelligatur discrimen Concreti et Abstracti, considerandum est, fieri posse ut in concretis sint duo termini, qui tamen non sint duo Entia, v.g. *sapiens* et *dives*, nihil enim repugnat eundem esse divitem et sapientem; et tamen fieri simul posse ut abstracta eorum, nempe *sapientia* et *divitia*, sint duo Entia. Quanquam nec id semper contingat, nam idem qui est sapiens etiam est virtuosus, et ipsa etiam sapientia est virtus. (A VI 4 988)

The abstract use of terms considers the meanings of terms and their relations independently from the question of whether they represent something. A human being can be both wise and rich, but from the fact that she is rich, one is not allowed to deduce that she is also wise, whereas from the fact that she is wise one can rightly conclude that she is virtuous, because WISDOM is a virtue. Moreover, this consideration highlights another criticism of Locke's claim that our ideas depend on experience:

> An Essentia est Ens? Ita sane si philosophi scholae consequenter loqui volunt. Ergo Essentia habebit etiam essentiam, et sic in infinitum, inutili reciprocatione. Forsan Reconsiderata, uti Homo, animal, etc. multa habet praedicata essentialia communia, ut *docilem esse*, non tamen omnia ponuntur in praedicamento substantiae; sed ea tantum quae primo insunt; ita in concretis accidentium idem videtur dici posse sic *sapiens omnis est justus*, sed non ideo *justus* est genus *sapientis*, sed *virtute praeditus*, itaque nec sapientia est justitia, sed sapientia est virtus. Eodem igitur modo dicendum erit *humanitas*

[27] On this aspect, see Hintikka (1972); for an introduction to possibility and compossibility in Leibniz, see Mugnai (2013, 111-126); (Nachtomy, 2011, 155-179); (Wilson, 1999).

est animalitas. Sed non videtur de his magnopere laborandum. Sufficiat nos de concretis recte ratiocinari. (A VI 4 994)

If we had ideas because of their instantiations, we could not explain why, for instance, we distinguish between a just man and a wise man since a just man is always a wise man, according to Leibniz.[28] I suggest, therefore, that intensional contexts are not distinguished because of experience or extension, but because of a human being's rational capability of separating features of terms, of considering those features as distinctions among notions, and of deriving or giving reason for truths from these intensional contexts. Rational beings distinguish things *formaliter* (formally, in the sense highlighted above, i.e., by separating features of terms) because of reflection and the need to represent scenarios independently from the existence of things. Although a just man is a wise man, we distinguish JUSTICE and WISDOM because of reason and reflection and not because of experience.

Leibniz's insistence on the need to distinguish particulars and their representation through distinct notions, as well as the fact that notions do not depend on their instances, can be better grasped if we recall Locke's invective against definitions and compare this with Dalgarno's problem of the determination of a philosophical language. The different approach to concepts professed by Leibniz permits avoiding some problems presented by the project of a philosophical language. Locke asked how many material changes can be made to a member of the species HORSE, for instance, so that we can still recognize it as a HORSE (EHU 415-6; quoted in 2.1.3. p. 154). In other words, based on the variety of things, Locke argues for the arbitrariness of definitions. On the other side, George Dalgarno, the author of *Ars Signorum*, believes that the determination of a philosophical language based on our metaphysical knowledge is impossible unless we have found the true philosophy. The reason adduced by Dalgarno is that since we can always distinguish a further property in a particular, the notions of the very thing can also be infinitely analyzed. Dalgarno, like Wilkins, follows the "new philosophy": If forms exist, these are not the substantial forms of the Scholastics, but "a multitude of modes of matter." (Maat, 2004, 57-8). If definitions have to be exhaustive, they must represent all the modes of matter that compose a species. This means that a philosophical language aimed at representing the forms of things is impractical: Signs would be too long and too difficult to remember (Maat, 2004, 58). Dalgarno's method for the formation of a philosophical language consists in attributing a note to each radical term so that the language can show the composition of notions, and this makes it impossible to recognize the notion due to the complexity of its composition. It follows that the recognition of a notion

[28] A VI 4 2792: "justitia est charitas sapientis".

from its requisites would be as difficult as the recognition of a man from the parts of his body.[29] Leibniz's comment on this passage of *Ars signorum* is to the point: "aliud est dissipare partes, aliud est distincte considerare". In other words, Dalgarno, like Locke, mixes up the ontological with the epistemological: Distinguishing parts and properties in a particular being is different from considering them distinctly, i.e., as MCVI suggests, from considering them under distinct notions such as MAN, HORSE, JUSTICE, or WISDOM.[30] It is due to the consideration of the possibilities of things and not of the material constitution of particular beings that finite minds determine the connections and relations among possibilities. In order to do this we need characters that allow us to neglect minute differences that affect the soul in perceiving a particular thing, since the actual perception of a particular thing is substituted with the perception of the sign that stands for the notion.[31] Therefore, a distinction between concepts and beings and an intensional interpretation of concepts are necessary if one wants to consider things as represented by possibilities. Leibniz's philosophical position can be interpreted neither as a type of nominalism tout court nor as a type of realism.

From this perspective, it is clear why Leibniz agrees with those who hold that truths depend on terms, such as Locke and Hobbes, even if this is still not the whole story. This is because in order to determine the truth we need axioms and necessary truths like the principle of contradiction or of identity, and Leibniz does consider such determinants innate. Leibniz aims at finding a middle road that could reconcile the positive aspects of nominalism with the positive aspects of realism; it would be intended as the epistemological position that states that our knowledge has a foundation *in re* without having to assume that general essences exist in things, as is the main point of the above quoted passage. (A VI 4 994; (Zimmermann, 1854 (2010), 31). How can Leibniz hold both (i) that definitions are not arbitrary and (ii) that truths are grounded in reality though they are not derived from essences *in re*? The

[29] As Maat (2004, 52-70) shows, Dalgarno refuses the classificatory role attributed by Wilkins to the philosophical language. A philosophical language does not have to offer a nomenclature of all species, but must be rational and enable rational beings to combine, find new words and ground philosophy. Because of this, Dalgarno's project was based on an intensional interpretation of concepts and not on an extensional. Nonetheless, he accepts one of Wilkins' points: Since substantial forms are modifications of matter, it is impossible to define the species to which individuals belong based on the set of properties which characterize those species. The consequence is the impossibility of a philosophical language based on the true philosophy. I think that Leibniz refuses this latter point; from the fact that substantial forms are modifications of particulars it does not follow that we cannot determine genera and species. The reason lies in the distinction between beings and terms.

[30] I think this agrees with the distinction between two kinds of abstraction proposed by Bolton (1996: 1-24; see fn. 25): Abstract terms are not abstracting from particulars, otherwise we would have to face the kind of problems Dalgarno and Locke have brought up. Abstract notions, intensionally interpreted, depend on rational beings' capability to consider and distinguish things in absence of the notions.

[31] Leibniz keeps on writing, A VI 3 174-5: "nec opus est ad omnes minutas animum simul advertere; sufficit characterem ita compositum esse, ut pro arbitrio subdividere liceat." For an analysis of the relation between Leibniz and Dalgarno see Maat (2004,54-68).

assumption of both theses seems to lead to inconsistency. Nonetheless, I believe this is not the case.[32] While in this chapter we analyze the first part of Leibniz's thesis that truths depend on terms, we aim at demonstrating, in chapter 2.3., that the assumption of innate ideas gives us reasons for holding the second part of his thesis, i.e., that truths depend on axioms.

To understand why, per Leibniz, terms and definitions are not arbitrary, we have to consider what "term" means and why Leibniz's epistemology is a form of conceptualism. Moreover, we have to understand what conceptualism implies within a framework according to which there is no "transidiomatic mental language," since thoughts and distinctions among notions depend on the use of signs within a semantically and grammatically ruled system of signs.

In his logical papers, Leibniz defines "terminus" as what is designated by a word that refers either to the subject or a predicate of a proposition: a concept. In other words, a term refers only to the categorematic part of a language.[33] Nonetheless, as Di Bella aptly notices, and as the quoted passages show, the meaning of "term" oscillates between meaning of word and concept (Di Bella S., 2004, 29). This leads to the following question: In which sense can we, according to Leibniz, have notions separated from a language or a semantically and grammatically ruled system of signs? Because of the law of harmony and of the fact that thought represents notions also in the absence of a sense perception of a particular object it represents, distinct notions must be connected to a perceptible support, i.e., to their expressions through signs. Because of this, Leibniz calls distinct notions *cognitiones symbolicae*. Moreover, considering that the most simple operation of the mind is a proposition or a judgment according to Leibniz, thought cannot occur without connections among signs.[34] So, in order to answer the question of the possibility of a language of thought, we have to consider Leibniz's conceptualism.

[32] On this point also Mugnai (1990) who argues for the compatibility of both assumptions.

[33] A VI 4 195: "Terminus est subjectum vel praedicatum propositionis categoricae. Itaque sub termino nec signum nec copulam comprehendo. Itaque cum dicitur sapiens credit, terminus erit non credit, sed credens, idem est ac si dixissem sapiens est credens." I will return on this point in 3.1. in order to explain why it is important for Leibniz to distinguish between categorems and syncategorems. The question behind this distinction is whether also to syncategorems correspond a mental concept separated from signs and language. Indeed, in passage quoted, Leibniz says that terminus is neither a sign, nor the copula, and he brings a verb as example.

[34] A VI 4 922: "Omnis Ratiocinatio nostra nihil aliud est quam characterum connexio, et substitutio. Sive illi characteres sint verba, sive notae, sive denique imagines."

2.2.6. Leibniz's Conceptualism and the Necessity of the Ideas in God's Intellect

Notwithstanding Leibniz's nominalist ontological assumptions, the use of abstract terms plays a pivotal role in Leibniz's epistemology, an epistemology whose aim is to avoid the arbitrariness of knowledge (Bolton, 1996, 2-3). His nominalism thus aims to deny that general forms exist in particular things, and hence concerns only ontological assumptions. Accordingly, forms do not exist either *in re* or *ante rem*, by virtue of which a man is a man not because HUMANITY informs this particular man, e.g., Peter. Nevertheless, for Leibniz, HUMANITY is grounded in reality: Since Peter and John are similar *qua* HUMAN BEING, similarity is thus grounded in the existence of the actual world.[35] Leibniz's consideration of *abstracta*, as well as his nominalism, are controversial elements of his epistemology and philosophy,[36] and these elements lead some scholars to characterize Leibniz's position as conceptualist [(Zimmermann, 1854 (2010) 28); (Schepers, 2014, 227-9)].

Leibniz's conceptualism contrasts with nominalist positions, according to which definitions, and therefore truths, are arbitrary—as well as realist positions about *universalia* (Zimmermann, 1854 (2010)28). Therefore, as Schepers points out, Leibniz follows in the tradition of figures like Ockham, according to which *universalia* do not exist *in re* but in minds. According to Schepers' reading of Ockham's conceptualism, concepts are *termini nullius linguae*, terms which do not belong to any vernacular language but that signify things in the world *naturaliter* since they are naturally inscribed in rational souls. If Leibniz's conceptualism could be assimilated to an Ockham-like *oratio mantalis* (at least as Schepers intends it to be[37]), Leibniz's philosophical project seems to be irrevocably committed to

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[35] I will return on this point. For the moment, consider those passages of NE where Leibniz claims that similarities are true. NE 264; NE 292: "Je ne voy pas assés cette consequence. Car la generalité consiste dans la ressemblance des choses singulieres entre elles, et cette ressemblance est une realité." On the role of similarity for Leibniz's epistemology, see Ishiguro (1972, 61); Mugnai (1976, 115).

[36] Thorough discussion on Leibniz's nominalism can be found in Mates (1986).

[37] Actually, Ockahm's position about *lingua mentalis* is more complex and debated than Schepers presents it. From the following passage, where Ockham describes the formation of general notions, it is evident that notions are in the soul not as innate properly but as a kind of way of cognizing of the actual world naturally present in rational souls: "[...] iste est processus quod primo homo cognoscitur aliquo sensu particulari, deinde ille idem homo cognoscitur ab intellectu, quo cognito habetur una notitia generalis et communis omni homini; quo existente in intellectu statim intellectus scit quod homo est aliquid, sine discursu. Deinde apprehenso alio animali ab homine vel aliis animalibus, elicitur una notitia generalis omni animali, et illa notitia generalis omni animali vocatur passio seu intentio animae sive conceptus communis omni animali." (William of Ockham, *Summa logicae* III-2 cap. 29, OP I, 557.) The process of the formation of concept is described as a hidden (occultus) process, not observable or consiously perceivable by the mind: "natura occulte operatur in universalibus, non quod producat ipsa universalia extra animam tamquam aliqua realia, sed quia producendo cognitionem suam in anima, quasi occulte—saltem mediate—producit illa universalia, illo modo quo nata sunt producit. Et ideo omnis communitas isto modo est naturalis, et a singularitate procedit, nec oportet illud quod isto modo fit natura esse extra animam, sed potest esse in anima" (William of Ockham, *In I Sent. (ordinato)*, d. 2 q. 7 (OT II, 261)). Interpreters, however, tended to assimilate Ockahm's *lingua mentalis* to Fodor's language of thought and,

innatism. The *orotio mentalis* is innate to the soul and enables different subjects to develop a language that refers to things in the words *naturaliter*. Briefly, if despite their presence in different languages, different idioms refer to the same objects, this is because rational beings already have *termini* for things in the world. The *oratio mentalis* hence enables the constitution of languages.[38]

If Leibniz accepted such a theory of *oratio mentalis*, he would have been committed to innatism, a commitment arising from his dual assumptions that everything is in the mind, and that experience only gives us the occasion to form sentences about the word and, thus to think of notions. As Schepers argues, Leibniz's conceptualism is moreover different from Ockham's due to his metaphysical system (Schepers, 2014, 230), because with regard to conceptualism one must distinguish between ideas in God's mind and concepts in finite minds. According to Leibniz, only individuals and their modifications exist, and since God creates the world by choosing among all possible worlds (a collection of all possible individuals that further are compossible together), the ideas in the mind of God must be the *notiones completae* of individuals.[39] On the contrary, ideas in human minds are general terms which need sense-perceptual activity in order to be instantiated. Nevertheless, they do not depend on the existences of those individuals. Schepers has therefore left open both questions of (i) how terms are present in finite minds and (ii) what it means that concepts signify *naturaliter*. In my view, a substantial difference from Ockham's conceptualism is that Leibniz's version does not rest on the assumption of a language of thought or the metaphor of an internal language.[40] Thought cannot occur without signs, and concepts cannot be innate contents; they are acquired interiorized habits of the mind to represent the world, an idea I will discuss in greater detail in the next chapter.

Schepers' interpretation of Leibniz's conceptualism posits the further question of the nature of ideas in God's intellect. Schepers gives a clear answer in his paper: God's ideas are possible individuals and possible worlds. Nonetheless, as partially pointed out in my analysis, a valid alternative to Locke's theory of ideas requires Leibniz to assume ideas to be possibilities that are entailed in God's intellect. As the study of Mugnai (1990) suggests in

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hence, to interpret concepts as innate in the mind that properly cannot acquire them via experience. Lenz (2008, 309) argues against a main stream interpretation of Ockhams als innatist and denies that there is an inborn mental language or a systematic capacity to form sentences. For a reconstruction of Ockham's theory of "mental language" see also Perler (2004) and Schierbaum (2014).

[38] Notice that this is the path followed by Fodor and is LOT, which embraces an extreme innatism about lexical concepts Fodor (2008, 131-50).

[39] The problem of the compositionality and distinction of possible worlds is further discussed by Nachtomy (2007); Wilson (1999, 442-54). I am not going to discuss this topic here since my main concern regards the acquisition of knowledge of finite minds.

[40] Meier-Oeser (2007, 195-223).

discussing the problem of hypothetical truths about non-existing entities (*constantia subjecti*, see 2.2.2.), Leibniz argues that truths do not depend on the existences of individuals because notions exist *eminenter* in God's mind (Mugnai,1990: 155; 164).[41] The problem in the background is that Leibniz believes that if definitions depend on names and are a workmanship, then there are truths as far as minds think of them. Following Mugnai's interpretation, Leibniz can hold both that (i) universals are *termini* and that (ii) truths do not depend on names because he holds that words and notions are distinguished and that the latter exist in God's mind. It follows that even if no individual actually thinking of the truth of the proposition "all men are rational" existed, or even if no instances of the notion MAN would exist, the proposition would nevertheless be true (NE 447). We can hear the echo of the passage already quoted of NE on *costantia subjecti*, where Leibniz states that we can truthfully think of propositions about beings which do not exist because these propositions depend on notions— and notions are in turn everlasting in God's mind.

Due to these considerations, as pointed out in 1.1.2., the doctrine of the ideas in God's mind plays a role in Leibniz's system that is distinct from that in Malebranche's system, since for Leibniz the doctrine does not function as an explanation of how rational minds can think; instead, it vouches for the foundation of truths. As seen in 1.1.2., for Malebranche ideas must have ontological status and, being eternal, they can be only in God's intellect. Finite minds thus do not think by virtue of their own ideas but rather by "seeing" ideas in God's intellect. Leibniz rejects this consequence of Malebranche's theory, though he agrees that notions are in God's intellect. For Leibniz, minds as substances can think only by virtue of their own activity. Since actions must be grounded in the activity of substances (*actiones sunt suppositorum*), notions must be in finite human minds in order to account for the activity of thought. Nonetheless, Leibniz needs a guarantee that truths are not grounded in particular mental acts, and, because of this, he argues that notions are in God's intellect.

Within Leibniz's metaphysics and epistemology, this doctrine gains new meaning: It has to guarantee that there is an invariable everlasting truth, despite the differences of perspective. To use Leibniz's metaphor, there is an "ichnography" despite the different scenarios according to which finite minds can represent phenomena.[42] Rational minds need

[41] Mugnai refers to this passage of a letter of Leibniz to Thomas Burnett (GP III 315, 1707): "Il [Mr. Poiret] fait un mauvais raisonnement dans son Oeconomie Tom. I. Chap. 3. § 11. en inferant de ce que Dieu a l'idée de ce monde, et que ce monde est un effect de son decret, que donc l'idée de ce monde est arbitraire aussi. Car on repondra que l'idée de ce monde comme possible ne laisse pas d'estre eternelle et necessaire. L'essence de Dieu renferme les creatures eminemment, et a ainsi les idées de leur essence. Les effects sont tousjours enveloppés virtuellement dans leur cause totale."

[42] GP II 438: "Si corpora sunt phaenomena et ex nostris apparentiis aestimantur, non erunt realia, quia aliter aliis appareant. Itaque realitas corporum, spatii, motus, temporis videtur consistere in eo ut sint phaenomena Dei, seu

generality and a sort of mathematization of reality to deal with things as if they were all identical, exactly as our notions present them. Does God have general notions of reality as human beings do? The answer should be yes, he does and no, he does not. From this perspective, the interpretations of Mugnai and Schepers might raise a problem: What are ideas in God's mind? Does God have only ideas of individuals (*notiones completes*) or does God also have general notions, though *eminenter*? On the one hand, since Leibniz holds an intensional interpretation of concepts, he needs to ground general notions in God's intellect: the realm of truths. On the other, he cannot maintain that God has general notions as finite minds think of them: as argued in 2.2.2., general notions are a limitation of finite minds. Because of this, he needs to say that they are *eminenter* in God's mind (see fn. 41). This idea warrants further exploration.

As seen, Leibniz avoids the arbitrariness of notions by assuming that notions are possibilities inherent in resemblances.

> Si vous prenés les essences réelles pour ces modelles substantiels, qui seroient un corps, et rien de plus, un animal et rien de plus specifique, un cheval sans qualités individuelles; vous avés raison de les traiter de chimeres. Et personne n'a pretendu, je pense, pas meme les plus grands Realistes d'autres fois, qu'il y ait autant de substances qui se bornassent au generique, qu'il y a de genres. Mais il ne s'ensuit pas que si les essences generales ne sont pas cela, elles sont purement des signes; *car je vous ai fait remarquer plusieurs fois que ce sont des possibilités dans les ressemblances*. C'est comme de ce que les couleurs ne sont pas toujours des substances ou des teintures extrahibles, il ne s'ensuit pas qu'elles sont imaginaires. Au reste on ne sauroit se figurer la nature trop liberale; elle l'est au delà de tout ce que nous pouvons inventer, et toutes les possibilités compatibles en prevalence se trouvent realisées sur le grand Theatre de ses representations. Il y avoit autresfois deux axiomes chez les Philosophes: celui des Realistes sembloit faire la nature prodigue, et celui des Nominaux la sembloit declarer chiche. L'un dit que la nature ne souffre point de vuide, et l'autre qu'elle ne fait rien en vain. Ces deux axiomes sont bons, pourvû qu'on les entende; car la nature est comme un bon menager, qui epargne là où il le faut, pour etre magnifique en tems et lieu. Elle est magnifique dans les effets, et menagére dans les causes qu'elle y employe. (NE 323-4)

In this passage, found in NE, Leibniz contrasts his view of notions as possibilities to both realist and nominalist views. The former imagines nature to be too prodigal while the latter too modest. Leibniz holds a middle position that he sometimes calls the "principle of economy," according to which God chooses the world that entailed more variety despite a

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objectum scientiae visionis. Et inter corporum apparitionem erga nos et apparitionem erga Deum discrimen est quodammodo, quod inter scenographiam et ichnographiam. Sunt enim scenographiae diversae pro spectatoris situ, ichnographia seu geometrica repraesentatio unica est; nempe Deus exacte res videt quales sunt secundum Geometricam veritatem, quanquam idem etiam scit, quomodo quaeque res cuique alteri appareat, et ita omnes alias apparentias in se continet eminenter."

simplicity of causes (A VI 4 1576-7). In other words, there is a regularity in the world that guarantees the variety of phenomena, and our conceptual apparatus can represent this regularity because the intellect has some rules or constraints to conceive of those regularities and laws of nature. (That will be the topic of 2.3.) For the moment, we will focus on concepts as possibilities in God's intellect.

In the passage, "resemblance" is not a relation that holds between notions, but rather between particular individuals or parts of the world. As pointed out, Leibniz's mathematical consideration of general notions states that one can consider things *as if* they were of the same species or belonging to the same genus and ignore the infinite differences among particular things (see 2.2.2. p. 166-7). In this sense, similarities ground our general notions not because we actually perceive of a similarity between two individuals (by which one could give the name of MAN to this property, for instance). We can form concepts as possibility because we have the capacity to consider different properties of things and analyze particulars from the perspective of the property that we chose.

Consider this example. Different criteria for organizing my libraries are possible. I could order books thematically (distinguishing among philosophy, literature, and within philosophy between metaphysics, and so on) or I could separate them according to the color and dimension of the cover. In Leibniz's view, both orders are possible and have a ground in nature, i.e., they represent regularities among things. I have however reason to choose one order over another. We can say the same for our concepts and categorization. There are many possible criteria for categorizing things; if human beings choose one order over another it is because they had some reason for establishing one order. In the rest of the work, we focus on the reason why we choose one possible linguistic system over another and, hence, how human beings established a language. We will point out that both historical occasions and cognitive reasons play a pivotal role in this process. Leibniz thinks that we have reasons to distinguish among the notions we have, and these distinctions are grounded both in the nature of things and in our possible ways of conceiving of them, i.e., in innate ideas. Since both processes are mutually related, I argue that we need to understand how concepts are formed before considering how languages are established.

This theory of concept acquisition, however, seems to contrast the assumption of God's intellect as the sources of truths with the "realm" of ideas. How can God's intellect entail general notions, if they are limitations? Schepers seems to be correct in arguing that only notions of complete (concrete) individuals can be contained in God's intellect. But if this is

so, Leibniz faces the problem of the permanence of truths: How can propositions about things that do not exist, such as propositions about mammoths, be true?

I believe the "eminenter" must be read in a radical way. It is the fact that individuals *are* determined possibilities in God's intellect that make truths like "John and Claire are men" true because if something like JOHN *AND* CLAIRE existed, they will be both MAN. In other words, since similarities among individuals ground general notions, if these individuals are possibles in God's intellect, then the similarities among them will also be there without the need for maintaining that God actually has general notions. If, for instance, mammoths become extinct, the proposition "mammoths are mammals" is still true because individuals categorized by human finite minds as mammoth are possible in God's intellect. God needs not think of MAMMOTH. This "essence borné" is the product of the human mind to overcome its limits. It is because individual notions are fully determined in God's intellect that they are true even if no individual mind is actually thinking of them. Determinacy in God's intellect is therefore the source of truths and certainty of knowledge.[43] The reason why Leibniz holds this position is explained by Zimmermann's discussion of Leibniz's conceptualism.

In a study of 1854 by Zimmermann, Leibniz's conceptualism is discussed on the basis of a fragment on the reconciliation between nominalism and realism through conceptualism. The fragment is known by the title "*De generibus et speciebus*", erroneously attributed to Abelard.[44] Interestingly enough, after having presented the difficulties implied in both positions and discussed how they can be overcome by conceptualism, the fragmentarist analyzes a possible criticism of the latter position. Conceptualism is defined as a mix of the

[43] It is because things *are* similar that we can consider them as belonging to classes; but does the acknowledgement of similarities also help at determining those classes? Do we abstract notions from individuals because of their likeness? I have already quoted the paper of Bolton (1996), who distinguishes two kinds of abstraction and denies that we can abstract general notions from individuals. As we will see, I agree with Bolton; I notice, moreover that a distinction between logical and historical order of knowledge can explain why the acknowledgment of similarities of individuals can help a historical particular mind to form a concept although it is not completely correct to say that the very concept is true because of an actual similarity among individuals. In other words, this position does not deny the role of experience and similarities in the determination of apprehension of concepts, but it reduces it to the psychological acquisition of concepts by single minds. The reason why we have to distinguish the two perspectives is explained by a criticism of the account which states that *abstracta* in mind are based on real *similitudo* among things. For a discussion of the determination of similarities, see (Barth, 2014, 287).

[44] The Manuscript was first published in 1836 by Victor Cousin as part of a more extensive text collected by a Manuscript entailed in Bibliothèque nationale de France (lat. 12268) under the name of "Fragmentum Sangermanense de generibus et speciebus" and attributed to Abelard erroneously. The study of Peter King shew that the fragmentum published by Cousin entails four different treatises: '*Totum integrum*'; '*De destructione Socratis*'; '*Si quelibet duo puncta*'; '*De generibus et speciebus*'. "*De generibus et speciebus*" is however an independent treatise and cannot be attributed to Abelard. Working on two different manuscrits (Bibliothèque nationale de France, lat. 13368 and Orléans, Bibliothèque Municipale, 266, pp. 153a-166a), King reconstructed a complete text. The paternity of the text is however still controversial. Recent studies tends to attribute it to Joscelin de Soissons or to one of his pupils. For a discussion of the text, see Tarlazzi (2013, 104-9; 182ss.). This aspect is not directly relevant for our discussion since Zimmermann believed that the author was Abelard.

positive characteristics of both nominalism and realism, with the value of avoiding the aporias presented by both. Conceptualism considers concepts to be *collections* (*Inbegriffe*) of real individuals based on a similar nature; therefore concepts are neither mere names—which are only in the mind of the subjects since they represent real essences—nor real things since what exists are individuals. Zimmermann's definition is quite interesting:

> So ist Art und Gattung ein wesentlich numerischer Begriff, ein Inbegriff (collectio) mehrerer Ähnlicher im eigentlichen Sinne, als solcher nicht vor, sondern in den und durch die Individuen, aber auch nicht blosser Name derselben, sondern eine wirkliche Menge gleicher oder doch ähnlicher Individuen, eine Zusammenfassung in Gedanken (conceptus) von Individuen derselben oder ähnlicher Natur, der eigentliche von dem des Realismus wie des Nominalismus unterschiedene Grundbegriff der dritten Vermittelnden Ansicht, des Conceptualismus. Ihr Wesen liegt darin, dass sie einerseits nominalistisch, anderseits realistisch ist, keines von beiden aber ganz. Sie ist nominalistisch, weil sie nur die Individuen als das wahrhaft Existirende anerkennt, das Allgemeine dagegen die Gattungen und Arten für blosse Inbegriffe von Individuen ansieht: realistisch, weil sie das Allgemeine doch nicht für Blosse Worte, nicht einmal für blos subjective Gedanken ansieht, die nur für den Betrachter Geltung haben, sondern durch den Ausdruck: ähnlicher Natur auf eine innerliche Verwandschaft der zur selben Species gehörigen Individuen hinweist, die eben den Grund enthält, dass sie auch vom Betrachter als zur selben Art gehörig erkannt und unter einen allgemeinen Begriff gestellt wird. Die Individuen sind nicht Eins in der Gattung, aber ihrer viele von ähnlicher Natur bilden die Gattung. Diese existirt als solche nicht vor den Individuen, sondern in ihnen, die selbst ähnlicher nicht derselben Natur sind. Diese ähnliche Natur, die als solche das allen Individuen derselben Species Gemeinsame und durch einen sich auf sie alle beziehenden Begriff ausdrückbar ist, enthält den Grund, wesshalb auch wir sie unter denselben allgemeinen Begriff fassen, oder, was dasselbe ausschliesslich bezieht. Die Frage ist nun, woher diese ähnliche Natur der einzelnen Individuen derselben Art stammt und wie sie der Grund wird, dass wir gewisse Individuen als zur selben Art gehörig unter einen sie alle umschliessenden allgemeinen Begriff zusammenfassen? (Zimmermann, 1854 (2010), 24-25)

The passage highlights why terms refer *naturaliter* to things, as Schepers also pointed out: Their referents are determined by the nature of things, as Leibniz often states in NE. Nonetheless, concepts are not determined by abstractions from similarities, and the fact that concepts are not extensionally determined is explained by an objection raised by the fragmentarist's perspective. The question pursued is why a certain representation is applied only to a certain class of individuals and not to others, and the answer is because of *similitudo*. As pointed out, Leibniz also considers similarity as grounds for referring to things through general notions.[45] This view holds concept as *collectio* (*Inbegriff*). MAN is a collection of

[45] Zimmermann (1854, 24): "Der Punct, auf welchen es bei der Frage, warum eine gewisse allgemeine Vorstellung nur auf einen gewissen Kreis von Gegenständen und keinen andern bezogen werde, vornhemlich ankommt, und damit die wahrscheinliche Lösung des Problems ist hier implicite angedeutet. Ehe wir schlisslich

essences so "Socrates is a man" does not mean that Socrates is HUMANITY but that a part of the essence of Socrates is to be a man which consists in his being similar in nature to other individuals; therefore, Socrates' being a man does not exhaust the nature of HUMANITY. However, if a concept is a *collectio* of essences and therefore of similarities among individuals, it has to be different if ten individuals existed, as opposed to twelve, and it will be conceivable only so long as instances of those concepts exist.[46] As Zimmermann commenting on the fragment says, the fact that a concept is a *collectio* of essences does not imply that it is actually constituted by those essences. As Socrates is always the same person even if he undergoes infinite changes, the concept is identical with itself and means the same even when the number of represented things changes or even if no individuals existed. As Abelard puts it, the word "man" will always refer to the same thing, MAN, even if no man existed. On the other hand, Socrates, as long as he is a *materiatum ab humanitatem*, will be a man. This does not mean that *humanitas* actually constitutes Socrates, since this would slide into a realist view that Leibniz hopes to avoid, but rather it means that species and genus simply refer to the fact that different individuals are similar because of their nature.[47] The separation proposed by Leibniz between essences and beings solves the tension of the theory of collection.[48] Concepts can allow the mathematical representation of reality because they are "mere" essences: They represent possibilities that "fit" into reality because of the nature of things. It is evident, however, how his position is committed to a residue of realism: Individuals must always exist in God's intellect as determined entities. Only because they are everlasting in God's mind can our concepts express truths even if no instance of that truth actually exists. *Similitudo* is grounded in reality, as he says, and reality is grounded in God's intellect.

I think it is in order to avoid the implication of conceptualism based on an extensional interpretation of concepts that Leibniz needs the assumption of the ideas in God's intellect.

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bei Leibnitz auf denselben zurückkommen, mögen hier noch einige Einwendungen Platz finden, die der Verfasser des Fragmentes sich selbst macht."

[46] Zimmermann (1854, 26): "Wenn die Art nichts Anderes ist, als ein Inbegriff mehrerer Essentien, ihrer ähnlichen Natur wegen, so muss sie sich ändern, sobald dieser sich ändert; dieser aber verändert sich (bei wirklichen Wesen) alle Stunden. Heute besteht die Art: Mensch aus zehn Existenzen; wird noch Einer geboren, so sind es eilf; die Art ist nicht mehr dieselbe. Die Menschen, welche diese Art vor 1000 Jahren ausmachten, sind heute Alle verschwunden; die Art ändert sich also mit der Zeit und wenn ich sage: Sokrates ist ein Mensch, und verstehe darunter die Art: Mensch, die vordem war, so irre ich; denn diese ist nicht mehr: Mann kann also nicht zweimal mit Wahrheit sagen: Sokrates ist Mensch."

[47] Zimmermann 1854: 26.

[48] It would be interesting to study Leibniz's reception of theory of collection, but I do not have the space to do it now. The theory of collection was only one of the argument against realistic positions. For an analysis of those positions see (Tarlazzi, 2013).

Nonetheless, general notions are present *eminenter*[49] in God's mind, which means that since God conceptualizes the complete concepts of individuals, from this real ground general truths can also be derived: From the consideration of the similarities between individuals the consideration of two complete concepts as two concepts of MAN must be true, as the following passage suggests:

> Generalement parlant, pour qu'un etre soit possible, il suffit que sa cause efficiente soit possible; j'excepte la cause efficiente supreme qui doit exister effectivement. Mais c'est ex alio capite, que rien ne seroit possible si l'étre necessaire n'existoit point. C'est parce que la realité des possibles et des verités eternelles doit etre fondée dans quelque chose de reel et d'existant. (Leibniz to Bourguet December 1714, GP III 572)

With this in mind, the fact that Peter and John are both man is true even if John and Peter die or nobody is actually thinking of this proposition. The proposition "Pegasus flies" is true because, as possible, it belongs to the region of possibilities in the mind of God.

This being said, even if one can distinguish between concepts and their instantiations through signs and can conclude that concepts are grounded in God's mind, this does not exclude that human minds do not have to learn those concepts, and, as Schepers points out, in order to learn, finite minds need perceptual activities: experience.

Moreover, the fact that words and concepts might be distinguished, as Mugnai argues, does not imply that we do not need signs in order to think of truths. Mugnai argues that truths do not depend on words by discussing Leibniz's example of errors due to words. "The fastest movement" is an impossible notion, but one believes to have a complex notion (FASTEST MOVEMENT) because one understands the word "fastest" and "movement" separately (MCVI 594). Since I can conclude that the notion is impossible though I have a name, both levels must be distinguished. Does this imply that we have notions without words or that we think of notions without signs? As also Mugnai recognizes, no, it is not possible (Mugnai, 1990, 166): I cannot think of notions without signs since to think of a notion means to state a proposition which has expressed its possibility, and, as Leibniz says, thought, as seen, cannot occur without signs (NE 358). That the fastest movement is false independently of words means that even if I assume another expression for that, the notion remains false in every linguistic system. Nonetheless, I *can think* of the truthfulness of that notion insofar as I use signs. Moreover, as soon as that expression gains a meaning within a syntactically and grammatically ruled system of signs, I can say that the falsehood of that proposition depends

[49] For a thorough discussion of the adjective eminenter for God's intellect, see Antognazza (forthcoming).

on terms (intended as meanings and concepts) without having to conclude therefore that it is arbitrary.

To summarize, it is because things *are* similar that we can consider them as belonging to classes. But does the acknowledgement of similarities also help to determine classes? Do we abstract notions from individuals because of their likeness? This question will be discussed in the next chapter. A first answer is that a distinction between logical and historical orders of knowledge can explain why the acknowledgment of similarities between individuals can help a historical particular mind to represent a concept, though it is not completely correct to say that the very concept is true because of an actual similarity among individuals. In other words, this position does not deny the role of experience for the determination and apprehension of concepts, but it reduces it to the psychological acquisition of concepts by individual minds. That we have to distinguish the two perspectives is explained by a criticism of the account which states that *abstracta* in mind are based on real *similitudo* among things, and this guarantees that we reliably and analogically represent the ichnography of the world in God's intellect despite the limitation of our scenographic representations.

2.2.7. Necessary Truths and Truths of Facts

After this excursus, we can state that Leibniz's theory of concepts is not based on POS as Cowie suggests. The passages on which Cowie bases her interpretation—that we can fully understand—state that what we cannot obtain by abstracting from experience is the consideration of the necessity or contingency of a proposition, or its modal value. At issue, then, are the origins of necessary truths as opposed to the truths of facts:

> L'esprit n'est pas seulement capable de les connoitre, mais encore de les trouver en soi, et s'il n'avoit que la simple capacité de recevoir les connoissances, ou la puissance passive pour cela, aussi indeterminée que celle qu'a la cire de recevoir des figures, et la table rase de recevoir des lettres; il ne seroit pas la source des veritez necessaires, comme je viens de montrer qu'il l'est: *car il est incontestable que les sens ne suffisent pas pour en faire voir la necessité: et qu'ainsi l'esprit a une disposition (tant active que passive) pour les tirer lui mème de son fonds; quoique les sens soient necessaires pour luy donner de l'occasion et de l'attention pour cela, et pour le porter plùtòt aux unes qu'aux autres.* Vous voyez donc, Monsieur, que ces personnes trés-habiles d'ailleurs qui sont d'un autre sentiment, paroissent n'avoir pas assez medité sur les suites de la difference, qu'il y a entre les veritez necessaires ou éternelles, et entre les veritez d'experience; comme je l'ai déja remarqué, et comme toute nôtre contestation le montre. La preuve originaire des veritez necessaires vient du seul entendement, et les autres veritez viennent des experiences ou des observations des sens. Nôtre esprit est capable de connoitre les unes et les autres, mais il est la source des premiéres, et quelque nombre d'experiences

> particuliéres qu'on puisse avoir d'une verité universelle, on ne sauroit s'en asseurer pour toujours par l'induction, sans en connoitre la necessité par la raison. (NE 79-80)

> D'où il nait une autre question, savoir si toutes les vérités dependent de l'experience, c'est-à-dire de l'induction et des exemples, ou s'il y en a qui ont encore un autre fondement. Car si quelques evenemens se peuvent prevoir avant toute épreuve qu'on en ait faite, il est manifeste que nous y contribuons quelque chose de notre part. *Les sens quoyque necessaires pour toutes nos connoissances actuelles ne sont point suffisans pour nous les donner toutes, puisque les sens ne donnent jamais que des exemples, c'est à dire des verités particulieres ou individuelles.* Or tous les exemples qui confirment une verité generale de quelque nombre qu'ils soient, ne suffisent pas pour établir la necessité universelle de cette mème verité: car il ne suit pas que ce qui est arrivé, arrivera toujours de mème. (NE 49)

As we have seen, POS rests on the assumption that the instances of a concept or domain of knowledge are insufficient, since one can acknowledge that concepts are more encompassing than those instances. Yet in both passages, Leibniz stresses the insufficiency of the senses to give us not "that p" but rather the knowledge that "necessarily p" or "possibly p." Moreover, according to the first passage necessity refers to necessary truths, which for Leibniz are distinct from truths of fact; the second passage concerns the problem of general knowledge: For the many instances of a truth we can experience do not give us the *hypothetical* necessity "that if q, then p", i.e. that if q happens, than p follows, and this will be always the case.

In my opinion, at issue are not simply necessary truths, which Leibniz states to be grounded in the intellect, but rather the possibility of general knowledge or a hypothetical necessity. The fact that there are truths and principles that do not depend on experience is a necessary condition of why rational minds can acquire hypothetical truths about the actual world. What Leibniz calls necessary truths, indeed, are truths based on principles like the principle of identity and contradiction or the principle of sufficient reason that he considers innate. Thus, in 2.3. and 3.1. my aim is to show the sense in which innate ideas as constraints on thought enable minds to acquire general knowledge. In this last section, I shall discuss the implication of Leibniz's theory of concept for the acquisition of hypothetical truths.

A hypothetical truth is a truth that states from the truth value of some assumption the truth value of the consequent. Scientific knowledge is based on the degree of certainty according to which one can foresee the obtaining of some event or the truth or falsehood of some proposition from assuming something as it is the case. "If Trump wins the election, he is going to build the Mexican Wall"; "if a triangle has three angles, then their sum is 180°." "Necessity," therefore, refers to the necessity of the consequent so that the discussion focuses

on hypothetical truths and the possibility of scientific knowledge. Consider the following passages in which Leibniz defines derivative necessary truths as all truths based on a connection between ideas and not based on an actual perception. Moreover, in these passages, necessary truths are not innate truths but depend (i) on the terms that compose them and (ii) on innate truths. This kind of truths originates in the intellect:

> je crois que le vray but qu'on y doit avoir est, de determiner les fondemens des verités et leur origine. J'avoue que les verités contingentes, ou de fait nous viennent par l'observation et par l'experience; mais je tiens que les verités necessaires derivatives dependent de la demonstration, c'est à dire des definitions ou idées, jointes aux verités primitives. Et les verités primitives (telles que le principe de la contradiction) ne viennent point des sens ou de l'experience et n'en s'auroient estre prouvées parfaitement, mais de la lumiere naturelle interne, et c'est ce que je veux, en disant qu'elles sont nées avec nous. C'est ce que les Geometres aussi ont fort bien compris. (NE 12-3)

> Les propositions de fait aussi peuvent devenir generales en quelque façon, mais c'est par l'induction ou observation; de sorte que ce n'est qu'une multitude de faits semblables, comme lorsqu'on observe que tout vif argent s'evapore par la force du feu; et ce n'est pas une generalité parfaite; parce qu'on n'en voit point la necessité: les propositions generales de raison sont necessaires, quoique la raison en fournisse aussi qui ne sont pas absolument generales, et ne sont que vraisemblables. Comme, par exemple, lorsque nous presumons qu'une idée est possible, jusqu'à ce que le contraire se decouvre par une plus exacte recherche. Il y a enfin des propositions mixtees, qui sont tirées des premisses, dont quelques-unes viennent des faits et des observations, et d'autres sont des propositions necessaires: et telles sont quantité de conclusions Geographiques et astronomiques sur le Globe de la terre, et sur le cours des Astres qui naissent par la combinaison des observations des voyageurs, et des Astronomes, avec les Theoremes de Geometrie et d'Arithmetique. Mais comme selon [la Regle] des Logiciens la conclusion suit la plus foible des premisses, et ne sauroit avoir plus de certitude qu'elles, ces propositions mixtes n'ont que la certitude et la generalité qui appartient à des observations. (NE 446)

In all these passages, propositions *de faits* are distinguished from necessary truths. Since they are based on observations, propositions *de faits* are contingent general knowledge depending on the perceptual activity of a mind; necessary propositions, on the other hand, are not identified with truths of reason—the ones necessary in all possible worlds—but with truths based on the connection of concepts considered as possibilities. The first quote in particular states very explicitly what we must consider the source and origin of this knowledge, which in turn can be said to be innate, not because it does not need the senses, but because it is possible by virtue of *la lumiere interne*. It is in this sense that Leibniz writes to Burnett that his philosophy is able to reconcile Worcester and Locke: an axiomatic approach to truths and the assumption that truths depend on terms. The capacity of conceiving

possibilities, of reflecting, and of determining their relations and connections are not derived by experience. They are exercised by virtue of the perceptual activity of the substance, but the capacity *per se* is a *lumiere naturelle*, which cannot be yet interpreted as a mere faculty of thinking or of reflecting but rather as an inclination to truths due to the constraints of our intellect. It is due to this internal light that rational minds acquire knowledge, as we shall analyze in 2.3. and 3.1. If we conceive of a subject equipped with senses and thus capable of experience—but without intellect—we must conclude that this subject is not capable of knowledge. Intellect thus has to contribute to knowledge more than Locke believed, since concepts are not furnished by senses: As seen, perceptions are not yet concepts. Leibniz's conception of animals support this reading: They possess senses, but they are not capable of distinct notions that are, in turn, necessary for truths and knowledge. In analyzing animal cognition, Leibniz points out that animals cannot come to know modalities. If distinct notions could be acquired only by virtue of the senses, then animals should also be capable of knowing possibilities and, thus, of considering different scenarios as possible or impossible. Although they show a shadow of reasoning, animals cannot know generalities, and their knowledge is only a response to an actual affection of the senses due to corporeal habits. Therefore, they only react because "what has happened will always happen in the same way," a "knowledge" which has nothing to do with reflective knowledge (1.3.4.).

Because Leibniz states that truths depend on terms, and terms represent concepts as possibilities, hypothetical knowledge therefore relies on modality: On the basis of some assumptions, and the fact that we consider them as possible, a rational being concludes something. In another passage Leibniz distinguishes between truths that have the form of a conditional, and analytical truths, and he states that the former too do not rely on experience. In the former, however, the subject of the antecedent is different than the subject of the consequence, i.e., it is not an analytical truth. This may generate uncertainty which can be avoided by reducing hypothetical truths to conditional truths by varying the terms involved in the proposition. The point relevant for us, however, is that Leibniz distinguishes between eternal truths, as all triangles have three angles, and hypothetical truths, as "all figures that have three angles have the sum of the angles equal to two right angles."[50] This latter kind of

[50] NE 446-7: "Pour ce qui est des veritez eternelles il faut considerer, que dans le fonds elles sont toutes conditionnelles; et disent en effet: telle chose posée, telle autre chose est, par exemple disant: Toute figure qui a trois cotez, aura aussi trois angles. Je ne dis autre chose, si non que supposé qu'il y ait une figure à trois côtez, cette même figure aura trois angles; je dis cette même, et c'est en quoi les propositions Categoriques qui peuvent être enoncées sans condition, quoique elles soyent conditionelles dans le fonds, different de celles qu'on appelle hypothetiques, comme seroit cette proposition: Si une figure a trois côtez, ses angles sont egaux à deux droits, où l'on voit, que la proposition antecedente (savoir la figure est de trois côtez) et la consequente (savoir les angles de la figure de trois côtez sont egaux à deux droits) n'ont pas le même sujet; comme elles l'avoient dans le cas

truths depends on terms, and since the antecedent differs from the consequent they generate uncertainty or can reach only a specific degree of certainty. It does not follow, however, that hypothetical knowledge is a "bad" kind of knowledge. Leibniz does not consider it a less worthy kind of knowledge in comparison to necessary truths. Rather, he believes that his approach to truths and his account of concepts as possibilities can justify hypothetical knowledge. In other words, he is convinced that his epistemology can provide certainty for contingent universal truths or all those truths of facts which cannot be demonstrated without the contribution of experience.[51] His strategy consists of a mathematization of concepts and starts by conceptualizing reality *as if* it were formed by abstract entities such as CAT, CHAIR, TABLE, and so on, and then to introduce regularities and relations in those mathematized possible worlds in compliance with how finite minds conceive of concepts as possibilities. This knowledge can be considered real not only because it reliably describes the world but further because it "scores" in humans' dealing with it: My representations of CHAIR or of GRAVITY allow me to anticipate and plan my actions, so that "if there are chairs, I can sit" or "if I throw a stone, it will fall down." These representations also allow me to deal with the complexity and variety of the world. Only in this sense are my representations real, and the question of whether they represent reality as it is or only as it appears to us becomes pointless.

I think this approach to reality manifestly appears when we notice Leibniz using the same strategy in dealing with complex social problems such as the institution of a pension security plan (Knobloch & (Ed.), 2000); (Knobloch, forthcoming). In these attempts, Leibniz's method consists of minimizing errors while handling contingent, unforeseeable events, such as the death of members of a community, in order to determine how long and how much a government has to pay for their rents. Leibniz's attempt implies an as-if knowledge. Even if he cannot actually know when a particular member of a particular community will die, he assumes an average among the members, in order to derive some truths from this assumption, and while the result of his calculus is an approximation, the error would be so small enough to be ignored. This kind of knowledge remains, however, only probabilistic, though entailing a certain degree of certainty: Assuming determined conditions, one can deduce how much a government has to pay. Nonetheless, it can always be possible, even if improbable, that all the

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precedent où l'antecedent etoit, cette figure est de trois côtez, et le consequent, la dite figure est de trois angles. Quoique encore l'Hypothetique souvent puisse être transformée en Categorique, mais en changeant un peu les termes, comme si au lieu de l'Hypothetique precedente, je disois: Les angles de toute figure trois côtez, sont egaux à deux droits. Les Scholastiques ont fort disputé de constantia subjecti, comme ils l'appelloient, c'est à dire, comment la proposition faite sur un sujet peut avoir une verité réelle, si ce sujet n'existe point."

[51] On this point, see Bolton (2013).

members would live 20 years longer than one considered because one has discovered the serum for the long life. This would of course damage the balance of the government; yet, it would not challenge the validity of the calculus. Interestingly, our concepts play the same role in thought: By virtue of concepts we can deal with different individuals as if they were identical and ignore the differences which characterized them: errors are so minimal that we can ignore them.[52]

The point stressed by Leibniz, thus, is that this idealization relying on modal thought is an ability of rational beings thanks to the structure of the intellect and not to the senses alone. Knowledge rests on the capacity to think of things and facts in the world under the perspective of possibility/impossibility and necessity/contingency; this is a capacity we share with God. God does not think only of the actual world, but he is capable of figuring out all possible worlds. For finite minds, modal thought requires the capacity of reflection insofar as one needs to remember a thought and analyze/consider it from the perspective of general notions such as necessity and contingency, possibility and impossibility. In this sense, it is the capacity of modal thought necessary to knowledge—and not the mere content of a proposition, propositions which can also require an actual perception—which needs the contribution of the intellect. Further, modalities require concepts as possibilities and their considerations independently of actual experiences of those things. It is because rational beings are capable of abstract consideration—CAT and not a particular cat—that they are capable of considering all possible scenarios derived from the connections of concepts. This is why Leibniz is so eager to make Locke (and Descartes before him) understand the difference between clear but confused and distinct ideas, between perceptions and notions:[53] Only this latter kind of knowledge enables rational beings to reason, and it cannot be obtained without the support of signs. Therefore, it is defined as *cognitio symbolica*. Consequently, the connections among concepts and propositions are not said to be necessary or contingent, relying only on what is presented by experience, but on the meaning and significance of terms that represent possibilities. The evaluation of modalities rests on the human ability to conceive of distinct notions, determine these notions as possible or impossible because of the principle of contradiction, and, on the basis of this knowledge, be able to frame possible scenarios which can be determined as necessary or contingent. Human reasoning is essentially

[52] As I will argue later, this account permits holding that concepts do not identify with mental representations, and, consequently, that two different subjects can have two different mental representations and still share the same concept. See also Oliveri (2016b).

[53] As Wilson (1999, 322) aptly notices, Leibniz clearly distinguishes between particular presentings and concepts, distinction articulated in the difference stated by Leibniz between beings and terms, as analyzed in 2.2.5. and that can be compared to Kant's intuitions and concepts.

constituted by the human capacity of thinking of possibilities, skills which rational beings share with God. Nonetheless, whereas God knows the possibility (as absence of contradiction) of something and its compossibility (its absence of contradiction with other possible things) simply due to his intellective activity, human finite minds need the support of experience in order to be able to distinguish between merely possible and actually possible scenarios, between reality and fiction.[54] Therefore, the possibility of concepts can also be acquired *a posteriori*, since if something exists, it means it is also possible.

I would like to discuss one last point: how experience contributes to knowledge. I have pointed out that concepts are possibilities, and as possibilities, they depend on conceivability. It means that a concept is possible if and only if it does not involve any contradiction. Possible is defined as the absence of contradiction. I can conceive of a square tower but I cannot conceive of a square circle. Conceivability is the guide to possibility. In his re-elaboration for his *Nova Methodus* (quoted in 2.1.1.), Leibniz introduces another concept: perceptibility or the consideration of a concept under the mark of its possible existence. Mere possibility does not imply yet that instances of a concept might also actually exist. The fact that I can conceive a BIONIC SUIT does not imply that it can also exist. Perceptibility implies considering a concept under the perspective that possible instances of this concept might be perceived and therefore they exist. This is the *a posteriori* consideration of possibility which allows rational being to infer the possibility of a concept from the fact that instances of that concept exist. This consideration, moreover, allows minds to obtain nominal definitions of genera and species like GOLD, WATER, etc. The interesting point of the passage, however, consists in the fact that Leibniz defines possible relations among beings (perceptible things considered as instances of concepts) and essences (concepts considered as mere possibilities). From the mere consideration of essences, relations such as unity and diversity derive. These relations are considered by Leibniz to be innate, in the sense that the notions of these relations can be obtained by thinking alone: They do not need the support of experience, but simply the fact that we think *of* something: They are in this sense intellectual notions, as Leibniz defines them in the letter to Sophie Charlotte. They only need an imaginative support: signs. Other kinds of relations can be obtained only because a world exists. It is only because we consider concepts as perceptible that we obtain notions as contingency, necessity, order, and so on. In other words, both kinds of relations can be obtained because of a reflective act, and therefore they originate in the intellect, but whereas the former kind is pure intellective, the second kind needs the consideration of things as

[54] As we have seen in 2.2., this was one of the reason for defining Locke's ideas as chimerical.

existing together in the world. It is this kind of investigation that Leibniz calls compossibility, and this investigation is what enables human rational minds to reconstruct *a posteriori* what a world is: not simply a collection of possible things but things that can stay together according to a certain order and certain laws. The determination of the kinds of relations that connect things is the object of science and metaphysics. This being the case, without observations the tasks of scientific work could not be fulfilled. In the same way, our everyday lives could not be possible if we could not rely on the experiential package gained through our perceptual activity (banally, the fact that I know that in my office there is a computer and I can work on it allows me to conclude that I do not need to bring mine with me). Leibniz challenges the idea that inferences and deductions are performed only on the basis of experience. This idea is false, Leibniz contends, because all propositional knowledge needs reflection and intellect.

As a philosopher still used to Scholastic distinctions, Leibniz aims at separating the achievements of the intellect from the input of the senses. He argues against Locke that even if the senses are necessary in order to make us exercise our thinking capacity, one has to recognize the limits of the senses and the limits of the intellect in order to determine what the senses and what the intellect contribute to knowledge.[55] Leibniz concludes that since senses can only present particulars, generality is a contribution of the intellect. Although the capacity of modal thought depends on the intellect, it does not mean that experience does not contribute to the content of our knowledge. Because of their finitude, human rational minds are not capable of inspecting all thought and concepts to determine whether they are genuinely possible or not. As he writes in NE, rational minds depend on experience because they cannot know whether a concept represents something possible or not if experience does not show its possibility through existence.[56] Put differently, rational minds can know the possibility of things, e.g. the fact that individuals can be categorized as CAT and that therefore CAT is a possible concept, because particulars, which show all the properties of CAT, exist. The fact that I can think of the concept CAT does not depend on experience but on the intellect which represents something like CAT. However, since I can also conceive of something like HIPPOGRIFF, the contribution of experience is that I know CAT to be a class whose members can be considered as existent (of course, there are also non-existing or fictional cat, like Sylvester the cat!). The same cannot be said for HIPPOGRIFF. The consequence of this interpretation is that experience allows for distinguishing the real from

[55] In the same terms Leibniz also argues against Toland and his criticism to his letter "On what is independent from the senses," as we will discuss in 3.1.
[56] A VI 4 864: "Quod existit est Ens seu est possibile."

the ideal or fictive worlds: A rational mind can achieve scientific knowledge only of the former.[57]

According to this view, perceptions and the harmony between perceivers' perceptual states are the ground for determining reality. As we have seen, the fact that minds harmonize and the assumption that other rational agents similar to us exist is necessary for the determination of reality (1.5.). It is because one can recognize other minds as similar that one is able to conceive of metaphysical, ethical, and logical notions. This means that concepts assume normative value not simply because of an everlasting definition which is not subject to changes. Instead, a concept's normativity consists both in its success in describing and interacting with the world, and in communicating and interacting with other rational agents. Concepts are fixed because a linguistic community is capable of sharing and using some idealization as reliable tools for dealing with reality and other rational minds similar to them.

With this approach, then, Leibniz believes he is able to justify not only the universality of concepts of natural kinds but more importantly, of concepts of logic, metaphysics and morality, domains where Leibniz thinks Locke's account introduces vagueness and uncertainty. According to Locke, these areas of knowledge present more ambiguity and, consequently, are subject to philosophical dispute because when people talk about those concepts they refer to the ideas they have in their minds. Leibniz aims at avoiding this problem by assuming that since minds share some constraints on thought, and since regularities in their perceptual experiences are based on the intellect (and not on the senses that present only particulars), intellect can lead them to "as if", or "hypothetical" knowledge which in turn allows minds to reason independently from particular perceptions of objects by using signs for concepts as possibilities. For instance, my pain is not your pain, but I can imagine that your pain is similar to my pain and then conceive of what PAIN is. Likewise for moral concepts: I can feel anger, fear, and so on in a given situation; therefore, I can imagine that another individual will feel the same way in similar situations. On the basis of this knowledge, I can come to conceive that provoking a man to feel anger without a sufficient reason is unjust and I conceive what JUSTICE is. It is only because of the harmony of perceptions and the fact that minds share constraints on thought that different subjects in

[57] As Leibniz says in the following text, we can have scietific knowledge only of what is conceivable and, among conceivable notions, of those notions that can be thought either distictly or adequately. The former are concepts whose possibility is shown by experience; the latter are difficult to achieve; an example could be mathematical knowledge. A VI 4 A 528-9 (*Introductio ad encyclopaediam arcanam*): "Scientia Generalis nihil aliud est quam Scientia de Cogitabili in universum quatenus tale est, quae non tantum complecitur Logicam hactenus receptam, sed et artem inveniendi, Methodum seu modum disponend, [...] Cogitabile in universum est objectum hujus scientiae quatenus tale est, et modus considerandi ergo Nomen sine Notione, seu quod nominabile est, cogitabile non est, ut Blitiri, quod Scolastici in exemplum afferunt."

different situations can process events in a similar way, and, hence, conceive of analogically similar notions. In this way communication among minds is possible.

The communication and cooperation among minds, as professed in Leibniz's political writings, can hence be grounded in his metaphysics and epistemology. Minds can communicate because they can categorize in an analogically similar way things in the world: They can produce, understand, and accept the same idealization. By virtue of the harmony between the perceptual states of different minds, they come to agree about events in the world. Moreover, minds can accept conceptual distinctions because speech acts score in reality and make us deal with the variety of the world. How can minds analogically categorize things? Through ideas or constraints that all minds possess. The role of innate ideas as constraints on thought is the topic of the next chapter.

2.2.8. Conclusion

I have rejected the idea that Leibniz argues from the perspective of POS in favor of an extreme innatism. On the contrary, Leibniz assumes the variety of experience (or a variety of the standards VOS) in order to argue for the simplification operated by our concepts in this variety. In other words, Leibniz assumes a nominalist ontology and a nominalist view on concepts. It is from this perspective that Leibniz deduces the distinction between *subjectum inhaesionis* and *praedicationis* (Di Bella, 2004, 29), beings and concepts, and concludes that the necessity and contingency of judgments cannot be explained because of the existence of beings but must rely on a mathematical consideration of abstract entities (concepts) *as if* they existed in nature: on concepts as possibilities. Coherent with this reading, then, Leibniz does not argue for the innateness of concepts or domain specific knowledge like God or mathematics but rather for the claim that modality depends on the intellect that is capable of considering things abstractly—not this cat, but this as CAT. The assumption of a nominalist ontology bears negative consequences on the fact that senses alone can furnish minds with concepts as possibilities. It is in order to avoid Locke's nominalist epistemology, which implies that concepts and truths rely on conventions and language, that Leibniz introduces the terminology of ideas as dispositions to truths, and distinguishes between innate ideas as constraints on thought and concepts as possibilities. The next chapter is devoted to analyzing the nature of innate ideas.

2.3. Ideas as Constraints on Thought

2.3.1. Concepts as abilities or dispositions

I have argued that Leibniz cannot be interpreted as a nativist. However, one could still object that a moderate nativism, which assumes concepts to be dispositions, can actually explain Leibniz's position on knowledge. Indeed, Leibniz himself states that all knowledge is virtually innate and that ideas are faculties or dispositions, as shown in *Quid sit idea,* an important text of Leibniz:

> Ante omnia Ideae nomine intelligimus aliquid, quod in mente nostra est, vestigia ergo impressa cerebro non sunt ideae, pro certo enim sumo Mentem aliud esse quam cerebrum aut subtiliorem substantiae cerebri partem.—Multa autem sunt in mente nostra, exempli causa, cogitationes, perceptiones, affectus, quae agnoscimus non esse ideas, etsi sine ideis non fiant. Idea enim nobis non inquodam cogitandi actu, sed facultate consistit, et ideam rei habere dicimur, etsi de ea non cogitemus, modo data occasione de ea cogitare possimus. (A VI 4 B 1370)

We need to be clear on what is implied by assuming concepts as dispositions. In order to understand whether concepts can be interpreted as dispositions, one has to inquire into how the theory of conceptual dispositions fits within Leibniz's metaphysics and epistemology. First, it is worth noticing that dispositions in the classical Aristotelian sense are a kind of causal explanation. In ancient Greek philosophy, the term for "disposition" was *diathesis*, which means an organization or orderly arrangement. Aristotle uses other words that refer to dispositions like *dynamis* (power, capacity), *physis* (nature), *hexis* (habit), all of which refer to a causal process.[1]

Causality is accounted for in the terminology of dispositions: For something to be fragile or for someone to have the disposition to good, means that under certain conditions (*ceteris paribus*) something will break or one will act in a good way. The terminology of dispositions sounds familiar to any Leibnizian scholar. Words such as "power" (*force, vis*), "faculty" (*facultas*), "nature" (*natura*), "habit" (*habitus*) are also frequently deployed by Leibniz both within his theory of substance, and notably, in order to explain the occurrence of actual thoughts (Liske, 2009, 99-126). This second deployment of the theory of dispositions is

[1] For a thorough analysis of Aristotle's theory of dispositions see Jansen (2009, 24-46); Jansen (2002). for a deeper analysis about dispositions in ancient, modern, and contemporary philosophy, see Damschen, Robert, & Stüber (2009);

what concerns our analysis; nonetheless, we still must ask whether the use of the term "disposition" within Leibniz's explanation of how a certain thought occurs in a mind is unrelated to his theory of substance, a fact that I doubt. Therefore, we must first understand the level at which the theory of dispositions appears in Leibniz's discourse.

Scholars have interpreted concepts as dispositions. To my knowledge, however, Leibniz never explicitly characterized concepts are dispositions. The term for "concept" is "notio" or "conceptus" or "terminus" (see 2.2.5., fn. 33). Definitions of these terms can be found in his logical writings and table of definitions. Among these, I have not yet found a definition of concepts as dispositions.[2] On the contrary, the terminology of dispositions is deployed, and with frequency, only in Leibniz's controversy with, notably, Malebranche and Locke. This is interesting because in both confrontations, Leibniz has to grapple with the problem of "actual thoughts".

The question discussed with Malebranche is whether one possesses ideas and whether when one thinks of, e.g., a proposition *p*, one does this because of the ideas in their minds or because one perceives ideas in God's intellect. Briefly, the problem is how and why ideas presently occur in minds. As already discussed (in 1.1. and 2.2.), Leibniz rejects the theory that ideas are perceived in God's intellect: the principle of the actions of a substance must be within that substance, because substances are characterized by their activity (DM, A VI 4 B 1574).

The question discussed with Locke is now familiar: what does it mean to say that ideas are innate? From this perspective, the challenge of NE is to distinguish between ideas as innate and ideas as actual thoughts, in order to argue that ideas can be innate without having

[2] It seems to me that in the logical inquiry about notions, notions are never equated to dispositions; Leibniz stresses rather their compositionality and contentment relations; their being considered as possibilities in order to be part of the cognitive process: A VI 4 28: "Notio est conceptus distinctus, aliquando dicitur verus."; A VI 4 196: "Caeterum regula articulo 4. tradita sufficit ad omnes res totius mundi calculo nostro comprehendendas, quatenus de iis notiones distinctas habemus, id est quatenus earum requisita quaedam cognoscimus, quibus per partes examinatis, eas a quibuslibetaliis possumus distinguere, sive quatenus earum assignare possumus definitionem. Haec enim requisita nihil aliud sunt quam termini quorum notiones componunt notionem quam de re habemus. Possumus autem plerasque res ab aliis discernere per requisita, et si quae sunt quarum requisita assignare difficile sit, iis interim ascribemus numerum aliquem primitivum, eoque utemur ad alias res hujus rei ope designandas. Et hoc modo saltem omnes propositiones calculo invenire ac demonstrare poterimus, quae interim sine rei, pro primitiva interim sumtae resolutione demonstrari possunt."; A Vi 4 197: "Ita cum dico omne aurum est metallum, hoc volo tantum in notione auri contineri notionem metalli in casu recto, aurum enim est metallum ponderosissimum. Et cum dico omnis pius est felix, nihil aliud volo quam hoc: ejusmodi esse connexionem inter notionem pii et notionem felicis; ut is qui perfecte naturam pii intelligeret, deprehensurus sit naturam felicis in ea involvi in casu recto."; A VI 4 9: "Praedicata generalia voco quae de omnibus aut plerisque dici possunt. Ad formandos Conceptus distinguendi Termini primitivi a derivativis. Ex combinatione primitivorum oriuntur derivativi. Utile est habere catalogum terminorum quorum quilibet combinabilis cuilibet." A VI 4 141: "Affirmatio est cogitatio de duobus, quatenus conceptus unius conceptum alterius continet. Affirmatio absoluta est cum conceptus rei continet conceptum rei." A VI 4 223: "Considerandum porro est, omnem notionem compositam, constare ex pluribus aliis notionibus, interdum positivis, interdum et negativis."

to assume that a mind has already had to perceive them. Innate ideas are present in the mind in a different way than concepts or actual knowledge. This being so, in discussing both Locke and Malebranche, a common problem appears: how can a finite mind presently think of something and know it? Or, why do actual thoughts occur in a mind?

Leibniz's strategy, at least with Locke, is to distinguish between, on one hand, the psychological problem of what causes a present thought in a mind or why a mind at time t_1 thinks of p and not of q, and on the other hand, the logical question of it is by virtue of which a thought can be said to be true or false. Contrary to the logical writings, therefore, we have to face not only the question of the truthful connections of concepts, but the psychological question of why under certain circumstances we make judgments about CHAIR and not about DOOR. It is concerning this latter issue that the terminology of dispositions is deployed by Leibniz.

In fact, assuming concepts to be dispositions might sound like the best solution in order to explain why this happens: if one thinks of doors under certain circumstances, it is because she has a disposition to think of DOOR under certain circumstances. Modally formulated, if certain circumstances apply, then one thinks of doors. Following this path, concepts as dispositions must explain why a thought occurs in someone's mind, a question that has to do with actual thoughts and actions, and must be answered, therefore, by analyzing Leibniz's theory of substance actions. In my view, this kind of problem is distinct from the question of grasping the truthfulness or falsity of expressions of concepts. Nonetheless, this latter question is answered by scholars like Ishiguro (1972, 24-27) by conceiving of concepts as dispositions: if one understands propositions about doors, for example, one does so by virtue of the concept DOOR.

Ishiguro's interpretation runs into problems, because in her view, Leibniz does not distinguish between ideas and concepts (Ishiguro, 1972, 24). Because of this, she bases her account on *Quid sit idea*, where the question of what ideas are is answered by Leibniz in terms of faculties, capacities, or dispositions, as the above-quoted passage shows. The problem, however, is that in other texts, most notably DM (A VI 4 B 1572), in which Leibniz discusses Malebranche's theory of knowledge, Leibniz does distinguish ideas from concepts and notions:

> Ainsi ces expressions qui sont dans notre ame, soit qu'on les conçoive ou non, peuvent estre appellées idées, mais celles qu'on conçoit ou forme, se peuvent dire notions, conceptus. Mais de quelque manière qu'on le prenne, il est tousjours faux de dire que toutes nos notions viennent des sens qu'on appelle exterieurs, car celle que j'ay de moy et

de mes pensées et par consequent de l'estre, de la substance, de l'action, de l'identité, et de bien d'autres, viennent d'une experience interne. (DM, A VI 4 B 1572)

The passage clearly states a difference between ideas as innate "possessions" of a mind, and notions or concepts as something minds must form. Furthermore, even those concepts which are derived from internal experience and are therefore innate, must nonetheless be notions and not ideas, and must be learned. Consequently, notions are acquired and are not ideas, that is to say, they are not dispositions. In what follows, I argue that both in NE and in DM, where Leibniz grapples with Locke and Malebranche respectively, the terminology of disposition concerns ideas, but not concepts. Moreover, Leibniz's paraphrase for ideas as dispositions says that "we are disposed to truths and ideas", a formulation aimed at avoiding the problem of "bare faculties", which Leibniz takes to be mere abstractions or fictions.[3] Before getting there, however, we must discuss Ishiguro's interpretation, and why the interpretation of concepts as dispositions results in odd consequences for Leibniz's epistemology and metaphysics.

Following Ishiguro's analysis, conceiving of concepts as dispositions does not mean that rational beings are disposed to think of a concept C or to recognize Cs; if that were the case, all concepts would be innate, while instead, it is clear according to Leibniz that what someone has is actually a power to discover these concepts (Ishiguro, 1972, 24-27). Following Leibniz's reflection upon ideas in *Quid sit idea*, Ishiguro concludes that one does not have the concept HYPERBOLA, but the power to go through all conic sections and to find HYPERBOLA. Now, once one knows what HYPERBOLA is, one acquires a mastery of the concept. If an idea is a mastery of using and recognizing expressions as expressions of HYPERBOLA, when one learns to distinguish expressions of HYPERBOLA from CIRCLE, one has a concept of HYPERBOLA, and this concept must be interpreted as an ability to use (linguistic, mathematical, and so forth) expressions of HYPERBOLA.

This reading posits what we can call a Platonic problem: how could one learn that these are expressions of HYPERBOLA, if to recognize these as expressions of HYPERBOLA already means to possess a concept HYPERBOLA? In other words, if one can distinguish expressions of HYPERBOLA because she has an ability, i.e., the concept HYPERBOLA, the passage from a state of not knowing HYPERBOLA to a state of knowing HYPERBOLA must happen in virtue of the concept that must therefore pre-exist in the mind or must be acquired before being able to recognize HYPERBOLA. Two options are campatible with the first of

[3] NE 110: "Mais les facultés sans quelque acte, en un mot les pures puissances de l'école, ne sont aussi que des fictions, que la nature ne connoist point, et qu'on n'obtient qu'en faisant des abstractions."

these alternatives: (1) either we assume Plato's reminiscence theory, which Leibniz explicitly denies;[4] or (2) we consider the contents of concepts as innate. Option (2) contradicts both Leibniz's conception of concepts (since concepts cannot be innate as contents[5]), and Ishiguro's conception of concepts, since for her innate is only the faculty to learn, whereas the content is acquired (Ivi 1972, 25). If we grant the second option, namely that HYPERBOLA must be acquired before we can recognize expressions as expressions of HYPERBOLA, it follows that since the concept is the mastery of recognizing and using expressions, the problem reappears at a new level and this entails an infinite regress: if in order to learn to use "hyperbolas" one needs a concept, in order to acquire that concept, she needs another concept, and in order to acquire that concept she needs another concept, and so forth.[6] This being the case, ideas cannot be innate as particular dispositions, but rather, as we will see, as dispositions to truths and ideas that enable minds to acquire concepts.

Another problem to face is the relation between concepts and judgments, or between the first operation and the second operation of the mind. We have seen that for Leibniz, when a mind thinks, it always judges; merely thinking of a notion means to form a thought about its possibility (NE 398, see 1.2.). Judgments are connections of concepts that follow a particular sequence. Therefore, what counts as an expression of HYPERBOLA? Not the name, rather

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[4] The passage is quite long, but very interesting for the purposes of this paragraph, and so I prefer to quote it fully. NE 78-79: "Pourquoi cela ne pourroit il avoir encore une autre cause, telle que seroit celle-ci, que l'ame peut avoir cette chose en elle sans qu'on s'en soit apperceu? Car puisqu'une connoissance acquise y peut etre cachée par la memoire, comme vous en convenés, pourquoy la nature ne pourroit elle pas y avoir aussi caché quelque connoissance originale? Faut il que tout ce qui est naturel à une substance qui se connoit, s'y connoisse d'abord actuellement? Une substance telle que notre ame ne peut et ne doit elle pas avoir plusieurs proprietés, et affections, qu'il est impossible d'envisager toutes d'abord, et tout à la fois? C'etoit l'opinion des Platoniciens, que toutes nos connoissances etoient des reminiscences, et qu'ainsi les verités que l'ame a apportées avec la naissance de l'homme, et qu'on appelle innées, doivent etre des restes d'une connoissance expresse anterieure. Mais cette opinion n'a nul fondement, et il est aisé de juger que l'ame devoit déja avoir des connoissances innées dans l'etat précedent (si la preexistence avoit lieu), quelque reculé qu'il pùt étre, tout comme icy: elles devroient donc aussi venir d'un autre etat precedent, ou elles seroient enfin innées, ou au moins con-créees, ou bien il faudroit aller à l'infini, et faire les ames éternelles, au quel cas ces connoissances seroient innées en effet; parce qu'elles n'auroient jamais de commencement dans l'ame; et si quelcun pretendoit que chaque etat anterieur a eu quelque chose d'un autre plus anterieur, qu'il n'a point laissé aux suivans, on lui repondra qu'il est manifeste que certaines verités evidentes devroient avoir eté de tous ces etats. Et de quelque maniere qu'on le prenne il est toujours clair dans tous les etats de l'ame, que les verités necessaires sont innées, et se prouvent par ce qui est interne, ne pouvant point etre etablies par les experiences, comme on etablit par là les verités de fait. Pourquoy faudroit il aussi qu'on ne peut rien posseder dans l'ame dont on ne se fut jamais servi? Avoir une chose sans s'en servir, est ce la meme chose que d'avoir seulement la faculté de l'acquerir? Si cela etoit nous ne possederions jamais que des choses dont nous jouissons. Au lieu qu'on sait qu'outre la faculté et l'objet, il faut souvent quelque disposition dans la faculté ou dans l'objet, et dans toutes les deux, pour que la faculté s'exerce sur l'objet." For a discussion of Leibniz's relation to Plato, see Leinkauf (2012, 191-212).

[5] NE 52: "C'est ainsi que les idées et les verités nous sont innées, comme des inclinations, des dispositions, des habitudes ou des virtualités naturelles, et non pas comme des actions; quoyque ces virtualitez soyent tousjours accompagnées de quelques actions souvent insensibles, qui y repondent." Moreover, NE 86.

[6] This seems to me to be the sense of the passage quoted in Fn 5, where Leibniz states the same regress for the platonic theory of reminiscence, since there should be always another former state where innate ideas are acquired. See NE 78-9.

the whole sentence expressing the proposition affirming something true or false about HYPERBOLA, according to Ishiguro (1972, 26). The concept HYPERBOLA is expressed by the whole sentence "hyperbolas are conic sections". But could I also say that the same sentence is an occurrence of the concept SECTION? In Ishiguro's reading, I cannot consider the sentence as an expression of SECTION as well. In order to avoid this problem, Ishiguro must affirm that not every expression entailing the term which signifies a concept can be considered an expression of that concept. One possesses a concept when she masters an understanding of the definition of the concept, i.e. the subject is capable to determine truth or falsehood concerning the concept C. In all other cases we do not have concepts (Ishiguro 1972, 26). Put differently, concepts are not supposed to do the psychological work described above, but only the logical work of establishing truths about concepts. Concepts are destitute of their logical value, however, because they are abilities, and as abilities they cannot undergo analysis or composition, which are two fundamental methods for discovering truths.[7] Following Ishiguro, hence, concepts do not compose, cannot be analyzed, but words compose and analyze as expressions of those abilities. How can Ishiguro explain Leibniz's position of *Dialogus*, for instance, where Leibniz distinguishes between connections between concepts, and connections between words? Ishiguro seems to argue that concepts compose and include other concepts (Ishiguro 1972, 37-8), following Leibniz who explicitly states that concepts connect with each other and that words can represent truths because they connect just as concepts do.[8] How can Ishiguro's treatment of concepts agree with that of Leibniz? If concepts are dispositions, how can concepts combine and be included in other concepts?

It seems to me that Ishiguro's treatment causes a rift between the logical and the epistemological/psychological consideration of concepts. Moreover, Ishiguro's treatment of concepts cannot explain the use of everyday language. Definitions which can be said to be true or false represent only one part of the use of expressions. Should we say that one does not grasp a concept when she uses words for purposes other than defining concepts? I can agree that this is the case in the examples used by Ishiguro: if a parrot repeats a sentence, it does not mean that it has concepts of the words expressed (Ishiguro, 1972, 27). And I can agree that this might be the case for the mechanical, everyday use of expressions, such as when, for

[7] A VI 4 322: "Analysis est cum proposita aliqua re, ei immoramur, ejusque conceptum resolvimus in alios conceptus ex quibus componitur, ac rei requisita atque attributa ex ipsis requisitis inter se junctis nata eruimus, aut etiam partem conceptus retinemus, partem abjicimus, quae omnia fieri possunt, sine ullo forinsecus assumto."

[8] For an example of division and composition: "Vicissim unum praedicatum compositum in plura divelli potest. Ut a est bc ergo a est b et a est c, verbi gratia homo est animal rationale, ergo homo est animal, et homo est rationale." (A VI 4 290); for a definition of concepts and notions see fn. 2.

instance, one asks how another person is doing, or as Leibniz says, in some mechanical use of characters as in mathematical proofs. But if I think that "I can sit because there is a chair", do I do this without grasping some concepts? As we have seen in the previous chapter, Leibniz defines concepts as what is distinctly thinkable or possible (NE 323; see also 2.2.6.). In this sense, concepts are involved in thought, and not just in the search for definitions. As possibilities, they determine why I can think of, e.g., CHAIR and derive some truths from this concept, such as the truth that "I can sit wherever there are chairs", which is not itself a definition. In doing this, one does not simply combine signs; she expresses a possibility which relies on concepts expressed by the meaning of words (see 2.2.5.).

Moreover, since Ishiguro also recognizes that Leibniz treats whole sentences as complex terms, should we say that we have a disposition to think simply of CHAIR, or of CHAIR MADE OF WOOD? In other words, do we have a disposition to think of all possible complex terms, or do we only have dispositions to think of what are today called lexical concepts, i.e., concepts expressed by a single word in natural languages?[9] This question is relevant if we consider Leibniz's writings on the determination of simple concepts and the derivation of complex concepts. The problem is slightly different, since to have a name does not mean to have a simple concept; GRANDMOTHER is for Leibniz a complex concept. Consequently the problem in Leibnizian terminology consists in determining if I have a disposition to think of what Leibniz calls simple concepts, and once I conceive of them, to derive all other concepts, or if I have dispositions to think of all concepts. The consequence of granting that one has a disposition to form a sentence is that one should admit that every time one expresses a new sentence, she acquires a disposition to conceive of that very sentence, a position which sounds absurd.

A final consideration is that characterizing concepts as dispositions raises the question of Leibniz's nominalism. For nominalists, general terms are not beings, as they do not exist. Leibniz is thus compelled to locate the existence of ideas only in God's mind, which in turn makes truths eternal despite our actual thinking of those ideas (2.2.6.). If concepts were dispositions that existed as immaterial in someone's mind, would this not contradict Leibniz's nominalism? I think so, because it would mean having a general undetermined disposition to think of all expressions about, e.g., TABLE. This would imply the existence of a form in our soul of a general concept, a theory that Leibniz rejects for reasons, as we will see, connected also with his theory of substance.

[9] Fodor raises the problem in the contemporary discourse about concepts. See Fodor (2008). Lexical concepts are concepts that correspond to words in a natural language such as English.

From the discussion of Ishiguro's interpretation it follows that an account of concepts as dispositions raises some difficulties, because the psychological question about why we think of *C* at a determined time overlaps with the epistemological questions about what concepts are and how they determine the truths of propositions. Because of this, I think one should first distinguish between concepts and ideas. On to this distinction I will argue that ideas are innate as constraints on thought, whereas concepts are acquired and constitute thoughts. Leibniz defines innate ideas and truths as dispositions, but not concepts. This distinction enables him to answer the psychological question of how we actually think of a proposition *p* and how we pass from one thought to another by assuming innate ideas as constraints on the mind. On the other hand, concepts as expressing possibilities, which undergo all the logical relations discussed in the logical paper, permit us to answer the question of why we determine certain propositions as true. Consequently, the psychological and the logic issues raised by ideas and concepts are distinguished in Leibniz philosophy and reveal two different answers. Their overlap is caused by Leibniz's theory of substance and its cognate understanding of actual thoughts as actions.

2.3.2. Dispositions and Leibniz's Theory of Substance

Leibniz is widely understood to affirm the view that every state of a substance is virtually entailed in its nature. In this sense, all mental determinations of a rational substance must already be involved in the nature of a substance, and thus concepts must be innate. Leibniz himself seems to explicitly state that everything is virtually innate.[10] Consequently, a substance does not need to acquire truths, because these truths are already present in its soul, even if only virtually. It means that if a mind thinks of a proposition, this proposition must have already been in it, and therefore, the mind must already possess truths and concepts. In order to avoid the unappealing consequence that learning is impossible, Leibniz introduces the conception of ideas as dispositions that must explain how minds come to know truths. It is therefore evident that both the problem of truth-determination and the problem of actual knowledge converge once we analyze them from the perspective of the historical order of knowledge, i.e. from the perspective of how a particular mind comes to know truths.

[10] NE 52: "Il semble que nostre habile auteur pretende, qu'il n'y ait rien de virtuel en nous, et même rien, dont nous ne nous appercevions toujours actuellement."

Leibniz's view of substance might incline us to think that concepts are dispositions too. Leibniz's theory of substance has been related with his conception of "*praedicatum inest subjectum*" and his conception of truth as analytic. Every particular substance is endowed with a complete concept which entails all that can be predicated of a substance. Therefore, every predicate of the substance is somehow analytically derivable from the complete concept of the substance, provided we knew it. On the side of concepts and notions, the analyticity of truths means that every truth can be demonstrated via a relation of inclusion of notions: B is true of A iff B can be analytically derived from A.[11] This epistemological thesis corresponds to the ontological thesis that substances derive everything from their depth.

In my view, the thesis of the windowlessness of substances suffers from a problem, in that it implies that what is innate cannot be learned. Scholars may agree that some concepts are learned, but this agreement concerns only the ideas of the senses, as Leibniz calls them, and does not extend to innate ideas, like the ideas of reflection and of mathematics or mixed modes.[12] The distinction between concepts and ideas allows one to reject the mutual exclusion between learned/innate, nature/nurture, and permits another interpretation of knowledge acquisition. As Leibniz writes: "je ne saurois admettre cette proposition: tout ce qu'on apprend, n'est pas inné", intending that this opposition does not apply to his philosophy.[13]

As manifest in NE, concept learning raises the question of the faculties underpinning the learning process. The discourse of dispositions is related to this latter issue. Since a substance is fully determined, it is not possible that it possesses bare faculties: bare power without any determinations to act. Consequently, such questions are raised as "are dispositions general or particular?" and "In which sense are they capacities?" As we will see, we have to distinguish among different levels of modality of dispositions: general dispositions of spirits, which possess innate ideas and are therefore capable of thought and inclined to truths, and particular

[11] The well-known Russellian thesis: Russell (1900).

[12] For instance, Bolton (2011, 152-8). Bolton acknowledges the distinction between ideas and notions. Ideas are the innate intentional contents of actual thoughts, whereas notions are the mind's knowledge of what it is, e.g., to be a substance (Ivi: 154). In this sense, the distinction between notions and ideas reinforces the point that we cannot acquire the idea of *x* from the experience of *x*. And indeed she partially agrees with Cowie's interpretation (1999). However, if I have understood Bolton's position, not all ideas are innate; some can be acquired by minds.

[13] NE 85: "Il ne s'agit point ici des noms, qui sont arbitraires en quelque façon, au lieu que les idées et les verités sont naturelles. Mais quant à ces idées et verités, vous nous attribuez, Monsieur, une doctrine dont nous sommes fort éloignez, car je demeure d'accord que nous apprenons les idées et les verités innées, soit en prenant garde à leur source, soit en les verifiant par l'experience. Ainsi je ne fais point la supposition que vous dites, comme si dans le cas dont vous parlez, nous n'apprenions rien de nouveau. Et je ne saurois admettre cette proposition: tout ce qu'on apprend n'est pas inné. Les veritez des nombres sont en nous, et on ne laisse pas de les apprendre, soit en les tirant de leur source, lorsqu'on les apprend par raison demonstrative (ce qui fait voir qu'elles sont innées), soit en les éprouvant dans des exemples comme font les arithmeticiens vulgaires, qui faute de savoir les raisons n'apprennent leur regles que par tradition;"

dispositions, i.e., the fact that at time *t* we are more disposed to think of *p* than of *q*, exactly as Buridan's donkey is more disposed to choose one of those hay piles, following Leibniz's criticism of the famous thought experiment proving the indifference of the will.[14] In this last case, we are disposed because little perceptions are so organized that they incline a substance to think of *p*, rather than of *q*.

Sketching a schematic overview of my hypothesis, I agree with Liske (2009, 99-126), who points out that the theory of dispositions can only be assumed indirectly within Leibniz's epistemology and metaphysics, and only according to different degrees of modality. Since dispositions are usually "developed potencies which immediately allow for their actualization, but need to be triggered by appropriate external situations" (Liske, 2009, 101), Leibniz has to develop a theory of dispositions at the substantial level capable of doing without the necessity of an external trigger.[15] This means that the passage from one thought to another, as well as individual thoughts themselves, find their reasons "within" the substance. For this reason, within his epistemology and his metaphysics, dispositions are equivalent to perceptions and appetites as a constant "striving" of the substance. Indeed, following his nominalist assumption, a disposition cannot be a general, undetermined tendency to act; it must account for the particular actions of a mind. In this sense, the reasons which cause a mind to act are sometimes unconscious, and the minute perceptual level plays a pivotal role in inclining a mind to act: to form a judgment. At the metaphysical level then, minute perceptual activities account for actions of all kinds of souls: vegetative, sensitive, and rational. On this perspective, it is clear that Leibniz has to explain how minds come to act freely and to represent themselves as causes of actions. Minds, as pointed out in *De Affectibus*, are capable not simply of following the series of occasions presented by perceptions, but also of determining actions by virtue of distinct ideas (see 1.4.). Therefore only in minds are there dispositions to truths and notions. These dispositions are nothing but innate ideas as constraints on thought: they are particular facilities, as Leibniz says, which incline minds to conceive of reality under the perspective of distinct notions and relations about general and/or distinct concepts.

[14] NE 197: "A parler exactement on n'est jamais indifferent à l'egard de deux partis quels qu'on puisse proposer, par exemple de tourner à droite, ou à gauche, de mettre le pied droit devant (comme il falloit chez Trimalcion) ou le gauche. Car nous faisons l'un ou l'autre sans y penser, et c'est une marque qu'un concours de dispositions interieures et d'impressions exterieures (quoyque insensibles toutes deux) nous determine au parti que nous prenons."

[15] At least, formally. As we will see, minute perceptions operate the role of triggers and since they express in each substance everything that happens in the "external" world, one could legitimately ask whether actually Leibniz does not maintain an external trigger for our actions, even if what is "external" is in fact the succession of minute perceptions due to the inner force of a substance.

According to my analysis, innate ideas delimit the region of "sense", separating the conceivable from the inconceivable (the possible from the impossible). Since God's intellect is also limited by the same principles (God cannot act against reason, according to Leibniz: God cannot want what is contradictory), these constraints allow minds to represent things created by God, even if their being finite makes them dependent on general and/or distinct concepts expressed by signs.

In my view, Leibniz's conception of innate ideas is twofold. On one hand, the discourse about dispositions is connected to the psychological problem of explaining why a mind in its ontogenetic life comes to know something according to a certain order of occasions. This discourse of dispositions is connected to minute perceptions and particular tendencies. On the other hand, the discourse of innate ideas is deployed to account for the self-determination and spontaneity of reason: why a mind can assent/reject a thought, and in so doing, why it can follow the order of ideas, as Leibniz calls it in *De Affectibus*. As we have seen in 2.2., Leibniz is eager to maintain that the actual thought of a mind does not affect truths. Propositions remain true even if no mind thinks, has thought or will think of them. In this latter case innate ideas have to account for the logical problem of how concepts relate truthfully. Due to this function of innate ideas, I conclude that they must be interpreted as constraints on thought rather than dispositions, since the word "disposition" is associated with the problem of bare faculties and actual knowledge. My next focus is therefore NE and the distinction between particular dispositions and tendencies to truths.

2.3.3. Dispositions to Truths and Ideas

In the controversy with Locke the issue that emerges is one of how a mind can actually form judgments and know truths, a problem which differs from the logical question of why a proposition can be said to be true or false. The answer to the former problem requires an analysis of the faculties underpinning the thinking process, and posits the question of whether innate ideas must be inscribed in the soul, so that the latter can obtain knowledge. It is within the horizon of this question that the discourse on innate dispositions is raised by Leibniz.

Leibniz's main aim is to persuade Locke that what Locke calls ideas are actually judgments (actual thoughts), and judgements always need the perceptual activity of a substance, since they are particular actions. Ideas, on the contrary, are inclinations, dispositions already present to the soul:

> *L'esprit n'est pas seulement capable de les connoitre, mais encore de les trouver en soi,* et s'il n'avoit que la simple capacité de recevoir les connoissances, ou la puissance passive pour cela, aussi indeterminée que celle qu'a la cire de recevoir des figures, et la table rase de recevoir des lettres; il ne seroit pas la source des veritez necessaires, comme je viens de montrer qu'il l'est: car il est incontestable que les sens ne suffisent pas pour en faire voir la necessité: *et qu'ainsi l'esprit a une disposition (tant active que passive) pour les tirer lui mème de son fonds*; quoique les sens soient necessaires pour luy donner de l'occasion et de l'attention pour cela, et pour le porter plùtòt aux unes qu'aux autres. (NE 79-80 ; italic is mine)
>
> Mais c'est ce rapport particulier de l'esprit humain à ces veritez, qui rend l'exercice de la faculté aisé et naturel à leur égard, et qui fait qu'on les appelle innées. *Ce n'est donc pas une faculté nuë qui consiste dans la seule possibilité de les entendre: c'est une disposition, une aptitude, une préformation, qui determine nôtre ame, et qui fait qu'elles en peuvent étre tirées.* Tout comme il y a de la difference entre les figures qu'on donne à la pierre ou au marbre indifféremment, et entre celles que ses veines marquent déjà ou sont disposées à marquer si l'ouvrier en profite. (NE 80; italic is mine)

In both passages, dispositions tend towards truths and ideas; faculties are dispositions, but ideas and truths are not; moreover, they cannot be general dispositions, but *aptitudes*, *préformations* that enable the mind to derive truths by virtue of its own power of thought. Nonetheless, this determination can be exercised only if attention is directed to a mind's internal acts. Attention (apperception) is also a necessary condition for minds to reflect, even if it cannot be considered a reflective act *per se*. As seen in 1.3., perception contributes to the process of judgement: since a mind is in a body, its attention and memory are primarily directed to what occupies the mind: outstanding perceptions and affects. Perceptions, therefore, can cause our thoughts because an outstanding and strong perception catches and leads our attention to what is present in our mind. These mechanisms cannot be directly controlled by the will, and thus minute perceptions play a pivotal role in directing minds.[16] The distinction emerging in the passages is thus between particular dispositions, which cause a mind to think of *p* at time *t*, and tendencies to truths and ideas which cannot be exhausted in a single knowing act, but that account for the capability of a mind to think and pass from one thought to another. From the following passage, it is evident that the discourse of ideas as tendencies to truths is directly connected to the need to avoid bare faculties as pure powers without acts, a manifestation of Leibniz's nominalist approach: a pure potency cannot exist

[16] As already pointed out, minute perceptions and the impotence of the will to control attentional mechanisms is an assumption necessary in order to guarantee the objectivity of our representations and the harmony among perceivers' perceptual states. See 1.4.3-1.4.4.

separated from its activity, a claim that compels Leibniz to hold that every single act of thinking involves innate ideas, as we shall see soon:

> On me repondra peut estre que cette Table rase des philosophes veut dire, que l'ame n'a naturellement et originairement que des facultés nues. *Mais les facultés sans quelque acte, en un mot les pures puissances de l'école, ne sont aussi que des fictions, que la nature ne connoist point,* et qu'on n'obtient qu'en faisant des abstractions. Car où trouverat-on jamais dans le monde une faculté qui se renferme dans la seule puissance sans exercer aucun acte? *Il y a tousjours une disposition particuliere à l'action, et à une action plustost qu'à l'autre. Et outre la disposition il y a une tendence à l'action, dont mème il y en a tousjours une infinité à la fois dans chaque sujet: et ces tendences ne sont jamais sans quelque effect. L'experience est necessaire, je l'avoue, à fin que l'ame soit determinée à telles ou telles pensées, et à fin qu'elle prenne garde aux idées qui sont en nous;* mais le moyen que l'experience et les sens puissent donner des idées? l'ame at-elle des fenètres, ressemblet-elle à des tablettes, est elle comme de la cire? Il est visible que tous ceux qui pensent ainsi de l'ame la rendent corporelle dans le fond. On m'opposera cet axiome receu parmy les philosophes, que rien n'est dans l'ame qu'i ne vienne des sens. Mais il faut excepter l'ame mème 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 mème, la cause, la perception, le raisonnement, et quantité d'autres notions que les sens ne sauroient donner. Cela s'accorde assez avec vostre Auteur de l'Essay, qui cherche la source d'une bonne partie des idées dans la reflexion de l'esprit sur sa propre nature. (NE 110-1; italic mine)

Concisely, the active nature of the soul consists in its powers not just to receive truths, but to actively form them, powers which are manifest in the fact that minds have the power to assent to them:

> J'ai déja repondu §. 5. à l'objection §. 22. Qui vouloit que lorsqu'on dit que les notions innées sont implicitement dans l'esprit, cela doit signifier seulement, qu'il a la faculté de les connoitre; car j'ai fait remarquer qu'outre cela, il a la faculté de les trouver en soi, et la disposition à les approuver quand il y pense comme il faut. (NE 84)

Let us consider once more the question of deceptive states. As seen 1.2.5., the process of thinking of the proposition that “the tower is round” starts with perception. The innate tendency to assent to or reject the proposition leads the mind to reconsider it, seeking the conditions that determine the proposition as true or false. This reflection upon a state occurs neither because of perception itself, since we cannot but perceive the tower as round, nor because of an act of the will. The reflective act implies a consideration of the proposition under distinct notions, and it is to this consideration that we are disposed. This investigation into our thoughts happens spontaneously, since it is how our minds are disposed to act. From this it follows that reflection is always involved in thought, and that every thought is virtually

innate, meaning that minds have the power to assent to or reject it when the occasion for consideration is allowed.

The fact that one has actually never thought of a proposition *p*, e.g., that "no circle is square", or that "a mind is a substance", does not mean that she does not know it or does not have in her the possibility to discover it and assent to it once she has the occasion to think of it. Since one has the disposition to truths and ideas, she also has the capacity to draw this particular proposition and consider it true, even if she has never thought of it before.[17] This means that a mind possesses the "tools" which enable it to conceive and assent to propositions, an activity which cannot be supported solely by the perceptual activity of the soul (or animals would have this activity too, see NE 275).[18] With the discourse about innate ideas as dispositions, Leibniz thus shifts the focus from the content of knowledge, to the conditions that make thought and certainty possible: Leibniz never denies that perception is a necessary condition (as I show in 3.1, in discussing Leibniz's answer to Tolland), and if indeed perception is a necessary condition, then it cannot be, per se, a sufficient one. More specific faculties, such as the intellect and innate ideas as constraints on thought are required.

2.3.4. Spontaneity and Self-Determination.

The point Leibniz tries to make clear is that reflection and the intellect contribute to our knowledge *in a different and more essential way* than the senses do. The general argument is that, as one can observe a difference between the knowledge acquisition of minds, in contrast to the knowledge acquisition of mere sensitive souls, like animals, we have to account for that difference. Consequently, rational souls require determined/active faculties or dispositions. Since innate ideas have to account for thinking as a constant activity of the mind, they cannot be completely "drained" by some particular act of knowledge, but they must be interpreted as the power or the possibility of knowledge. Therefore, what we innately possess is not truths and concepts, but rather a disposition to pass from one thought to another by acknowledging a

[17] In NE Leibniz uses mathematical knowledge as an example of this kind of disposition to truths. A comparison with Plato's position is however misleading since, as already explained (2.3.1), Leibniz rejects that one knows because one remembers what she knew in a previous "life". NE 85: "Les veritez des nombres sont en nous, et on ne laisse pas de les apprendre, soit en les tirant de leur source, lorsqu'on les apprend par raison demonstrative (ce qui fait voir qu'elles sont innées), soit en les éprouvant dans des exemples comme font les arithmeticiens vulgaires, qui faute de savoir les raisons n'apprennent leur regles que par tradition; et tout au plus, avant que de les enseigner, ils les justifient par l'experience, qu'ils poussent aussi loin qu'ils jugent à propos."

[18] Already Mugnai (1982) suggests that innate ideas have to be interpreted as a facility of knowledge and general terms.

new proposition as true. Innate ideas as constraints on thought, thus explain why thinking is based on judgement and discovery.

As seen in 1.4., judging is only one aspect of knowledge, the other being discovery, or the power to find new truths.[19] In analyzing *De Affectibus*, we see that minds are determined to particular thoughts not only by their occasions (that is, their perceptual activity), but by following the order of distinct ideas, or of causes and effects (*De Affectibus* A VI 4 1424-25; see also 1.3.2.; 1.4.2.). On this perspective, the consideration of the notions involved in thought leads the mind to consider the conditions and causes for something to happen, and therefore to determine truths and connect propositions about events. It is thanks to this consideration that hypothetical knowledge is possible. The "power" of thinking is thus the capacity of minds to think of events without any actual perceptions. The rules according to which we go from one thought to another, therefore, are not determined "externally" by actual perceptions, but rather they depend on the capacity of the intellect, innate in the mind, to form and derive new truths. There are logical rules that depend on the structure and limits of the intellect. They determine the way in which minds can think of the external world. Because of this, I prefer to consider innate ideas as constraints on thought, i.e. as what delimits what minds *can distinctly conceive of* from what they *cannot distinctly conceive of*.

We can now explain why Leibniz defines minds and reflection as an actions into the self. Minds, by thinking and reflecting, act in themselves because they are capable of self-determining their thoughts. The *self-determination* of thought implies that they can go from one thought to another because intellect and reflection enable minds to contemplate concepts as possibilities. When a mind gains this perspective, it does not consider the perception, but rather the conceptual marks that compose that possibility. It can conceive what it is like for x to be F and, in so doing, they form counterfactual, hypothetical, and modal reasoning. This is the principle of logic and of demonstrative science, which cannot be based only on the fact that "what happened will happen in the same way", but on explanations of why something that happened will happen again in the same way. These explanations are determined by reason and its rules.

This self-determination is necessary not only in logical and scientific reasoning, but also in metaphysical and moral reasoning. The capability of connecting propositions and thinking

[19] A VI 4 324: "Methodus inveniendi consistit in quodam cogitandi filo id est regula Transeundi de cogitatione in cogitationem." A VI 244-5: [Leibniz lists the *artes* for his *scientia generalis*. The first is grammar; then it follows logic, *ars mnemonica*, and the *ars topica* or *ars inveniendi* and then he continues] "Sequitur Logica, qua tantum hoc loco comprehendo Artem illationum, sive artem judicandi quae proponuntur, quae sumenda est ex usu hominum loquentium scribentiumque. Quarta est Topica seu ars inveniendi, id est ars dirigendi cogitationes ad aliquam veritatem ignotam eruendam, vel media finis cujusdam reperienda."

abstractly enables minds to conceive of metaphysical properties, like SUBSTANCE, SELF, and to move from this acknowledgment to the knowledge of other minds as substances. This act of acknowledging other minds as SELF enables a subject to ascribe propositional attitudes to other minds. This process, as seen, is necessary for figuring out scenarios that can be considered to follow from an action, and consequently, also for acting in the world together with other substances, since through the ascription of propositional attitudes minds can involve the perspective of others in their reasoning about possible actions.

The passage from one thought to another can be called the spontaneity of reason. It means that a mind, because of its own power and operation, i.e., of its nature, is able to have reasons to pass from one thought to another, and this constitutes the freedom of a rational mind:

> liberum a spontaneo differt, ut species a genere, nimirum libertas est spontaneitas rationalis. Spontaneum est cujus agendi principium in agente est, idque et in libertate contingit. Nam positis omnibus ad agendum requisitis externis, mens libera agere potest aut non agere, prout scilicet ipsamet disposita est. (A VI 4 1380)

In this sense, reasoning and reflecting are spontaneous processes.[20] The mind spontaneously directs its attention to a present thought, reflects on its own thought and derives a new proposition from the previous one.[21] Consider deceptive errors again. By noticing that "the tower is round", a mind may[22] spontaneously move to consider the truth or falsehood of the proposition considered. The assent is constrained by a reflection of the mind on its thought

[20] A VI 4 1430: "Si qua sit series determinationum ex se invicem sequentium certa lege et determinatio ad ipsam seriem fuerit actio pura; reliquae actiones durante serie dicentur spontaneae sive naturales, eoque magis quo longius regredi licet versus primum rei statum. Nam cogitandum est determinationem ad seriem aliquam rursus velut in aliqua serie existentem intelligi posse, et quo minus ita regrediendo incidimus in passiones eo magis spontaneum aliquid seu naturale dicemus."

[21] Since this process is spontaneous, i.e., not governed by the will, Leibniz insists that education and "studium" are necessary: the more a mind knows and is capable of concentrating and conceiving, the more it will be apt to relate propositions and events correctly. As explained in 1.4.4., there is a straight bound between *conscientia*, conceived as the act of reasoning according to social knowledge, and education, this is the reason why Leibniz tried to convince princes and princesses of the importance of a German Society of Arts for the improvement of the German folk throughout his life. Favaretti-Camposampiero (forthcoming) stresses the importance of *studium* for avoiding *negligentia*, the cause of inaccuracy of our judgments.

[22] I write "may", because it does not have to. I can be in a room and yet not notice that there is another person inside, or I can assent to a proposition without caring about its truthfulness since at that moment my attention is not sufficiently drawn to those events. There can be different factors which draw someone's attention: for instance the fact that someone else asks about something ("Have you seen John? He was in the room."). In this case I can recall the previous experience and realize that John was in the room. This bottom-up controlling of attention is explained by Barth (2012). Another factor can be internal, such as when I am looking for something. This is an example of how the will can indirectly influence the thinking process, as Leibniz writes to Treuer (quoted in 1.3.). The other factors which activate attention are spontaneous also because they are the results of habits: this is what *studium* and education account for. If I have to conduct electricity, I will search for a metal. "Metal" is not a mark of electricity, but since I learned that metal conducts electricity, I spontaneously connect the concepts electricity and conduction to metal.

and a reconsideration of its thought. If this process were led by conscious perceptual contents only, the mind would have no reason to reconsider its thought: it will continue to see the tower as round. But since other faculties, for instance, attention, memory, and the tendency to truths are spontaneously involved in this process the mind can determine the thinking process independently from its conscious perceptual contents.[23] Judging and discovering, therefore, go hand in hand according to Leibniz, the latter flowing from the former, exactly as a new action and perception is derived from the previous states of a substance. In a nutshell, this seems to me to be Leibniz's stream of thoughts which leads him to think that the knowing process and the thinking activity of the mind must be underpinned by more fine-grained faculties, which in his jargon are referred to as 'faculties with some determination to act', i.e. ideas.

It should be clear, then, why the tendency to truths needs perceptual activity to be exercised, but is not fully determined by perception. The fact that perceptions are always active in the substance is a necessary condition for harmony, and in Leibniz's view, is also needed to guarantee the reality of our knowledge. Since perceptions direct thinking and do not depend on the will, perceptions guarantee that analogical perceptual states are available to minds in similar perceptual situations. The senses of two subjects in front of a red surface will be affected by the red surface. Moreover, they cannot control the correspondent impressions of red caused by the unification of minute perceptions. Within that perceptual environment, if their senses are full-fledged and aptly affected, they will have correspondent perceptual modifications. Constraints on thought, on the other hand, vouch both that minds cognize of the world in an analogically similar way, and that they spontaneously pass from one thought to another. The spontaneity of the mind and the self-determination of thought mean that minds represent the world from their own point of view and connect ideas and events in different ways. What each subject connects to the perception of a red surface (e.g., the image of an apple, or a memory of her red t-shirt) depends on their different experiential package.

Once we acknowledge this unique role of perceptions, we must nevertheless recognize that perceptions can explain actual thoughts and beliefs—for instance why one believes that "there is a table in the room"—,[24] but it cannot explain why one assents to truths, for instance to propositions like "no circle is square". One must consider the difference in the truth-determinative criteria for propositions depending on an actual perceptual activity on one hand, and propositions depending on general truths on the other. Whereas the former depends on perception, and thus is true if and only if there actually is a table in the room, the latter

[23] On this point, see the work of Favaretti-Camposampiero (2016); for a review see Oliveri (2015).

[24] And, as seen, the fact that perception is not voluntarily controlled guarantees, together with the harmony among perceivers' perceptual states, the objective existence of the world.

depends on the *formalitatae*, i.e., on the concepts involved in it (discussed in 2.2.). The truth of the latter kind of proposition is not due to a particular perceptual act presenting instances of those concepts (the existence of particulars), but due to the natural order of knowledge and the understanding of concepts as possibilities, as pointed out in the previous chapter through the intensional interpretation of concepts (see 2.2.).

Leibniz's system requires ideas as dispositions for this latter kind of general truths. When he suggests that innate ideas incline minds to truths, he means that the reasons why we can determine those general propositions as truths must be found in the notions and not in the perceptions (though *perceptibilitas* plays an important role in determining the possibility of notions, due to the difficulty of determining their possibility a priori).[25] Nonetheless, according to his theory of substance, a mind must be disposed to particular thoughts as well. Considering this, it seems to me that Leibniz aims at distinguishing between the psychological query into the reasons that make one acknowledge and consider a proposition, and the logical query into the reasons that make a mind consider general propositions as true. According to Leibniz, this is Locke's mistake in his *Essay*: not having sufficiently distinguished between what perceptions contribute to knowledge and truths, and what reason contributes to. For Leibniz, it is a matter of dividing labour, and not of excluding one in favor of the other. Consequently, one has to acknowledge that perceptions, and particular dispositions (minute perceptions) explain why one actually thinks of *p*, but the assumption of innate ideas, that is to say intellectual strivings or constraints on thought, must explain why one must assume that the proposition *p* is true, and why we can "inferentially" pass from a thought to another ("if there is a chair, then I can sit", "if men are mortal, then this man will die", and so on). If perceptions account for the actual thoughts of substances and their harmony with the world, reflection and innate ideas account for why individual minds can determine the region of logical space in an analogically similar way with other minds, and, in so doing, they can process perceptual contents and represent them as other minds would. The harmony among perceivers' perceptual states and the sharing of innate faculties (although with different degrees of reflective power, as we will see), guarantee that minds can categorize the world in an analogically similar way, and therefore why they can share a language which expresses those categorizations and connections. Another aspect of Leibniz's theory of innate ideas is

[25] A general truth, like "all circles are not square" will be true even if nothing like a circle existed, since it is possible in God's intellect. One could wonder, nonetheless, whether human minds were able to conceive truths about natural kinds without an a posteriori experience of their existence. Nonetheless, the reasoning about what turns out to be conceivable is not due to its actual existence, but to the conceptual marks involved in the notions. This being so, Leibniz distinguishes between essences and existences, *subjectum praedicationis* and *inhaesionis*, see 2.2.5.

indeed that dispositions are only analogically similar in different minds, aspect that guarantees that minds cognize of the world in an analogically similar way and from their own point of view (this will be further explained in section III):

> Contra Libertatem nostram objicitur rationem volendi esse ab externis, nempe corporis temperamento, et objecti impressione.
> Respondeo: concurrere et dispositiones internas ipsius mentis.
> Instabis: dispositiones mentis praesentis, esse ab impressionibus praeteritis corporis et externorum praeteritis.
> Respondeo, concedendo de quibusdam, negando de omnibus, sunt enim quaedam in mente dispositiones primitivae quae non sunt ab externo. Itaque dicendum est Mentes ipsas per se, ex natura sua primitiva dissimiles esse inter se, contra quam vulgo putatur. Cujus rei etiam aliunde certa argumenta habeo in promptu. Ut una mens alia perfectior sit fortiorque ad resistendum externis. Radix libertatis est in dispositionibus primitivis. (A VI 4 1639; italic mine)

The fact that minds are similar, and that they can express thoughts only in an analogical way, along with the assumption that their perceptual activity is not identical, vouches for the multitude of perspectives. Each mind expresses the world from its own point of view, and this can lead minds to misrepresent possibilities.

As Leibniz writes, every mind has its own power to think distinctly and clearly of concepts and truths, and this is a distinguishing mark of minds. In other words, even if we can give a name to some general tendencies which we can recognize as necessary for the possibility of thinking through reflection, like the principle of contradiction or the capacity to conceive of unities, similarities, dissimilarities and so on, we have to admit that in every mind these general capacities are actualized with different degrees of clarity and distinctness, which makes every mind a different mirror of the universe through its particular point of view. Even if the level of reflective clarity of knowledge differs in all minds, innate ideas are necessary because they guarantee that minds categorize in an analogically similar way despite a certain degree of divergence. This is important because, as we will see, it means that two minds can be said to have the same concept, GOLD, even if they possess two different representations of GOLD. In this sense, the concept GOLD is not innate as a disposition to think of golden things; it is acquired and depends on someone's experience. What is innate to us are the dispositions that contribute to form the concept GOLD if certain conditions apply. On another possible planet, where GOLD was absent but another metal, e.g. GOLX, which is like GOLD but without being malleable, she will form this other concept and consider the earthly concept GOLD as possible, but not compossible in her world. In the same way, two different minds

may hold two different beliefs about GOLD, e.g., that GOLD is not malleable and that GOLD is malleable, and nevertheless they can be said to refer to the same concept GOLD.[26]

The interpretation of innate ideas as constraints on thought harmonizes with *Quid sit idea*. What we have is a faculty to discover concepts, and this is a disposition to truths; however, concepts themselves are not dispositions. This faculty of discovery is constituted by a series of perceptions and the mind's power of reflecting and drawing attention to its perceptual states which depends on a mind's degree of perfection. A concept is therefore a possibility one apprehends since she learns to consider something as possible/impossible in the world in which she lives.

It seems to me, therefore, that the discourse of dispositions as tendencies to truths and ideas aims to avoid the Scholastic problem of bare faculties: minds do not simply have power independent of their acts (such as for instance a mere power of thinking), rather this power must always be exercised. Tendencies thus need the support of perceptual activity which explains why a mind is thinking of *p* at time *t*. The fact, however, that a mind can think of *p* in general is not a matter of perception: the mere perceptual activity, as Leibniz intends it, cannot explain how minds come to form distinct notions and propositions. Thought is instead a matter of reflection, which needs a proximal cause in order to be activated, but whose possible conditions are not explicated by the aforementioned proximal cause. The fact that I perceive a chair can explain why I think that "I would like to sit", but it cannot explain why I *can* think that "I would like to sit". If we analyze the desire that "I would like to sit" from the point of view of the theory of the substance, my desire can depend on the fact that I have walked the whole day, and this can have other reasons. From this perspective, the occurrence of this thought and my paying attention to the chair and not to other objects in the room depends on reasons that one can also be unaware of: minute perceptions. The background of this distinction is Leibniz's assumption that the mind is not transparent to itself. Conscious thoughts are not sufficient to explain why a mind can think. Spontaneity and self-determination of thought is required within a framework that rejects transparency of the mind: a mind's activity cannot be equated to its conscious thoughts.

> Il y a une infinité de figures et de mouvemens presens et passés, qui entrent dans la cause efficiente de mon ecriture presente, et il y a une infinité des petites inclinations et dispositions de mon âme, présentes et passées, qui entrent dans la cause finale. (*Monad.* 613)

[26] For a discussion of the topic of conceptual misrepresentation and change of referent, see Oliveri (2016b).

Following this passage from *Monad*, perceptions account for the infinite changes in a substance, and therefore they can also account for an actual conscious thought.[27] Nonetheless, they must be distinguished from consciousness and apperception. This means that perceptions alone cannot determine the process of thinking and passing from one thought to another. The passage from one thought to another is also determined by the conceptual marks involved in the propositions.

2.3.5. Innate Ideas as Constraints on Thought

We have to discuss one last aspect that will be more clear in 3.1., namely the sense in which innate ideas as constraints on thought continuously inform all acts of thinking without needing to assume that the mind has explicit knowledge of those innate ideas. The answer is to be found in the interpretation of innate ideas as constraints. Leibniz responds to Locke, who suggests that if there are innate truths, there must be also *pensées innées*:

> Point du tout, car les pensées sont des actions, et les connoissances ou les veritez en tant qu'elles sont en nous, quand même on n'y pense point, sont des habitudes ou des dispositions; et nous savons bien des choses, aux quelles nous ne pensons gueres. (NE 86)

Innate ideas as constraints must explain how a mind can form thoughts conformed to ideas it is unaware of. In my view, innate ideas are constraints on thought or limits of the intellect, constraints of the sort which allow the representation of perceptual presentings from the perspective of distinct notions and general knowledge. Leibniz includes the principle of contradiction and of sufficient reason (NE 4). Both principles function by inclining minds to avoid contradictions and to search for a sufficient reason for an event, which in turns inclines us to institute in events relations of causality, be they efficient or final.[28] Experience is the

[27] GP 6 608: "Il s'ensuit de ce que nous venons de dire, que les changemens naturels des Monades viennent d'un principe interne, puisqu'une cause externe ne sauroit influer dans son interieur. 12. Mais il faut aussi, qu'outre le principe du changement il y ait un detail de ce qui change, qui fasse pour ainsi dire la specification et la varieté des substances simples. 13. Ce detail doit envelopper une multitude dans l'unité ou dans le simple. Car tout changement naturel se faisant par degrés, quelque chose change, et quelque chose reste; et par consequent il faut que dans la substance simple il y ait une pluralité d'affections et de rapports quoyqu'il n'y en ait de parties. 14. L'état passager qui enveloppe et represente une multitude dans l'unité ou dans la substance simple n'est autre chose que ce qu'on appelle la Perception, qu'on doit bien distinguer de l'apperception ou de la conscience, comme il paroitra dans la suite."

[28] Interestingly enough, Leibniz relates the principle of contradiction to necessary truths, but the principle of sufficient reason to truths of fact or hypothetical truths. This means that the principle of sufficient reason plays a role in demonstrations as far as it says that everything has a cause: "Duobus utor in demonstrando principiis, quorum unum est: falsum esse quod implicat contradictionem, alterum est, omnis Veritatis (quae immediata sive

innate perceptual activity of the substance, one that is a necessary but not sufficient condition for the exercise of thought. Other innate ideas are unity and multiplicity, similarity and dissimilarity, identity and diversity, relations that are the foundation for definitions (the determination of what a thing is allows one to distinguish it from what it is not, and to determine, therefore, similarity and dissimilarity among things). Nonetheless, one has to bear in mind that innate ideas are not innate as contents, but as constraints on thought, which means that those principles and ideas are the structures that delimit what can be conceived from what cannot be conceived.

Consider the following analogy. A hand can only do a limited number of movements, even if I can imagine turning it 360 degrees, and in a similar way, thought can only make sense of a mind's perceptual activity by representing things according to the principle of contradiction; by searching for causes, or representing unities and multiplicities, similarities and dissimilarities and so on. Constraints on thought delimit what a mind *can* think from what it *cannot*:

> Il est vrai que nous commençons plustôt de nous appercevoir des verités particuliéres, comme nous commençons par les idées plus composées et plus grossieres. Mais cela n'empeche point que l'ordre de la nature ne commence par le plus simple, et que la raison des verités plus particulieres ne depende des plus generales, dont elles ne sont que les exemples. Et quand on veut considerer ce qui est en nous virtuellement et avant toute apperception, on a raison de commencer par le plus simple. Car les principes generaux entrent dans nos pensées dont ils font l'ame et la liaison. Ils y sont necessaires, comme les muscles et les tendons le sont pour marcher, quoiqu'on n'y pense point. L'esprit s'appuie sur ces principes à tous momens, mais il ne vient pas si aisément à les demèler et à se les représenter distinctement et separément, parce que cela demande une grande attention à ce qu'il fait, et la pluspart des gens peu accoutumés à mediter n'en ont guéres. (NE 83-4)

Even if rational beings have to follow the "perceptual order of occasions" by virtue of being embodied, and therefore think of truths according to their initial perceptual experiences, this does not mean that perception alone can account for why a mind can think those thoughts.

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identica non est) reddi posse rationem, hoc est notionem praedicati semper notioni sui subjecti vel expresse vel implicite inesse; idque non minus in denominationibus extrinsecis quam intrinsecis, nec minus in veritatibus contingentibus quam necessariis locum habere. Discrimen inter veritates necessarias et contingentes fere idem est quod inter numeros commensurabiles et incommensurabiles. Ut enim in numeris commensurabilibus resolutio fieri potest in communem mensuram, ita in veritatibus necessariis demonstratio sive reductio ad veritates identicas locum habet. At quemadmodum in surdis rationibus, resolutio procedit in infinitum; et acceditur quidem utcunque ad communem mensuram ac series quaedam obtinetur, sed interminata; ita eodem pariter processu veritates contingentes infinita analysi indigent, quam solus Deus transire potest. Unde ab ipso solo a priori ac certo cognoscuntur. Etsi enim semper ratio reddi posset status posterioris ex priore; hujus tamen rursus ratio dari potest, neque adeo ad ultimam rationem in serie pervenitur. Sed ipse progressus in infinitum habet rationis locum, quae suo quodam modo extra seriem in Deo rerum autore poterat statim ab initio intelligi, a quo priora aeque ac posteriora et magis quam a se invicem dependent. Quaecunque igitur veritas analyseos est incapax demonstrarique ex rationibus suis non potest, sed ex sola divina mente rationem ultimam ac certitudinem capit; Necessaria non est. Talesque sunt omnes quas voco Veritates Facti. Atque haec est radix contingentiae, nescio an hactenus explicata a quoquam." (A VI 4 912)

Like muscles and tendons for movements, innate ideas as constraints on thought always inform our thoughts, even the most particular and contingent ones, because they are the conditions for thinking in general: thought is possible because rational minds are capable of thinking and producing a horizon of sense by abstracting from perceptions and represent particulars as if they were identical; as if all chairs, which can differ greatly, were identical as CHAIR because they share some properties. This idealization, is essential to thought and reasoning (see 2.2.3. for more on this idealization).

The definition of concepts as possibilities expresses that concepts belong to the thinking process, because concepts are what is conceivable according to the intellect and its limit. Therefore, concepts are not themselves dispositions. Concepts are acquired by a mind through learning: a mind must exercise its active power to draw those contents due to its basic activity, perception, which gives occasion to it. At the same time, a content can be determined as conceivable because it entails no contradiction; it can be thought of as a unity (a concept) despite the multiplicity it entails (the requisites which compose it). Consequently, it relies on innate ideas which are not equated with the bare faculty of thinking or of acquiring knowledge, but to a "capacity amplified by a striving" (Liske, 2009) (the striving for truths) which delimits what can be from what cannot be thought, and, therefore, delimits the region of truths too. As Leibniz writes in the quoted passage, ideas are innate as sources of truths, meaning that they are like tendons and muscles: even if one can move her hand without being aware of all tendons and muscles which underpin her movements, those movements would not be possible without those supports. Even if one consciously knows of their hand's movements, her movements imply an infinity of micro-parts, moving together with the macroscopic perceptible parts, without one being aware of all those movements which make that movement possible. It is only by virtue of this microstructure that some movements, even if imaginable, are not actually possible (and it is because of our ignorance of this microstructure that we can mistakenly believe some movements possible).[29]

Innate ideas carry out a function for thought analogous to the function muscles and tendons do for movements: they delimit the region of the logically possible from impossible things and they furnish the mind with tools for establishing order among concepts as expressing possibilities. By virtue of this fact, Leibniz affirms in his comments on Locke's criticism of innate ideas in book one, that a mind always uses innate ideas even if unaware of

[29] Following the analogy with reason and conceivability, this is the reason why minds need experience in determining the possibilities of things. In the same way, we can image a species which does not exist or a complex concept, "the fastest movement" that nevertheless entails a contradiction. I will return on the topic of "fiction" and the reason for its impossibility later. See NE 322.

it (an issue I will focus on in 3.1.).[30] What I would like to stress in part III is Leibniz's approach in analyzing the formation of truth, a formation which enables him to maintain that truths are learned even if they are virtually innate. This approach consists in a distinction between a logical or natural order of truths and a historical or ontogenetic order of truths. I have already pointed to these two orders in different parts of my analysis, but it is time to clarify their relevance for my approach.

2.3.6. Logical and Historical Order of Truths

To sum up our previous analysis, judgments as acts require the perceptual activity of a substance, and thus explicit knowledge cannot be innate. Distinct notions and thoughts are characterized as "virtually innate" because they depend on the intellect as structured by innate ideas. Concepts are virtually innate for Leibniz not because they are already inscribed in the mind. Virtuality expresses a relation of cognitive dependence between concepts (possibilities we can conceive of and form) and innate ideas (constraints on thought that determine what we can conceive of). This reading implies a denial of the disjunction between nature and nurture: as Leibniz explicitly states, his philosophy rejects the assumption that what is innate cannot be learned.

The theoretical background allowing Leibniz to hold such a position is based on a phenomenological observation of how individuals come to know truths, which is directly connected with the fact that rational beings, as they possess an organic body, are primarily concerned with what falls under their senses. Because of this, as stated in the passage about muscles and tendons quoted above:

> nous commençons plustôt de nous appercevoir des verités particuliéres, comme nous commençons par les idées plus composées et plus grossieres. Mais cela n'empeche point que l'ordre de la nature ne commence par le plus simple, et que la raison des verités plus particulieres ne depende des plus generales, dont elles ne sont que les exemples. (NE 83)

The passage clearly distinguishes between the historical or ontogenetic order of knowledge-acquisition, and a natural or logical order of notions and truths.[31] In the ontogenetic history of a particular human being—from her childhood to the age of cognitive

[30] On this point, see Bolton (1990, 195-226).

[31] Mugnai (1982) highlights the Leibnizian distinction between the historical order and natural order of knowledge and notices its importance for Leibniz's conception of innate ideas and his conception of the dependence of knowledge on more general principles.

maturity—one can trace an evolution of a subject's cognitive faculties which underpin the development of its acquisition of knowledge. This development is characterized by a transition from her early stage of being determined by the senses, which give her the occasion to think of little more than perceptual presentings, to her later stage, with her ability to reflect and conceive of notions beyond the senses, i.e. logical, metaphysical and ethical notions. This evolution is traceable both in the evolution of a single individual, and in the evolution of a society. In the first case, more primitive and senses-related acts dominate the cognitive process in the form of affects. It is by reflecting upon those sensible acts that a mind passes from unreflective acts that occupy the soul, to distinct notions which says what those acts are (anger, envy, love, and so on). This change of perspective on unreflective acts allows one to inquire into the causes of those affective states. Further, it allows one to reflect and pass from more sensible to more abstract conceptions: it is through exercising these reflective acts that minds come to metaphysical knowledge and to realize the I-Perspective which brings them to the I-Thou-Perspective. Moreover, Leibniz directly connects the human attitude to pass from the sensible sphere to the cognitive one with the principle governing etymologies: through the study of languages and the reconstruction of etymologies, we can trace the history of human discoveries, but we cannot understand the origins of our notions.

> §. 5. PHILAL. Sans disputer là dessus, il sera plus utile pour approcher un peu plus de l'origine de toutes nos notions et connoissances, d'observer, comment les mots qu'on employe pour former des actions et des notions tout à fait eloignées des sens, tirent leur origines des idées sensibles d'où ils sont transferés à des significations plus abstruses.
> THEOPH. C'est que nos besoins nous ont obligé de quitter l'ordre naturel des idées, car cet ordre seroit commun aux anges et aux hommes et à toutes les intelligences en general, et devroit estre suivi de nous, si nous n'avions point égard à nos interests: il a donc fallu s'attacher à celuy que les occasions et les accidens où nostre espece est sujette nous ont fourni, et cet ordre ne donne pas l'origine des notions, mais pour ainsi dire l'histoire de nos découvertes. (NE 276)

> J'avois encore ajouté que dans l'ordre naturel il est anterieur de dire qu'une chose est ce qu'elle est, que de dire, qu'elle n'est pas une autre; car il ne s'agit pas ici de l'histoire de nos decouvertes, qui est differente en differens hommes, mais de la liaison et de l'ordre naturel des veritez, qui est toujours le mème. (NE 412)

In my view, which I will argue for in part three, the assumption that language follows the historical order of truth-discoveries is a strong an assumption to make. We can call it the thesis of language as a mirror of cognitive capacities, which implies a mutual development between language and thought: the conceptual clarification needs a perceptible support to be expressed and this support is to be sought in linguistic habits already established and shared in a society. The figurative character of signs permits a re-semantization of words operated by tropes: metaphors, metonyms, synecdoches, analogies, which are the expedients of the imagination and permit establishing grammatical and semantic rules for the expression of

moral, metaphysical, and logical notions which do not find a direct referent in the perceptual space.

Even if minds initially think of what their perceptual activities present to them and what is imposed because of the satisfaction of their primary needs (think of infants, for instance), this does not allow one to exclude that in order to be able to also think of "*les idées plus composées et plus grossieres*" they need not have the support of innate ideas. We have already pointed out how this must be understood: thought has its conditions of possibility in the intellect and innate ideas as constraints on thought. Within the natural order, innate ideas come before ideas of the senses, even if they are explicitly acquired later. How can they structure every thought if they are not explicitly known by the subject? In order to make my understanding clear, I would like to draw a parallel using the example of muscles and tendons. One of the first things a child is aware of is parts of its body, for instance its hands and its movement; once it recognizes its hands and the control of them, the hands can be used to grasp things. In doing this, it does not need to be aware of all the muscles and tendons which support and enable its movements. This knowledge requires longer and more complex study of the anatomy of the hand, and the child is not yet able to acquire it, and still it can move its hands and can be aware of doing so.

The same happens with innate knowledge: the fact that one initially has sensible notions, and one can form propositions about sensible notions does not mean that more general principles (such as the principle of contradiction) are not used in those propositions, as the condition of possibility of those thoughts. Even if a mind is not aware of it, because awareness requires concentration and the reflective consideration of notions and principles, one cannot conclude that this particular proposition does not virtually depend on those innate constraints and that those innate constraints are not already in the soul.[32] A mind has only to exercise its reflective power in order to come to know them because it has the conditions to know them, that condition being the capacity for thought. Something similar happens with language: children learn to use a language before gaining a meta-linguistic reflection upon languages which allows them to know what for instance the distinction between verbs and subject is or before knowing grammatical rules. If asked whether they are using grammar correctly or not they could not answer the question, despite the fact that one can say that they are using it correctly.

This being the case, we can distinguish between an order of conceptual acquisition and an order of logical truths. The former shows how minds come to use reflective knowledge and

[32] On this point, see also Mugnai (2001).

can be reconstructed thanks to the etymologies of words and languages; it traces how minds come from being subject to their organic body to their capability of self-determination and spontaneity of thought. The latter, on the contrary, explains the dependence of all knowledge on some more general principles and represents the logical order of knowledge. The combination of both perspectives should explain why minds can acquire knowledge and categorize it in analogically similar ways, and therefore, it explains the shareability of knowledge. By assuming this distinction, one can make sense of why the thought that "I am", for instance, is the basis of all metaphysical, logical, and moral truths from a metaphysical and epistemological analysis, while a single individual never comes to explicitly think of it (see 1.4.). In other words, one can say "I" and use the concept without coming to reflect upon the fact that they exist, or coming to reflect on the existence of other substances.

As we shall see in 3.1. and 3.2, languages constituted by blind thoughts enable minds to use signs for notions in absence of an explicit reflective knowledge of those notions. It is due to language that one can learn to think of it because of the words used in a society without being aware of the metaphysical, epistemological, and logical principles that underpin her thoughts. One can learn that the word "I" has a function in language without knowing the metaphysical implications of saying "I". Some habits and knowledge can be acquired and used because they are already in use in a society and we come to learn it without inquiring into their reasons. In this sense, languages as *cognitiones caecae* permit rational beings to use knowledge without having to conceive of the notions and reasons for that knowledge, and in so doing, support the process of discovery, as I shall analyze in section 3.2. The everyday use of languages and notions differ from a metaphysical and epistemological inquiry.

Metaphysical and epistemological inquiries on the reasons why we categorize and express the world as we do require more attention and the use of the reflective power of a substance, which is not the same in each substance: every substance reflects upon the world in compliance with its perfection; therefore it can happen that a mind never comes to metaphysical knowledge. Leibniz gives us reasons both from the metaphysical and what is today called the psychological cognitive perspectives about why it is possible for rational beings to act without reflecting, and why they are able to express thoughts because of habits without coming to know the principles and reasons for those habits. He explains why we act like animals for three quarters of our lives, despite our use of thought and language.

Due to the cognitive structure of the mind, senses come first, while reflective knowledge is difficult to gain. The analysis of knowledge from the natural order shows the dependence of our actual thoughts on innate principles and truths, and allows us to trace the

"logical order of truths". In order to acknowledge that sugar is not bitter, I have to use the principle of contradiction; however, even if a child can state this proposition and recognize it as true, it might not have developed its reflective power and be capable of recognizing the validity of the principle of contradiction. This latter knowledge, even if prior to particular truths in the natural order of knowledge, is known later in the historical order of our discoveries because it requires a level of abstraction and reflection a mind must learn to exercise.[33] Because of this, it might also be that one never comes to explicitly acknowledge the principle, despite using it frequently (exactly as one moves a particular muscle in order to move her hand, even if she remains unaware of the movement of all particular muscles).

The aim of the next section is to develop an account of the role of constraints on thought for the acquisition of knowledge and the development of language, an account which can go on to explain the mutual development between thought and language.

2.3.7. Conclusion

To conclude this analysis of ideas as dispositions, I have argued that what Leibniz calls dispositions to truths or innate ideas is identified with the intellect itself. Considering Leibniz's rejection of bare faculties, the intellect cannot be a mere faculty of reflection, but must rather possess some constraints which draw the limit on conceivability: what can be conceived must be distinct from what cannot be conceived. This enables minds to organize and represent the perceptual material in conformity to the connections and relations among concepts and propositions (general knowledge), and not the particular presentation of occasions. This being the case, I have tried to determine how the constant perceptual activity of the mind is nevertheless necessary for the reflective activity: perceptions lead our attention in a way that is not always conscious, but that can be determined by reasons of which we are unaware. In chapter 3.1., I shall explain in which sense innate ideas permit one to structure general thoughts and therefore in which sense all our thoughts depend on innate ideas, and are virtually innate. Through this clarification, we are now able to say that there is a distinction between ideas and concepts, namely that concepts are not dispositions, and consequently they can be involved in the logical process as part of propositions and thus carry out their logical work. Moreover, concepts can be acquired and learned according to the ontogenetic order of knowledge. Now, we have to understand what this means.

[33] I shall discuss this aspect in 3.1. and 3.2., see also Bolton (1990).

The Mutual Development Between Language and Thought

3.1. Constraints on Thought and Language: The Place of The Other

3.1.1. The Analogy between Mind and Body

In the previous chapter, I highlighted that innate ideas are dispositions to truths and knowledge, and that they always inform even our most particular thoughts, since they determine the space of possibilities or what is conceivable. In support of my view, I referred to a passage of Leibniz where he compares innate ideas to muscles and tendons on one hand, and on the other, distinguishes between two different orders of ideas – the natural and the historical.[1] The analogy used to support his view, though powerful, does not constitute an argument. Nevertheless, if we place the analogy in the scientific context of his time, we notice it is more than mere rhetorical ploy. It aims to open a new scientific approach to the mind based on the plausibility of minute perceptions and unconscious mental states. Leibniz's approach questioned the idea that consciousness really accompanies all our actions and thoughts, which was the reigning consensus among his contemporaries. (We have partially discussed these topics in section 1.3.3.)

During the 17th Century, anatomical study became central to the development of sciences like biology and medicine.[2] In this historical context, no serious *hommes de sciences* would deny that the complexity and sophistication of the organic body transcends, by far, its external appearance. From a phenomenological point of view, conscious bodily movement requires more complex and minute parts that allow and support those movements. Analogous with the body, why should one deny that the same occurs in thought? If these parts exist and contribute to keeping the body alive without being noticed, why deny the possibility of mechanisms present at the perceptual (immaterial) level that never reach our conscious

[1] It is good to re-quote the passage from NE 83-4: "Il est vrai que nous commençons plustôt de nous appercevoir des verités particuliéres, comme nous commençons par les idées plus composées et plus grossieres. Mais cela n'empeche point que l'ordre de la nature ne commence par le plus simple, et que la raison des verités plus particulieres ne depende des plus generales, dont elles ne sont que les exemples. Et quand on veut considerer ce qui est en nous virtuellement et avant toute apperception, on a raison de commencer par le plus simple. Car les principes generaux entrent dans nos pensées dont ils font l'ame et la liaison. Ils y sont necessaires, comme les muscles et les tendons le sont pour marcher, quoiqu'on n'y pense point. L'esprit s'appuie sur ces principes à tous momens, mais il ne vient pas si aisément à les demèler et à se les représenter distinctement et separément, parce que cela demande une grande attention à ce qu'il fait, et la pluspart des gens peu accoutumés à mediter n'en ont guéres."

[2] For a critical extensive study on Leibniz and medicine, see Smith (2011); for a discussion about the organic body, see Smith & Nachtomy (2011).

awareness? And, if this is so, why deny that the activity of thought also implies processes that remain un-reflected, and hence unconscious?[3]

Of course, such a view rests on Leibniz's theory of harmony, one main tenet of which states that anything affecting the body is expressed and leave a trace in the soul,[4] and this view has implications for Leibniz's epistemology and philosophy of the mind. Leibniz maintains that his view can, for instance, avoid the odd consequences that follow from the equation of thought with consciousness, such as the inability to explain animal actions or perceptual errors (1.2.5 and 1.3.3). This chapter aims to explain why Leibniz believes that the assumption of innate ideas and the correlated assumption of unconscious states can better explain the cognitive processes which leads minds to share knowledge, to cooperate, and to establish a language as a semantically and grammatically ruled system of signs.

Not only is Leibniz's analogy not an argument, but to my knowledge, he does not present any detailed argument aimed at explaining how innate ideas work in the process of knowledge acquisition. Still, some of his remarks, including claims about innate ideas and learning can lead to a coherent view both of how Leibniz understands the process of learning, and of the importance of innate ideas to this process. There are enough hints in Leibniz's writings that do not make this operation seem like a groping for an answer. Indeed, I think my previous analysis, in particular the passage from an I-Perspective to a I-Thou-Perspective, as well as the distinction between the two orders of knowledge offer a potential answer to the question.

Before moving to my reconstruction, I would like to stress a point. Even if from a number of Leibniz's passages it seems that the presumption of minute perceptions is the answer to the question of why we have unconscious thoughts and ideas –and, therefore, innate ideas–, I do not believe that innate ideas can be equated to minute perceptions.[5] Leibniz assumes minute perceptions to explain how every single event that happens in the universe affects the soul because of the effects that objects have on the organic body. Minute perceptions, not directly caused by the body, nevertheless represent the "material part" of the external world and are organized by virtue of the perfection presented in the organic body: as the organic body has organs that channel the external affections, minute perceptions can

[3] In this same line, Leibniz argues in book II chap. 27 (NE 240).

[4] In the second draft of his answer to Toland's and Flemming's criticism, Leibniz objects that a man without organs (something Tolland believed to be implied in Leibniz's conception of thought) cannot exist because: "[…] je crois que tout ce qui se passe dans l'ame est tousjours exprimé par ce qui se passe dans le corps et reciproquement et que l'ame n'est jamais sans organe ny sans quelque sentiment par les organes." (Leibniz to Sophie Charlotte, November 1702, A I 21 670.) See also NE 161.

[5] For instance, see NE 52, a passage used by Jolley (1988, 87) to argue in favor of innate ideas as minute perceptions. See also 1.1.

become more concentrated, and therefore more distinct and outstanding. In this way, the minute perceptions catch a subject's attention, because the body has well-formed organs and these are aptly affected by the external object (1.3.). The outstanding perception resulting from the infinite minute perceptions also *expresses* the movements of my retina and all the muscles and nerves involved in the correspondent bodily process of seeing a color. When *I am conscious* of an outstanding perception, like red, I can be conscious *only of a part of a more complex process*. The general concept of RED does not express all those aspects that constitute the actual sense-perception of a particular subject: perceptions and concepts are two different activities. To these activities innate ideas are needed.

I want to make a brief remarke before moving on with my analysis. I will use the word "concept" also for notions of the senses, like red, just to distinguish between the actual sense-perception of a color red, and our use of the word "red" as a sign for something which differs from an actual sense-perception. Even if I use the word concept for red, it does not mean that notions of sense-perceptions are distinct kind of knowledge for Leibniz. The distinction, however, is important for the question I am about to takle: How do human minds form general concept of sensible qualities?

A good way to understand what makes a concept general is to understand how innate ideas work. Since minute perceptions constitute outstanding perceptions, they are not innate ideas, even if they are strictly bound with the thinking activity. Leibniz's insistence on minute perceptions thus has the following argumentative role. Since there is something at the perceptual level that remains unaware, but that structures outstanding perceptions, there might be a similar complexity at the thinking level. On the one hand, a conscious thought can be structured by ideas and principles a mind is not aware of, like the principle of contradiction (Bolton, 1990). On the other, there can be thoughts that remain un-reflected, like when we use signs or when we are used to doing something. In a more complex way, the use of signs as *cognitiones caecae* can allow thinking without recurring to the ideas. Conscious thoughts do not exhaust a mind's thinking activity.

A further remark on the distinction between innate ideas and minute perception emerges from the comparison between animal and human cognition. Both humans and animals possess an organic body and senses (further discussed in 1.3). If the possibility of forming general concepts depended primarily on the senses, then animals would also have concepts. Since they do not, one should conclude that the difference is explained by something immaterial. This something is the set of innate ideas that play the role of constraints on thoughts. Innate ideas therefore are not minute perceptions, and minute perceptions and innate ideas account

for two different aspects of human cognition respectively: the order of occasions and the logical order of knowledge. The former explains why a given thought occurs in a mind at a given time, and why a subject's thoughts conform to happenings in the external world; the latter, however, accounts for the fact that a mind can think, and for the spontaneity, self-determination, and truth of thoughts. This being the case, one has to inquire into how there can be constraints on thought, and why those constraints are a necessary condition for the capacity for thought possessed by minds.

3.1.2. Constraints on Thought and Language

Let us start by clarifying what "innate" means. As pointed out through our analysis of dispositions, "innate" is not opposed to "learned from experience"; as Leibniz says, this opposition does not apply to his philosophy (NE 85; 2.2.). According to my interpretation, innate ideas are also not innate as virtual contents, since there is a difference between those truths and ideas one can call virtually innate because they depend on innate ideas—meaning that they have their conditions of possibility in the fact that a soul is capable of rationality—and what is really innate. No content or proposition can be said to be really innate because the mind has to form them in order to possess them.[6] Nonetheless, without innate ideas a mind would never possess the pre-conditions to think of those propositions and concepts, even the most particular ones, because she would never be capable of general knowledge and concepts. Since propositions involve general concepts, and thought is essentially propositional, without innate ideas a mind could not think. For this reason, every thought can be said to be virtually innate, meaning that it has its conditions of possibility in a mind's capacity of thinking. The space of what is conceivable is determined by a mind's constraints on thoughts.[7]

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[6] There could also be a theological argument beyond the fact that minds have first to form their knowledge in order to possess it. Only God can possess thoughts without needing to form them, that is to say, there is no difference between what God *can* think and the *act* of actually thinking that thought. In God, everything is simultaneous (Mugnai, 1992, 24). If Leibniz stated that knowledge is present in the substance as a proposition or a content, given the fact that the substance perceives the whole universe, the substance would be omniscient like God, since there would be no difference between the virtual possession of a notion or proposition and its actual possession or thinking of it. Moreover, if we consider that a substance metaphysically has to perform its actions, even if they are virtually in it, a mind has to exercise the power of thinking in order to possess this knowledge. If there were no difference between virtually innate and acquired, we would not be able to distinguish among minds since every mind would be as omniscient as all other minds. For Leibniz, minds differ insofar as they represent the world accordingly with their point de vu, or their cognitive capacities and power. In this sense, the notion of "gold" of a chemist can differ from that of a non-chemist (NE 346).

[7] About the principle of contradiction, NE 5: "Mon opinion est donc, qu'on ne doit rien prendre pour principe primitif, si non les experiences, et l'axiome de l'identicité, ou (qui est la même chose) le principe de la contradiction; qui est primitif, puisqu'autrement il n'y auroit point de difference entre la verité et la fausseté; et

Since Leibniz rejects the innate/learned opposition, the question is whether he also revises the a priori/a posteriori opposition, as well as the question about analyticity. Some scholars, like (Mugnai, 2013, 116), say the answer is yes. Analyticity is not exclusively related to necessity and aprioricity. For Leibniz, there are a posteriori necessary truths, such as the contingent particular truth "Caesar crossed the Rubicon"; necessary contingent truths such as "I am a substace" are also possible. Nonetheless, considering the capacity of finite minds to conceive of notions, "a priori" is sometimes a synonym of "before experience", and, hence, opposed to "a posteriori". A priori means what can be known only by virtue of a mind's capacity for thought, or what has the condition of possibility in the structure of the mind. On the contrary, a posteriori means that a proposition or fact can be shown to be true or false, not simply by assuming a mind's thinking capacity, but rather using other facts of the actual world. In other words, a posteriori truths can only be hypothetically true due to further conditions we ascertain upon experiencing the world. Aposterioricity is based on compossibility; aprioricity is based on possibility. It does not follow, given these definitions, that a mind can know a priori truths without experience.

Innate ideas are a priori in the sense that they are not grounded in experience, but rather in a mind's way of thinking, even if one cannot conceive of them without experience. Nonetheless, they are not innate in the sense that they are analytically necessary. The notion of "a priori", moreover, does not necessarily mean that a mind can know it by analysis of more complex notions. Innate ideas do not include contents, but are constraints and a mind has to reflect upon her own acts in order to form an explicit concept of those innate constraints (such as the principle of contradiction or the idea of the substance). As argued in 1.4., experience is needed to performing the reflective act that reveals to me that "I am a substance." In this sense, it is a posteriori; but nevertheless, *I* exist as a substance necessarily (although that this individual rather than another one exists is a contingent truth.) "Substance", "I", "existence", are some of the ideas Leibniz designates as innate. In his view, the explicit knowledge of these ideas is temporally a posteriori.[8] Nevertheless, the fact that they are explicitly known only a posteriori is no proof that they are derived from experience.

I will go on to show that innate ideas also participate in the emergence of language and in the establishment of linguistic conventions. Due to the similar constraints that characterize

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toutes les recherches cesseroient d'abord, s'il estoit indifferent de dire, oui ou non. On ne sçauroit donc s'empecher de supposer ce principe, dés qu'on veut raisonner. Toutes les autres verités sont prouvables […]"

[8] Just to remember the already quoted and discussed passage (2.2.; (NE 84): "J'ai déja repondu §. 5. à l'objection §. 22. Qui vouloit que lorsqu'on dit que les notions innées sont implicitement dans l'esprit, cela doit signifier seulement, qu'il a la faculté de les connoitre; car j'ai fait remarquer qu'outre cela, il a la faculté de les trouver en soi, et la disposition à les approuver quand il y pense comme il faut."

minds, minds can conceive of similar conventions for expressing those thoughts, and hence they can understand why other minds express their thoughts through that convention. I shall investigate why innate ideas are related to a mind's capacity to draw analogies between different knowledge domains.

Leibniz thinks that Locke's argument for the sensory origin of our knowledge is unsound. The fact that a child has no understanding of ideas considered innate, but can fully understand sensory ideas (EHU 49-53; EHU 84-86) perfectly squares with the hypothesis that minds first form ideas about objects perceived by the senses, and only later acquire explicit knowledge of metaphysical ideas. The theory of ideas as constraints on thought and the assumption of unconscious mechanisms that operate in thinking demonstrate that the fact that a mind's ontogenetic knowledge starts with sensible knowledge is not a proof *per se* of the fact that minds do not possess other innate constraints that enable them to be able to think of those sensitive notions. The next chapter on language will point out that Leibniz's theory of a *cognitio caeca* enables him to hold that minds can even reason about those notions, without possessing the corresponding concepts. Language enables the use of those structures without a fully unfolded knowledge of them. The animal component of rational souls plays an important role in this ability. Like animals, human beings are sensitive and need a material support in order to activate representations in the soul. Because of this, rational agents learn to use instruments, like signs, to obtain something. Unlike animals, however, some of which can also learn the use of words, rational agents cannot but do so in a creative way. Rational agents "manipulate" and combine signs in order to adjust the instrument to the particular situation, a unique ability evident in children. Children can use words like "I" and distinguish between the I and I-Thou-Perspectives despite their evident ignorance of what "I" or "you" mean. In the same way, the language use of children involves errors because they generalize the use of acquired meanings to express their thoughts. For instance, native English-speaking children can attempt to form the past of irregular verbs by adding the suffix of the past ("-ed"), ignoring the irregular form. This can be interpreted as the instinctive capacity to draw analogies between the known and the unknown.[9]

It starts to emerge why for Leibniz the assumption of innate mechanisms that underpin the thinking processes is so fundamental. My aim is now to make it explicit, by starting with notions of sensible qualities. Locke considers notions of secondary qualities the simplest and

[9] On this topic and the reaction of a Universal Grammar, see (Margolis & Laurence, 2001); (Tomasello, 2003, 181-85).

the most certain, as they are simple and derived from experience.[10] Leibniz rejects this conception and thinks they, like all other notions (NE 54), depend on reflection. Sensible notions are obscure because they can be distinguished by virtue of an actual perception: If a subject distinguishes between red and green it is because she has a different phenomenological appearance of red and green. Nevertheless, when a subject use the word "green" or "red, she may refer to something general (A VI 4 590). When minds speak of "red", "sweet" and so on, they do not simply express a particular quality of a particular object presently perceived, but a general notion that other minds can also understand, despite the fact that they cannot actually perceive the object one describes as "red".

From here it seems to follow that one has to distinguish between generality and distinctness. There can be general notions that are not distinct, like sensible notions. Generality seems to refer to a property of a term used to represent a notion due to the fact that: (i) different minds can understand a term in a similar way; (ii) the term entails fewer requisites than another and, in the case of the most general one, only one requisite. In this latter case, the notion is a simple one. Notions of sensible qualities seem to share this aspect with other simple notions because they lack complexity to our sense organs, and hence appear simple, though they can be perceived only because they are made up by a multiplicity of minute perceptions (Bolton 2006). Distinctness, on the other hand, is a property of the concept. As the concept is determined by different conceptual marks, these marks can be distinguished by the intellect that can find a definition. The point of intellectual distinctions is that they are not exclusively based on the way in which we can distinguish between the very things, but in how we can *conceive* of them, as Leibniz makes clear in different writings (see 2.1.).[11] This is an important point because it means that human minds can conceive of notions independently from the way in which they perceive of them. The distinction between

[10] NE 8: "Or toutes les idées des qualités sensibles comme de la lumiere, couleur, chaleur, n'étant point de cette nature, je ne les compte point icy parmy les adequates. Aussi n'est ce point par elles-memes, ny a priori, mais par l'experience que nous en sçavons la realité ou la possibilité. Il y a encore bien des bonnes choses dans le livre III. où il est traité des mots ou termes. Il est trés vray qu'on ne sçauroit tout definir et que les qualités sensibles n'ont point de definition nominale, ainsi on les peut appeller primitives en ce sens là; mais elles ne laissent pas de pouvoir recevoir une definition reelle."

[11] This aspect of Leibniz's theory of distinctions has already found excellent discussions by Stefano Di Bella e Massimo Mugnai. I limit myself to quote their contributions and to hint to the important aspects of this distinction for the present analysis. Texts by Leibniz and discussions on the topic can be found in (Mugnai, 2000); (Di Bella, 2004). The relevant aspect for the present analysis is that according to the texts, the way in which one distinguishes and connects among notions can neither be shown nor derived from experience. Even if experience presents us only individual that as particulars cannot but be cognized by finite minds as belonging to a species and a genus, under the logical aspect of notions one can and has to consider each notion as an outstanding unity that can subsist without the other: "animal" for instance is a notion distinct from the notion "human being" even if this latter notion entails the other; "justice" is a term distinct from "wisdom" even if one can doubt if a wise but not just man could ever have existed.

JUSTICE and WISDOM, for instance, is not based on the actual existence of beings, but on the way rational minds distinguish between concepts. From this perspective, even if sensible notions are confused and indistinct, they can be general.

In order to understand why Leibniz believes that innate ideas such as constraints on thought structure the way in which minds think of reality, let us consider the perspectival nature of thought, and its expression in language.

In thought, minds are capable of distinguishing perspectives: who or what is the subject of an action, the object of an action and a speaker's relation to the situation expressed. This is an essential aspect of understanding what is going on in the world. If we consider sensible notions, one can ask what grounds their generality. According to MCVI, a definition of RED must be "for someone BEING RED means to perceive something like x".

> Confusa, cum scilicet non possum notas ad rem ab aliis discernendam sufficientes separatim enumerare, licet res illa tales notas atque requisita revera habeat, in quae notio ejus resolvi possit: ita colores, odores, sapores, aliaque peculiaria sensuum objecta satis clare quidem agnoscimus, et a se invicem discernimus, sed *simplici sensuum testimonio*, non vero notis enuntiabilibus; ideo nec caeco explicare possumus, quid sit rubrum, nec aliis declarare talia possumus, nisi eos in rem praesentem ducendo, atque ut idem videant, olfaciant aut gustent efficiendo, aut saltem praeteritae alicujus perceptionis similis eos admonendo: licet certum sit, notiones harum qualitatum compositas esse et resolvi posse, quippe cum causas suas habeant. (MDVCI A VI 4 586)

As Leibniz says in the passage of MCVI, concepts of sensible qualities appear simple to us, but in fact are not. It follows that one can know what those notions are and that they are possible only by making the subject perceive the object:

> Quant à ce qui se dit chap. 30. de ideis adaequatis, il est permis de donner aux termes la signification qu'on trouve à propos. Cependant sans blamer le sens de M. Lock, je mets des degrés dans les idées, selon les quels j'appelle adequates celles où il n'y a plus rien à expliquer, à peu prés comme dans les nombres. Or toutes les idées des qualités sensibles comme de la lumiere, couleur, chaleur, n'étant point de cette nature, je ne les compte point icy parmy les adequates. Aussi n'est ce point par elles-memes, ny a priori, mais par l'experience que nous en sçavons la realité ou la possibilité. (NE 7-8)

As the concept is clear but confused, in the sense that it depends on the actual perception of the object and cannot be defined through conceptual marks, a mind can understand what it is the being-red of this particular object, if it presently perceives the being-red of this object.[12] Nonetheless, minds can understand what it does mean for an object to

[12] A similar discussion can be found in Oliveri (2016c).

possess the quality BEING-RED without the need to perceive it. The generality of the concept "red" thus does not derive from the particular perception of something red, since every time one perceives something red anew, she would have a new concept. According to the definition derived from MCVI, there could be no definition of RED, and hence, RED cannot be a general notion *per se*. As the notion RED is clear but confused, it depends on an actual perception of a thing-being-red. However, as the passage from NE 7-8 states, we can understand the possibility of the notion RED through the perception. The question is how a confused notion can express a possibility proper to distinct notions (Oliveri, 2016c: 43-45).

Approaching the question from a different perspective, one can notice that the generality of the word "red" and the notion RED depend on the fact that different minds can understand what it is to perceive something red by imagining what it *is like* for someone to perceive something red. "Red", as a notion, expresses a possibility, in the sense of "possible modification of perception". Particular perceptions cannot be possibilities like in the case of concept (i.e. agreement of requisites) since possibilities must possess the mark of generality and distinctness, in the sense that other minds can also think of it. If something is possible, every rational mind is capable of conceiving it (Oliveri, 2016c: 43-47).

If we reconsider the definition of MCVI, we can say that Leibniz maintains sensible qualities are defined by a simple quality. In this sense, the simple quality of "BEING-RED" means "a subject S perceives something like x", where "x" represents the perception of red by a particular subject, with appropriately-functioning sense organs. Implied in this description, nevertheless, is the subject. In order to know what RED designated by "red" means, one assumes that any subject can substitute to "x" her own perceptions of red and still be able to say that this is an instance of RED. The subject, moreover, can also suppose that any other perceiver with full-fledged capacities (i.e., the sort that might rule out a blind subject[13]) will perceive it as red. The generality of the concept RED thus depends on the fact that other minds will be affected in an analogically similar way in perceiving this thing which is red, even if they do not actually perceive the particular being-red of this particular thing or they cannot perceive how particular subject perceive this particular thing as red. My hypothesis is

[13] A blind man can however develop an understanding of the use of the word „red" and hence of a concept RED based on different criterion, for instance by considering the way in which the word is used and to which words it is connected (for example „love" or „passion"); nonetheless, she cannot tell why those things are red, since she lacks sense perception. Hence the analogy is due to a similar affection of the word on her soul, which causes the activation of a related conceptual constellation to which the concept RED and the related word "red" also belong. It is because signs are perceptible that they can play this role within thinking activity and be substituted with an actual sense perception. It follows that even if the blind subject lacks sense perceptions, she can understand the use of the word due to her capacity of thinking in absence of that perception, and substituting a clear but obscure notion (the sense perception, which takes the role of the possibility) with a place-holder, the meaning of the word as used by other subjects of her speaking community.

that the generality of all concepts of simple qualities depend on the fact that other minds exist and that they will have an analogically similar experience in perceiving the redness of an object Oliveri, 2016c: 43-44). It follows from Leibniz's analysis that the reference of the word is neither proper instances of RED nor the perception in someone's mind; it is this analogy I can draw between myself and other minds that leads me to understand the possibility of RED. This explains in my analysis of human and animal sensation (1.3.), the fact that the sensation of "white" is always particular in animals, whereas it is general in rational beings because it is grounded in the analogy with other minds. The analogy in turn rests on a more general acknowledgement of the similarity among minds, and so, on the acknowledgment of myself as a mind, and hence on the reflection upon the self. In this sense, even if the notion of red is known before the notion of the "I" in the ontogenetic order of knowledge, it is grounded on the logical order of knowledge, i.e. on innate ideas. Since a mind has to acknowledge herself as a mind, and since a particular mind is not aware of this fact at the beginning of the ontogenetic order of their knowledge, (and this despite acknowledging its requirement for the acquisition of all other concepts), the "I" or the self, or substance, must be innate as constraints.[14]

I will argue that notions depend on a mind's capacity to understand the place of the other and to recognize other minds as similar to itself, and this recognition entails its ability to understand the analogy among minds. This is why, for Leibniz, reflective knowledge always underpins the abstraction process. Contrary to Locke then, for Leibniz the formation of a notion is not simply a matter of grasping the similarities among things of the same species; it further implies that other, similar minds can grasp things in an analogically similar way. Since this depends in turn on a mind's capacity to think of the I-perspective, Leibniz insists against both Locke and the empiricists that innate ideas are the conditions of possibility of notions, and hence some constraints must already be present in the mind before experience. "The place of the other",[15] a Leibnizian expression almost always used for the understanding of moral concepts, also plays an essential role in epistemology for the understanding of general notions and the establishment of convention, as stated in the Letter to Sophie Charlotte.

[14] It could be helpful to remember the following passage, NE 434: "L'apperception immediate de nôtre Existence et de nos pensées nous fournit les premieres veritez a posteriori, ou de fait, c'est à dire, les premieres Experiences."

[15] A VI 4 2723: "enfin nous devons songer à ce que le public souhaitte de nous et que nous souhaitterions nous mêmes si nous nous mettions à la place des autres, car c'est comme la voix de Dieu et la marque de la vocation."

3.1.3. Experiencing Other Minds and General Concepts

Leibniz points out in various passages that the reality of a concept is not simply the result of an internal coherence with one's past experiences, i.e. the capacity to abstract general marks that characterize things from the repetition of perceptual states by occurrences of similar states of affairs. This is a necessary condition, but not *per se* a sufficient one. When minds grasp the coherence of their concepts with the perceptual states of other minds they actually form a concept which expresses a possibility (A VI 4 1501). How can someone have access to the experiences of other minds?

One can exclude the idea that Leibniz is thinking of an intuitive act of someone's mind. I think that what he is saying is that one begins to grasp a possibility and a corresponding definition, and hence to have a concept, when one grasps similarities and differences in rational agents' perspectives: one realizes that also other minds, despite a different perspective, conceive things in an analogically similar way. The mark of similarity expressed by "red", is not therefore a general mark one abstracts by perceiving something similar at several different times. One has a general notion when she understands that another mind can also perceive this thing in the same way she does, and that therefore also another mind distinguishes between *this* perception, call it "red", and *that* perception call it "blue" (Oliveri, 2016c). Only when one grasps this aspect, can thinking begin.[16] Likewise, only when someone grasps this aspect, can language begin, since with "red" one does not express the actual quality of a thing, but a possibility one can think of when one understands that this word "red" is something that other minds can also understand because they understand what they will sense. However, as we will see, language does not start with names for things, but with the intention of expressing an affect to another mind (ED §15 216). This perspective can also explain why, contrary to Hobbes, Leibniz's view is that signs are not primarily *notae*, as memory marks for someone's own thoughts, but signs for others, that primarily act as signs for the sake of communication.[17]

[16] As the study of Meier-Oeser (2007) suggests, for authors of the 18th Century, the dependence of thought on a society or on the existence of other human beings is a consequence of the end of the metaphor of the mental speech. Thought must be performed through words and cannot be separated from the use of signs. As seen, this is a tenet of Leibniz's philosophy as well. Another interesting aspect underlined by Meier-Oeser is the role that society has in Christian Thomasius' conception of thought. For Thomasius there is no thought for human beings outside of society: not even infants or human beings outside a society possess thought since thought is acquired by being together in a society. Since Thomasius was Leibniz's teacher, we can notice a direct influence of his thought on Leibniz.

[17] Hobbes, *De Corpore*, chap. II, p. 24.

Language and thought start when a subject is capable of understanding the way in which she is bound with other particular individuals that are minds as it is. It is at this moment that society also begins. A mind becomes capable of understanding possibility and therefore of understanding that the concept CHAIR expresses an object with particular features only so far as two conditions are met, the first of which is the involving of the perspectives of other minds in one's own reasoning, and the second being the endowing of communication with the aim of fulfilling tasks. The passage from the I- to the I-Thou-perspective (see 1.5.) is a first hint of what it means for innate ideas to be constraints on thought. Before moving on to this topic, I would like to discuss the involvement of other minds in reasoning.

Leibniz often compares babies and animals, deeming them alike with respect to cognitive capacities.[18] Spelling out this comparison, babies and animals have the same degree of cognitive activity: both depend on their bodies; both act in response to a stimulus or a trigger; neither have general concepts; and hence they properly cannot use signs for expressing thoughts. Nonetheless, Leibniz believes that only the former can develop a capacity to think abstractly and cooperate with other minds, which implies the acknowledgement of convention and hence a social rational mind. Nonetheless, Leibniz does not believe that animals are not "social"; animals cooperate in order to fulfill tasks, just as humans do: not because of their fear of other animals, but in order to achieve better ends. Their pro-social behavior consists in the fulfillment of certain material goals for the satisfaction of their needs (NE 273-4). Human pro-social behavior is instead pursued for the sake of happiness. According to what I have said so far, the inability of animals to develop abstract reasoning and language depends on the absence of innate ideas in animal souls, and hence depends on the capacity to understand different perspectives based on the acknowledgment of other substances as *cognitively* similar (under the cognitive aspect) to them.[19]

Recalling the passage of the letter to Sophie Charlotte, and what I have argued for, it is the innate idea of the "I", or of substance that allows minds to consider themselves entitled to say "I", and to subsequently recognize that also other minds are entitled to say "I", which is

[18] A VI 1 269: "Cum autem primis annis infantes parum à brutis differant (ratione sese ob defectum experientiae tanquam materiae in qua exerceatur, linguaeque seu symbolorum per quae exercentur, parum adhuc exerente), et pueri quoque adolescentesque (ne quid de viris dicam) sensibus affectibusque ad instar brutorum plurimum regantur [...]". A similar conception can be found again by Christian Thomasius: "Nach der Geburt ist ein jedweder Mensch [...] gantz unwissend, sogar, daß wenn er in diesem Zustand von denen Menschen abgesondert auferzogen werden solte, würde er ja so wenig, wo nicht weniger Vernunfft von sich spühren lassen, als manche Bestien". See Christian Thomasius, *Einleitung zur Vernunftlehre*. Halle 1691, reprint Hildesheim 1968, p. 95: quoted and commented in Meier-Oeser (2007, 218).

[19] Of course animals also have the ability to distinguish between different kinds, but they do not form ideas of these kinds. In other words, as Leibniz often says, they cannot have the idea of the "I".

the ground of all moral, metaphysical, and logical concepts. Minds can moreover differentiate among their perceptions particular things that are animate and inanimate. Among the former, they can further distinguish between plants, animals and rational souls, and they can recognize this latter as similar to them even if they do not have explicit notions of them. Leibniz points out that this kind of differentiation precedes the abstraction of simple ideas, and in such a sense underpins their acquisition.

One reason for holding this is the notion of concept developed by Leibniz: concepts express possibilities, and therefore they require the analogy between minds. Different minds must be capable of recognizing possibilities in an analogically similar way. To this aim, the mere assumption that minds have structurally similar sense perceptions is not a sufficient guarantee that minds can come to categorize under similar general concepts if it is not combined with the assumption of similar cognitive structures. The reason for this is the stark distinction between perceptions and concepts. Within Leibniz's explanation of cognitive mental processes, senses only account for outstanding perceptions that are not yet concepts. Nonetheless, senses are essential: they explain why bodies are aptly affected by external objects so that an outstanding perception can be represented in the soul. This guarantees a first level analogy: if minds can assume that an object will produce similar effects on another body's organs –and hence produce similar outstanding perceptions in its corresponding mind– it is because senses are similarly structured and are similarly causally affected by objects. This similarity is guaranteed in each mind by minute perceptions that express the world coherently with other substances, but from a different point of view. Nonetheless, the acknowledgement of this similarity, expressed by the formation of a notion in the mind, is not only the effect of objects on the senses, but is also an act of reflection that implies the consideration of the perspectives of other minds. This act of reflection is unconscious, which means a young child probably would not be in the condition to understand what a perspective is, or what "mind" means. Nevertheless, this unconscious act of reflection puts minds in the condition to form and structure their thoughts in conformity with what they themselves perceive, and analogically to what other minds perceive. This act implies something that cannot be furnished by the senses alone: the assumption of the similarity with other minds.[20] When a mind grasps that other minds also feel and perceive what it does, it comprehends what a concept as a possibility expresses, and it starts using general notions. As sensible ideas are also notions, they are based on an act of reflection or of the intellect (according to the

[20] As Bolton suggests, minds or substances, as simple, cannot be perceived. It follows that it is only due to an act of reflection that we come to know of their existence. See Bolton (2006).

explanation given in 1.3.). Leibniz seeks to make it clear that it is not the senses, but just the intellect that forms concepts. Therefore, the intellect must have a more fine-grained structure and must possess some constraints on thought that induce all particular intellects to be capable of structuring the experiential data in an analogically similar way, even if a mind has not formed the corresponding concepts of these structures yet. These concepts can only be gained through attention and hard reflective work. Not any mind –for different reasons– is capable of this. Moreover, many minds will continue to use distinctions without knowing them. This is the pragmatic component of Leibniz's philosophy of language and thoughts. Reflection aims at letting these unconscious structures emerge, since they were already operating in the formation of our thoughts, even if we were unaware of this. As Leibniz says, a natural tendency to conceive of "substance" is innate because we are innate to ourselves (NE 85-6), meaning that if spirits differ from animals and other kinds of souls and can develop abstract knowledge and language, then it depends on the fact that rational beings have intellect with a certain structure. Even if this is their nature, minds need to reflect upon it to know what they are.

Does this kind of explanation reject the idea that experience is essential to the acquisition of general ideas, or does it imply a diminution of the cognitive role of senses and experience in general? Manifestly, neither is the case. And I think Leibniz's view of the real problem with Locke's theory of ideas rests on someone's act of actually grasping them. For Locke, in the final analysis words can only and exclusively represent the ideas of the speaker which are only and exclusively in the speaker's mind (2.1.5.). This leads Leibniz to interpret Locke's theory as a form of private language. On the contrary, Leibniz seeks to postulate concepts in the realm of possibilities and, consequently to make them independent of a mind's actual grasping or thinking of them. The way to guarantee an analogically similar grasping of possibilities is to presuppose that minds have the capacity of being certain of the existence of themselves and of other minds (1.3.-1.4.). Another presumption is to recognize that minds are qualitatively similar to God's intellectual capacity. Given these points, the existence of a world based on the creation of possibilities that God can think of guarantees that also finite minds can grasp these possibilities as well –since qualitatively structured as God's intellect although with a different degree of clarity. In order to avoid solipsism the only way to guarantee objectivity is nonetheless the communication and cooperation among minds based on the acknowledgement of an analogically similar grasping of those possibilities. In a nutshell, I take these to be the cornerstone of Leibniz's philosophy, and he tries to develop a theory of cognition of human and non-human souls that satisfies these criteria. From this

perspective, the question of how minds can recognize other minds as similar without possessing explicit reflective knowledge (about I, YOU, SUBSTANCE and so on, i.e. without forming a notion of those ideas) represents a problem. And it is this kind of question –a question of how innate ideas can operate unconsciously– that we have to turn our attention to.

Before moving to this latter question, it is worth noting that the recognition of perspectives without a full-understanding of their implication is a topic discussed in contemporary studies on human cognition. The recognition and understanding of perspectives and the involvement of other minds is taken to be essential in cognitive evolution, as well as in contemporary cognitive and developmental psychology. In this panorama, a theory of cognition has been developed by Michael Tomasello, based on a comparison between apes and human beings.

According to Tomasello, language acquisition is explained by the capacity of human beings to engage in joint attention situations. Joint attention is a triadic relation between two subjects (such as an adult and a baby) and an object (the world). A fundamental component of the relation is the eye-contact between baby and adult that signal both that one of the members is paying attention to the object, and that one knows that the other is paying attention to the same object. Discussions in the contemporary literature focus on the kind of knowledge involved in this relation. Tomasello regards as important the acknowledgment of a common space of reference together with the acknowledgement of the other as seeing what I see, and hence of perspectives, which is an acknowledgement that grounds why minds can develop thoughts, language, and convention. On the other hand, primates such as apes are incapable of triadic relation, and a sign of this lack is the fact that the only gesture they are capable of is imperative pointing and not declarative-indicative pointing. In apes, imperative pointing involves pointing at something in order to have it, and not in order to capture someone else's attention. This is the kind of pointing said to be predominant in autistic children, who have an impaired capacity of engaging not only in joint attention situations, but also of dyadic relations, since they avoid eye-contact. If my interpretation of Leibniz is sound, then according to Leibniz the acknowledgement of the other as "I" also represents the ground for developing cognition and language since this enables minds to engage in triadic relations. This kind of engagement enables minds to understand the conventions established, as the one used in language, and consequently to deal with more complexity than they would do without being in the situation of learning a language. This is because the use of tools such as signs according to Tomasello implies the understanding that a same event can be represented in a multiplicity of ways and from different perspectives: all are similar but each adds or

underlines something different. Saying "the window broke" is not the same as saying "Mark broke the window". Being capable of mastering this complexity implies mastering and understanding perspectives and, especially, the perspective of who can say "I".[21]

I don't wish to confirm Leibniz's position by virtue of contemporary findings in related disciplines; but rather to point out that the question of perspective and the recognition of similarities between minds is a discussed explanation of why human beings can develop cognition whereas other kinds of animals do not also in contemporary psychology of cognition. And it seems to me that a number of Leibniz's texts furnish hints for understanding the reflective knowledge upon different perspectives as fundamental moments in the cognitive development of rational minds, exactly as some recent studies point to. Of course, Tomasello does not assume innate ideas, whereas Leibniz does, and we have to understand why.

In an already quoted passage, Leibniz explicitly refers to a comparison between humans and orangutans, claiming that since animals possess sense organs similar in fashion to those of humans, we can only explain their inability to speak and reason by admitting the presence of something invisible. This "something invisible" refers to innate ideas that constrain thought (NE 274). Considering this and other discussed passages, it seems to me that the role played by the certainty of the existence of other minds and the capacity of acknowledging them as similar both allow minds to understand perspectives, and consequently to understand possibilities as general because they can assume that also other minds can think of those possibilities in a similar way. This acknowledgment is what allows for the use of conventions, such as language, in a similar way. In other words, it is because minds can structure thoughts in an analogically similar way that they can also recognize linguistic conventions. Since minds can also act like animals, due to a mechanical component, they can also learn to use signs and acquire corporeal habits without being aware of all the reflective knowledge that signs imply, for instance, without being aware of themselves as "I" or of other minds as "I". Therefore, I shall try to explain how ideas inform our thoughts and allow us to derive truths, and how language is structured and can arise and develop because of innate constraints on thought.

[21] See for instance, Tomasello (2003, 26); Tomasello (1999, 132); Tomasello & Farrar (1986); Tomasello (2008).

3.1.4. Innate Ideas and Generality

I have partially outlined the importance of the idea of the "I" in order to acquire concepts: the capacity to reflect upon the self (the I-perspective) allows the passage to the I-Thou-perspective, and hence the acknowledgment of the existence of other minds. Two questions now remain open. The first is whether this idea is the only one innate to a mind. Leibniz denies this, as there are a lot of ideas (though he does not give a complete list). We therefore need to understand what function they have in the process of concept formation. The second question is a more general one: why must these ideas be innate? Why can they not be acquired through an abstraction process, as Locke describes?

The two questions are connected, and Leibniz seems to individuate a common answer. These ideas are innate because they offer the conditions for the acquisition of general notions, and since generality is essential to thought (NE 276; quoted below), they must already be present in the mind before every particular act of thought. Following this interpretation, innate ideas cannot be derived from experience through an act of abstraction because they are conditions of possibility for thoughts *as* thoughts *of* something general (see the metaphor of the dark room in NE 144-5). In this sense, they are constraints on thought because, given the way the externally created world –whose coherence is guaranteed by God– affects a particular kind of substances, namely spirits, minds will conceive of their particular perceptual states from the aspect of generality due to peculiar mechanisms that structure and activate their thinking activities. The presumption of innate mechanisms is a direct consequence of the stark distinction between perceptual and thinking activity.

Some of those mechanisms support the ability to form concepts, like multiplicity and unity; others account for relations among concepts, such as similarity, dissimilarity, time, space; the principle of contradiction and the principle of sufficient reason allows minds to think consistently, and to look for a cause. Notice that these kinds of innate constraints aim at explaining thought as an activity, a process that basically consists of acts of judging and discovering.

In this section, I want to inquire into the relation between general notions and innate ideas. Leibniz writes that there is a special affinity of the innate ideas to the human mind. It is this relation that make the exercise of reason easy and in a certain sense "natural".[22] I want to

[22] NE 80: "Mais c'est ce rapport particulier de l'esprit humain à ces veritez, qui rend l'exercice de la faculté aisé et naturel à leur égard, et qui fait qu'on les appelle innées. Ce n'est donc pas une faculté nuë qui consiste dans la seule possibilité de les entendre: c'est une disposition, une aptitude, une préformation, qui determine nôtre ame, et qui fait qu'elles en peuvent étre tirées." See also Mugnai (1982) and Bolton (1990).

analyse this claim of Leibniz together with what he says on the acquisition of general concepts.

In order to appreciate Leibniz's analysis of generality and its connection to thought and language, NE offers a good start. At the beginning of book III, the problem concerning generalization is that we cannot move from the individual to the species or genus, since we never actually conceive of the notion of an individual. Unlike Locke, who thinks that generality is a product of the human abstraction process by eliminating temporal and local marks from perceptions, Leibniz holds that thinking essentially starts with generality.

> §. 3. PHILAL. Mais comme la multiplication des mots en auroit confondu l'usage, s'il eût fallu un nom distinct pour designer chaque chose particuliere, le langage a esté encore perfectionné par l'usage des termes generaux, lorsqu'ils signifient des idées generales.
> THEOPH. Les termes generaux ne servent pas seulement à la perfection des langues, mais mèmes ils sont necessaires pour leur constitution essentielle. Car si par les choses particulieres on entend les individuelles, il seroit impossible de parler, s'il n'y avoit que des noms propres et point d'appellatifs, c'est à dire, s'il n'y avoit des mots que pour les individus; puisque à tout moment il en revient de nouveaux, lorsqu'il s'agit des individus des accidens, et particulierement des actions, qui sont ce qu'on designe le plus; mais si par les choses particulieres on entend les plus basses especes (species infimas), outre qu'il est difficile bien souvent de les determiner, il est manifeste que ce sont déja des Universaux fondés sur la similitude. Donc comme il ne s'agit que de similitude plus ou moins etendue, selon qu'on parle des genres ou des especes; il est naturel de marquer toute sorte de similitudes ou convenances, et par consequent d'employer des termes generaux de tous degrés. *Et mème les plus generaux estant moins chargés par rapport aux idées ou essences qu'ils renferment; quoyqu'ils soyent plus comprehensifs par rapport aux individus à qui ils conviennent, ils estoient bien souvent les plus aisés à former, et sont les plus utiles. Aussi voyés vous que les enfans et ceux qui ne savent que peu la langue qu'ils veulent parler ou la matiere dont ils parlent, se servent des termes generaux, comme chose, plante, animal, au lieu d'employer les termes propres qui leur manquent. Et il est seur que tous les noms propres ou individuels ont esté originairement appellatifs ou generaux.* (NE 275-6 italics mine)

The capacity to think of general concepts is not an accidental but an essential feature of (human) thought. This is made clear in the previous chapters, in pointing out the distinction between sense perceptions –always connected with the body–, and distinct concepts –proper to thought– that express the absence of contradiction among the conceptual marks defining the concept. Generality implies that the more a notion is general, the fewer requisites it contains, and hence the easier it is to be apprehended by a mind. This is why infants first use names to express generality. Generality is not an achievement of minds due to abstraction, but

is rather a constituent of any act of thought.[23] This is why Leibniz stresses that the use of general terms is essential due to our impossibility of forming notions of individual things:

> PHILAL. [...] vous conviendrés sans doute, Monsieur, que les mots deviennent generaux lorsqu'ils sont signes d'idées generales et les idées deviennent generales lorsque par abstraction on en separe le temps, le lieu ou telle autre circomstance qui peut les determiner à telle ou telle existence particuliere.
> THEOPH. Je ne disconviens point de cet usage des abstractions, mais c'est plustost en montant des especes aux genres que des individus aux especes. Car (quelque paradoxe que cela paroisse) il est impossible à nous d'avoir la connoissance des individus, et de trouver le moyen de determiner exactement l'individualité d'aucune chose, à moins que de la garder elle mème; car toutes les circomstances peuvent revenir, les plus petites differences nous sont insensibles et le lieu ou le temps bien loin de determiner d'eux mèmes, ont besoin eux memes d'estre determinés par les choses qu'ils contiennent. Ce qu'il y a de plus considerable en cela, est que l'individualité enveloppe l'infini, et il n'y a que celuy qui est capable de le comprendre qui puisse avoir la connoissance du principe d'individuation d'une telle ou telle chose. (NE 289-90 italics mine)

In both passages, Leibniz underlines that there can only be general concepts, and that minds do not pass from concepts of individuals to concepts of species, but from concepts of species to concepts of genus. Unlike Locke, Leibniz considers generality not simply to be a perfection of language due to economy. It is not just to improve memory and reason that we form general concepts expressed by words. Minds conceive of general concepts because they are not capable of conceiving individuality. Even when one uses a proper name in order to refer to an individual, this name is derived from something general, like Brutus or Plato. In this sense, we move from genus to species, rather than from species to genus.[24] As seen in 2.2., the role of concepts as a mathematization of reality is to control the complexity of the world that will overwhelm minds unless they form general notions and handle particulars as if they were all identical under the perspective of second notions (*notionae secundae* like genus and species).

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[23] Mugnai (1976, 50) remarks that thought constitutively grasps generality.

[24] "PHILAL. Quoyqu'il n'existe que des choses particulieres, la plus grande partie des mots ne laisse point d'estre des Termes Generaux, parce qu'il est impossible §. 2. que chaque chose particuliere puisse avoir un nom particulier et distinct: outre qu'il faudroit une memoire prodigieuse pour cela, au prix de la quelle celle de certains Generaux qui pouvoient nommer tous leur soldats par leur nom, ne seroit rien. La chose iroit même à l'infini, si chaque beste, chaque plante, et même chaque feuille de plante, chaque graine, enfin chaque grain de sable qu'on pourroit avoir besoin de nommer, devroit avoir son nom. [...]
THEOPH. Ces remarques sont bonnes, et il y en a qui conviennent avec celles que je viens de faire. Mais j'adjouterai suivant ce que j'ay observé déja, que les noms propres ont esté ordinairement appellatifs c'est à dire generaux dans leur origine [...] On peut donc dire que les noms des individus estoient des noms d'espece qu'on donnoit par excellence ou autrement à quelque individu, comme le nom de grosse-teste à celuy de toute la ville qui l'avoit la plus grande ou qui estoit le plus consideré des grosses testes qu'on connoissoit; c'est ainsi même qu'on donne les noms des genres aux especes, c'est à dire, qu'on se contentera d'un terme plus general, ou plus vague pour designer des especes plus particulieres lorsqu'on ne se soucie point des differences." (NE 288); for a discussion of this passage, see Nachtomy (2006)

If thinking starts with conceiving generality, and the role of language is to excite in someone else's mind similar concepts, where does this generality come from? The different relation between thought and generality held by the two philosophers, at least in Leibniz's view, leads them to a different conception of what a concept is: for Locke, a concept is the product of the human mind due to abstraction; for Leibniz it is what a mind is capable of conceiving due to its cognitive limits and the actual world in which it exists, since the knowledge of particular individuals is precluded to it.

> §. 11. PHILAL. Il s'ensuit de ce que je venois de dire que ce qu'on appelle general et universel n'appartient point à l'existence des choses, mais que c'est un ouvrage de l'entendement. §. 12. Et les Essences de chaque espece ne sont que les idées abstraites.
> THEOPH. Je ne voy pas assés cette consequence. Car la generalité consiste dans la ressemblance des choses singulieres entre elles, et cette ressemblance est une realité. (NE 292)

Structurally, minds think of reality by conceiving of relations among particulars as belonging to a class. Babies also start with general terms because they are easier to form. In this sense, human minds intrinsically compare what appears in perception and conceive of it under general marks. Unlike Locke, however, for Leibniz generality is not a product of the human mind since it is grounded in the similarities among things and similarities are grounded in the existence of things. This account produces a problem for Leibniz. Concepts are grounded in reality but are not *per se* real, or existent. They must therefore possess a different ontological status. If we follow Locke, they have to be in a subject's mind, and this implies the following:

> §. 14. PHILAL. On sera moins surpris de m'entendre dire que ces essences sont l'ouvrage de l'entendement, si l'on considere qu'il y a du moins des idées complexes qui dans l'esprit de differentes personnes sont souvent differentes collections d'idées simples, et ainsi ce qui est Avarice dans l'esprit d'un homme, ne l'est pas dans l'esprit d'un autre. (NE 292)

Leibniz considers this consequence to be a form of private language, and thus seeks a different characterization of similarities:

> THEOPH. J'avoue, Monsieur, qu'il y a peu d'endroits où j'aye moins entendue la force de vos consequences qu'icy, et cela me fait de la peine. Si les hommes different dans le nom cela changet-il les choses ou leur ressemblances? Si l'un applique le nom d'avarice à une ressemblance, et l'autre à une autre, ce seront deux differentes especes, designées par le même nom. (NE 292)

In other words, resemblances and the ability to find them are "there", independently from a mind actually thinking of them. They subsist because rational minds and phenomena exist, and are real.

> Mais quand cela ne seroit point, comme si selon M. Mariotte le bleu de l'arc en ciel avoit toute une autre origine que le bleu d'une Turquoise, sans qu'il y eut une cause formelle commune (en quoy je ne suis point de son sentiment) et quand on accorderoit, que certaines natures apparentes qui nous font donner des noms, n'ont rien d'interieur commun, nos definitions ne laisseroient pas d'estre fondées dans des especes reelles; car les phenomenes mèmes sont des realités. Nous pouvons donc dire, que tout ce que nous distinguons ou comparons avec verité, la nature le distingue ou le fait convenir aussi, quoyque elle ait des distinctions et des comparaisons que nous ne savons point et qui peuvent estre meilleures que les nostres. Aussi faudrat-il encor beaucoup de soin et d'experience pour assigner les genres et les especes d'une maniere assez approchante de la nature. (NE 309 italics mine)

On the other hand, concepts do not depend on someone's actual thinking of them because they represent possibilities: whether a mind combines some conceptual marks or not, the possibility of that combination of marks exists independently:

> Au reste, que les hommes joignent telles ou telles idées ou non, et mème que la nature les joigne actuellement ou non; cela ne fait rien pour les essences, genres ou especes, puisqu'il ne s'y agit que des possibilités qui sont independantes de nostre pensée. (NE 293)

The fact that concepts represent possibilities is already clear from the analysis conducted in 2.2. and 2.3. It is worth noting that the discourse about possibilities is connected in these pages to the fact that minds structurally are only capable of having knowledge and definitions of general essences as expressed by concepts. In this sense, minds can only compare and represent the common features of things. The formation of general notions is not a choice; it is a spontaneous activity of any mind subject to (outstanding) perceptual activity that, as seen in 1.3., is necessary to the thinking activity. As the formation of general notions is something "natural" to minds, it follows that minds do not really start with conceiving individuals. They do not form concepts about particular individuals because they cannot. Consequently they do not move from concepts of individuals to species and genus. This position is evident in the passage about infant cognition, where Leibniz's conception of generality is connected to his theory of the identity of the indiscernibles:

> §. 7. PHILAL. Il est pourtant tout visible que les idées que les enfans se font des personnes, avec qui ils conversent (pour nous arrester à cet exemple) sont semblables aux

personnes mêmes, et ne sont que particulieres: les idées qu'ils ont de leur nourrice et de leur mere sont fort bien tracées dans leur esprit, et les noms de nourrice ou de maman dont se servent les enfans se rapportent uniquement à ces personnes. Quand aprés cela le temps leur a fait observer, qu'il y a plusieurs autres estres qui ressemblent à leur pere ou à leur mere, ils forment une idée à la quelle ils trouvent que tous ces estres particuliers participent egalement, et ils luy donnent comme les autres le nom d'homme. §. 8. Ils acquierent par la même voye des noms et des notions plus generales, par exemple la nouvelle idée de l'animal ne se fait point par aucune addition, mais seulement en ostant la figure ou les proprietés particulieres de l'homme, et en retenant un corps accompagné de vie, de sentiment et de motion spontanée.

THEOPH. Fort bien, mais cela ne fait voir que ce que je viens de dire, car comme l'enfant va par abstraction de l'observation de l'idée de l'homme à celle de l'idée de l'animal, il est venu de cette idée plus specifique, qu'il observoit dans sa mere ou dans son pere et dans d'autres personnes à celle de la nature humaine. Car pour juger qu'il n'avoit point de precise idée de l'individu, il suffit de considerer qu'une ressemblance mediocre le tromperoit aisement et le feroit prendre pour sa mere une autre femme qui ne l'est point. Vous savés l'Histoire du faux Martin Guerre, qui trompa la femme mème du veritable, et les proches parens, par la ressemblance jointe à l'adresse, et embarassa long temps les juges, lors mème que le veritable fut arrivé. (NE 290)

All the quoted passages are based on an ambiguity between Locke's and Leibniz's use of the word "idea". What Locke calls "the idea of a person" is not an *idea* for Leibniz. Indeed, if the baby had the idea –meaning the complete concept of the individual, let us say her mother–, she should be capable of acknowledging the differences between her mother and a clone, since two identical individuals cannot exist, as pointed out by the story of Martin Guerre. A perfect similarity between two individuals will deceive her. It follows that the baby does not move from the particular concept of her mother and of her nurse, to the concept of HUMAN BEING. Once she has the notion MAN, she moves to the notion ANIMAL or HUMAN NATURE.[25] A further proof, as stated in the first quote, is the inclination of children to use general terms. Since general terms have fewer requisites than particular ones, they are the easiest to form, and thus children often use general terms, like "thing", instead of particular ones.

This conception of generality must be coupled with Leibniz's intensional logic as analyzed in the previous chapter (2.2.3.). Concepts of general terms entail fewer requisites than those of more specific ones. The more complex a concept is, the more requisites a mind must think of simultaneously in order to separate this notion from other ones. It follows that more general notions are easier to conceive. On the other hand, however, the fewer requisites a notion entails, the more an abstraction capacity is required by the mind who thinks it. In the

[25] Human nature, „humanitas", is the abstract form of MAN and, as abstract, it comes later in the natural order, because rational minds conceive primarily the concrete use of terms. (Mugnai 2008, 179-90).

historical order minds depend first of all on their body and sensations, while abstract notions require more reflective power since it needs to conceive of concepts which are less related to experience. The capacity of general notions must be combined with a mind's dependence on experience and sensations. Therefore, we have to understand why certain general notions are considered easier to conceive by Leibniz (like "aliquid" and "nihil" to name but a few) than more complex notions, whereas other general notions, as the notion of the "I", are more difficult to acquire.

The ontogenetic order of acquisition of notions seems to confirm that knowledge starts with generality, since as Leibniz notices, a child learns notions like "thing", "plant", "tree", before learning the specific differences within those terms (for instance that "tree" can be "oak" or "pine", and so on). Nevertheless, this order seems to imply that all general notions are easier to form, a view that might contradict passages where Leibniz states that certain metaphysical general notions are more difficult to be acquired, even if they are more general than other notions.[26] The puzzle is only apparent if we consider a further classification of notions into sensible, imaginable, and intellective (Letter to Sophie Charlotte, A I 21 339) and the principle that structures the ontogenetic order -i.e. that we first conceive of things that fall under the senses and only later do we conceive of more abstract things- we can give reasons for a coherent view about generality and knowledge acquisition within Leibniz's theory of human cognition.

The acquisition of ideas is not simply divided into general and particular, but it also depends on the faculties involved in the process. Because of this, general notions of the senses, like "something", or of natural kinds (depending on perceptions) are acquired before mathematical notions like the notion of unity, or metaphysical notions like that of the "I". Minds depend on their bodies. Their attention, necessary for cognitive processes, is at first drawn to things that fall under the senses.[27] Only due to reflective activity do they move from sensible to intellective notions, and because of this the explicit knowledge of the notion of "something" appears before the explicit knowledge of metaphysical notions like the "I" in the ontogenetic order of knowledge. It does not mean, however, that innate constraints are not at work also in thinking of those more sensible notions.

[26] NE 83-84, quoted in the first note of this chapter.

[27] Leibniz to Sophie Charlotte, November 1702: first draft in answer to Toland's and Flemming's criticism: A I 21 668: "Generalement j'accord que pour avoir ses pensees distinctes[,] c'est à dire qui ayent du relief ou quelque chose qui se distingue[,] on a besoin d'experiences qui nous donnent plus d'attention en certain egards, mais l'ame subsisteroit et developperoit des notions distinctes. Elle n'auroit que de pensées confuses où il n'y eut rien de relevé ny de capable de se distinguer et par consequent ny reflexion ny memoire. Pour ce temps là l'erreur de ceux qui ne distinguent point cet estat de celuy d'une cessation des pernsees c'est une source de beaucoup d'errers considerables sur cette matiere."

Because of the role of generality in cognition, we can understand why some ideas cannot be the result of an abstraction process from particulars. Generality underpins thinking; it cannot be the result of thought itself. Moreover, as the mind is spontaneously inclined to compare individuals in order to form notions, innate mechanisms that allow minds to do this must themselves be innate, since comparison cannot be the work of the senses alone. Comparison being a reflective process of the intellect, it follows that all concepts are grounded in reflection and that the intellect has to possess mechanisms that underpin those reflective activities.

In this sense, even if (according to the ontogenetic order) a mind is unaware of itself as an "I", a "substance", and so forth, nevertheless its thinking activity implies the acknowledgment of other minds and itself as "I". This acknowledgement is a constituent of all general notions. Generality arises when one presupposes that other minds can also conceive of a thing in a similar way.

To sum up Leibniz's argument, it starts with the fact that by thinking, minds appeal to general terms, and innate ideas seem to be related to this capacity to use general terms. The capacity to use general terms doesn't result from the abstraction process. It can furthermore be improved by experience, but not be acquired by experience.[28] Since thinking begins with general terms, abstraction cannot move from the notion of the individual to the concept of species and genus. The reason is that we cannot have a concept of an individual. If we had, we could acknowledge any slight differences between two perfectly similar individuals or give a name to particulars, things we cannot do. Because of this, generality is not a mark of thought, but rather an essential precondition to it. Since we cannot know individuals, we should have some innate mechanisms that enable minds to consider particular things under the mark of generality: these mechanisms are innate ideas.

Another stream of thought presents itself in Leibniz's argument. When considering the human mind's cognitive limits one can notice, as Locke did, that simple notions of the senses are easier to conceive of than complex ones. Given Leibniz's conception of intensional logic (2.2.3.), it follows that more general concepts possess fewer requisites than the more complex ones, and are hence more easily conceived. This being so, notions like "thing" or "nothing" are more easily conceived and therefore children also apply them very easily.

From this perspective, one might detect a tension with the notion of the "I": on the one hand, as a general notion it must be the simplest to form, but Leibniz says that mind could

[28] Remember the passage of NE 356-7, where Leibniz states that the faculty of conceiving must be trained.

possibly never think of the "I"; on the other hand, if we take the notion of the "I" ontologically, it must be complex, since it can only refer to a particular individual. This tension characterizes not only the "I", but every term that we today consider "indexical". Indexical terms are those terms whose reference depends on the context. "This", for instance, is a linguistic expression that can be applied to very different things: "this" can refer to a plant, to a person, to an object, to a quality, or to an abstract term, exactly as "I" can refer to different individuals, depending on who says "I".

The tension in indexical expressions arises out of the extensional analysis characteristic of contemporary philosophy of language, and it follows that the notion is a particular one, since the reference is always something particular. "I", "this", "you", and so on are notions that have as reference particular real individuals, for instance. It follows that the notion of the "I" must be the most complex one, or correspond to what Leibniz calls a complete concept, since "I" designates an individual, something that finite minds cannot know. This support the idea that metaphysical concepts are known only very late in development, but I'm persuaded that Leibniz doesn't conceive of indexicals in this way. He characterizes indexicals as general terms since they can be predicated of a more comprehensive class of particulars. If we consider their intension, notions like "something" (*aliquid*) is included in the notion of different kinds, but "something" does not *per se* include any of those kinds. For instance, one can say that machines are "something", or that rational beings are "something", that plants are "something", but PLANT; RATIONAL BEING or ARTIFACTS are not included in the notion ALIQUID. ALIQUID seems to be a kind of *substratum* that can receive any distinction and be specified, but *per se* has none of those distinctions.[29]

To conclude, if we assume a notion contingently, with the aim of considering the very thing to which the notion refers, it is true that it is the most complex one. Nonetheless, saying "I" or "thing" means to refer to those things because of something they share with many other things. This is the aspect that makes those notions the most general ones: since finite minds are not capable of having knowledge of individuals, we cannot but express the infinite number of requisites implied by a general notion that potentially can assume all possible attributes that can be predicated of that particular ontological kind. In this sense, it is not contradictory to say that those notions are both complex and simple, it depends on how we consider them respectively: assumed contingently, they are complex since the referent is an individual; assumed metaphysically, they are general. It follows that a child can learn to say "I" and use the notion as a general term, without knowing that metaphysically "I" means a substance.

[29] Oliveri, 2016d: 467-78.

Therefore, it can also be that a subject never once attributes the "I" to herself in the metaphysical general meaning. Even if the notion is a fundamental one from the point of view of the natural order of knowledge, it requires hard-reflective work to be acquired as a metaphysical notion because it is a different kind of notion (an intellective notion) compared to the sensible ones. In this sense, languages play an essential role because they enable minds to express and think of things a mind still only conceives of confusedly.

Following this path, general terms are the easiest and the first to form. The use of indexicals like "this" and "something" enables minds to refer to things although they still have confused notions of them. Harkening back to the passage where Leibniz says that a child conceives of MAN and then moves to HUMAN NATURE, we can observe that general terms, like "something", function as a kind of placeholder in the process of determining the definition: they stand for something that it is present tot he mind but only confusedly.[30] "Something" is a general notion that refers to a possible concept (MAN) first cognized because a subject can detect similarity among existing human beings. The general term "something" is just used as a substratum capable of receiving the articulation of the specific concept MAN. In specifying those conceptual marks, the subject make the original confused notion of MAN clear and distinct. Based on this placeholder and the cognitive role of signs (i.e. signs allow for the retention of a thought and reflect on it), one can consider particular marks that distinguish *this* "something", e.g. the notion of a dog, and *this* something, e.g. the notion of a man. Moreover, this process enables minds to establish only a few conceptual marks as being proper of that kind or that species. This process of distinction again leads to another notion, e.g. MAN, expressed by "man", more distinct than the previous notion.

"Something", hence, functions as a *cognitio caeca*: a sign which is simple but allows human minds to think of something more complex (MCVI). General signs like "something" are linguistic expressions that enable a mind to refer to "something", reflect on it, and make conceptual distinctions. In this way we can think of the possibility of MAN and of the possibility of DOG without having to consider all the predicates of a particular member of that kind. This kind of process already involves a certain generality and the use of language and signs as *cognitiones caecae* or *symbolicae*.

Unlike Locke's view, the process of acquiring terms and nominal definitions is thus not based on perception and does not start with individuals. Reflection is always implied in the thinking activity, as well as the capacity of generalization. It follows that some fine-grained

[30] On this topic, see also Lodge & Pruyer (2006/7: 177-96), who argue that consciousness or an explicit awareness of a concept's semantic features is not necessary to think of that concept. Lodge & Pruyer call this lack of explicit awareness "unconscious conceiving".

structures must be present in the intellect, and these would be innate ideas. From this emerges the cognitive importance of signs and language –both as *caeca* and *symbolica*: as *cogitationes caecae*, signs enable minds to think of general notions even if a mind's understanding of them is still confused. In this way, a child can use the word "I" and express the I-perspective without grasping what this notion means from the metaphysical point of view. This allows minds to think in compliance with structures that are not explicitly known and to accept distinctions that may be not explicitly acknowledged by the subject.

Now, I shall try to explain how other ideas, ones which Leibniz considered innate, can support the formation of concepts.

3.1.5. Innate Ideas and the Acquisition of Moral and Metaphysical Concepts

As argued before, innate ideas are required in order to explain why minds have general notions and can think. Nevertheless, Leibniz never gave an answer to the question of how those ideas operate in cognitive processes. I shall draw on a few considerations to explain how these innate constraints on thought can structure and underpin the process of notion acquisition.

A complete list or a deduction (in the Kantian sense) of innate principles and ideas is not furnished by Leibniz. Nonetheless, Leibniz considers to be innate the principle of contradiction and the principle of sufficient reason. This means that minds cannot conceive of contradictory things or that they are inclined to look for causes when they consider an event. Other innate ideas include unity and substance. Minds cannot but experience objects as unities. The fact that minds are inclined to represent experiential data as perceptual unities means that they agree in perceiving an object as a unity, though made of different properties. Consider a table: it has parts, but we say it is *a* table, *one* thing. The fact that minds agree that a table is *an* object and not a multitude of objects (the feet, the surface, and so on) enables them to pose the question of what that object is and therefore to agree on the categorization of the table as *one* object based on the similarities with all tables. The notion of object is connected with duration and space, other two structures considered innate by Leibniz.

Actions characterize substances. Due to self-awareness, minds can recognize themselves to be substances entitled to say "I", which allows them to also recognize other minds as substances entitled to say "I", and therefore to distinguish them from artifacts or other objects. This enables them to recognize that a similar cognitive, perceptual, and

affective activity in similar circumstances occurs in other minds. It is through reflective introspection that minds are able to ascribe beliefs and propositional attitudes to other minds and to establish that certain logical, moral and metaphysical concepts are universally recognized by all minds. They believe, for instance, that other minds are also incapable of thinking of a thing as simultaneously black and white all over, and therefore they form an idea of the principle of contradiction as valid for all minds. In the same way, minds are compelled to think that other minds also feel pain in certain situations and, therefore, they come to realize what PAIN is.

The normativity of moral concepts is also based on the I-perspective and the similarity with other minds. Reflecting upon affects, minds can conceive of their corresponding notions: PAIN, LOVE, ANGER and so on. The capacity to conceive of general distinct notions of affects enables minds to conceive of what it is like to be in a situation of feeling LOVE, ANGER, PAIN. In doing so, minds can take the place of the other and conceive of what others would do/think in that situation. This allows minds to attribute propositional attitudes to other minds. Moreover, this is the ground of moral notions. Based on the effects that things have on ourselves and on the understanding of a similarity among minds, we learn to draw a distinction between what good and bad mean for us and for others. From here, we can conceive of certain situations that cause us PAIN and think that this will cause PAIN to someone else too. Feeling this pain, we think that if we cause this to someone else, she will feel this affect too. Feeling pain without a sufficient reason raises in us a sentiment of injustice, and we believe other people too will feel in the same way. Abstracting from the particular situations, one can form a notion of the definition of JUSTICE that does not depend on the particular instances of what one believes to be JUST, but on the marks that compose that notion. In this way, we can conceive of something like JUSTICE. Notice however, that only the occasion to conceive of JUSTICE depends on experience, but the capacity to think of JUSTICE does not. Moreover, this capacity implies a capacity to conceive of other minds as similar, and hence entitled to logical rules (as the principle of contradiction, on which both the possibility of a notion and the consistency of propositions are based). Given this, there must be constraints on thought that structure how minds can think. Nonetheless, the normativity of our moral notions is also based on the order present in the world: the fact that there is an order or a moral certainty depends on God's choice of the actual world. We simply have to discover this order. Unlike for Locke, for Leibniz there is an ontological and metaphysical order that corresponds to our way of conceiving of the world.

I conclude this section with a quote from the second draft of Leibniz's answer to the objections of Tolland and Femming. In the first two drafts, Leibniz attempts to answer by considering the cognitive structures of finite minds, a position less evident in the other draft, where he focuses only on Tolland's objection. The premise of this quote is Leibniz's criticism of Descartes' conception of the mind and body as two distinct substances:

> De plus il n'y a aucune chose qu'on puisse tellement connoistre par elle meme, qu'il ne faille considerer encor d'autres avec elle. Par ce qu'il n'y a aucune chose du monde qui n'ait un rapport essentiel à d'autres. Et l'ame a un rapport essentiel au corps, dont elle donne essentiellement la representation.
> Ce qui suit § 6. et § 7. du besoin qu'on a des sens, j'accorde que pour avoir des pensées distinctes, c'est à dire qui ayent du relief, et se distinguent des autres, on a besoin d'experiences qui nous donnent plus d'attention à certaines notions dans l'ame, qu'à d'autres. Sans ces experiences et sans les organes qui s'appliquent les objets, et ramassent pour ainsi dire les rayons et impressions des objets pour les rendre plus forts nous serions tousjours stupides comme les petits enfants, ou comme un homme etourdi d'un grand bruit, où il ne sauroit rien discerner. Ce grand bruit n'estant autre chose qu'un amas confus de quantité de petites perceptions presqu'egales entre elles. Et cela fait voir que l'experience de la maniere dont nous acquerons nos connoissances ne prouve point qu'il n'y a rien dans l'ame que ce que les sens fournissent. On a en soy avant l'experience et independemment de l'experience cette lumiere interieure, dont resultent les idées intellectuelles et les verités, mais si l'experience ne nous fournit point l'occasion d'exercer cette lumiere et de faire reflexion sur ces idées et verités, on sera tousjours stupide. Mais il ne s'ensuit nullement qu'on en a lieu de conclure, comme dit l'auteur de la lettre, de ces progres communs de l'ame et du corps, que c'est par le corps et par les choses corporelles que l'ame est ce qu'elle est, et fait tout ce qu'elle fait. (A I 21 671-2)

This passage sums up what I tried to highlight in the previous chapter. Experience as "filtered" by well formed organs aptly affected by objects is essential to thought. Nonetheless, without the internal light, without the capability to think and consider the coherence among the experiences of our minds and others, we would never be able to pass from sensations to notions. This is the reason why innate ideas, and in particular the idea of the "I" are so fundamental in the acquisition process of general notions. The mind must be furnished by experience, but the capacity to reflect on that experience and to connect with other minds is not furnished by experience. As Leibniz said to Tolland, the idea of the self is something imperceptible, and hence must be found in ourselves. What we call the self is the intellect in the theoretical sphere and it can also be the object of our reflection:

> Il [Tolland] m'accorde aussi en effect qu'il y a dans l'ame des materiaux que les Sens externes ne fournissent point. Car il se sert de la comparaison d'un Architecte. Les objets des Sens luy sont comme les materiaux de la maison, et la faculté qui entend les sentimens et s'en sert dans ses raisonnemens, est comme l'Architecte avec ses regles. Et

> l'un (selon luy) doit estre distingué de l'autre. Fort bien, et je ne demande que cela. Mais il faut considerer que dans l'ame cet Architecte avec ses regles doit estre compté luy même entre les materiaux, c'est à dire entre les objets de la pensée; puisque nous pensons à nous, et à nos facultés, regles, pensées et raisonnemens. Et ces regles sont cette lumiere interne, qui établit les consequences et toutes les veritées necessaires dont j'avois parlé dans mon discours. (A I 21 724)

The architect, the intellect, must already have the art. The architect must know the rules, but these rules can also become objects of thought. When the architect herself and her rules becomes objects of reflection, we acquire explicit reflective knowledge of the art expressed by the architect. But the architect and her praxis precede this knowledge. The praxis itself, however, depends on the art exerted by the architect. In the analogy, the architect is the intellect. The analogy should explain how both perceptual and thinking activity work hand in hand in a finite mind's knowledge formation. Those acts can be performed both because one can follow some rules, and because experience gives her the occasions to reflect upon those acts. As seen in 1.3.7. even self-awareness requires a thought to be reflected upon. Only if the subject thinks of something can she also think that she thinks. The intellect can become aware of those rules only by reflecting upon the occasions furnished by the senses.

After this analysis, we can read the passage from the Letter to Sophie Charlotte from 1702 again:

> Il y a donc encor des objets d'une autre nature, qui ne sont point du tout compris dans ce qu'on remarque dans les objets des sens en particulier ou en commun, et qui par consequent ne sont point non plus des objets de l'imagination. Ainsi outre le sensible et l'imaginable il y a ce qui n'est qu'intelligible, comme estant l'objet du seul entendement, et tel est l'objet de ma pensée, quand je pense à moy même. Cette pensée de moy, qui m'apperçois des objets sensibles, et de ma propre action qui en resulte, adjoute quelque chose aux objets des Sens. Penser à quelque couleur et considerer qu'on y pense, ce sont deux pensées tres differentes; autant que la couleur même differe de moy qui y pense. Et comme je conçois que d'autres Estres peuvent aussi avoir le droit de dire Moy, ou qu'on pourroit le dire pour eux, c'est par là que je conçois ce qu'on appelle la substance en general, et c'est aussi la consideration de Moy même qui me fournit d'autres notions de Metaphysique, comme de cause, effect, action, similitude etc. et même celles de la Logique et de la Morale. (Letter to Sophie Charlotte, Berlin, June 1702, A I 21 339)

In Leibniz's view, all metaphysical, moral and logical knowledge is grounded in the idea of the "I" and in some constraints on thought. He therefore grounds the normativity of concepts in a social dimension based on the recognition of other minds as similar. Concepts do not have normativity because they are used in a certain way, but they are used in a certain way because human minds reason in a certain way. However, the use of concepts and

language in a community influences the acquisition of concepts. This is the topic of our next section on language.

3.1.6. Conclusion: What is the Place of Harmony in All This?

On my interpretation, for Leibniz the harmony among substances is not simply a metaphysical assumption in order to explain the communication between body and mind, but is more fundamentally an epistemological prerequisite to explain the communication among minds.[31] In some passages, harmony refers to the coordination among the perceptual states of perceivers. It is not properly and primarily a relation between body and soul, but among perceivers' perceptual and mental states.[32] This means that every perceiver perceives the world from her own point of view, and nonetheless this point of view is compatible with another perceiver's point of view. In this sense, the principle of harmony operates at a different cognitive level. On a first perceptual level, harmony guarantees that perceivers represent the same world through their body, which vouches for a kind of autonomy both of the perceptual activity (broadly understood) over thinking and of thinking over the perceptual activity: it is not under a mind's control what she represents as sense perceptions, and the mind is free to determine its thoughts despite the fact that sense perceptions present the world in a certain way (for example, the tower as appearing round in 1.3.). This being the case, the independence of sense perceptions from free will is a first guarantee that the external world affects different substances in an analogically similar way due also to a similar constitution of their organic bodies. Some bodies are living bodies and they possess organs that are so fashioned that they can be aptly affected by objects. This higher perfection of the organic bodies is represented through a higher expression in the soul: a unified expression of minute perceptions, that is to say an outstanding perception.[33] This first level harmony guarantees the communication not simply among minds, but among souls: animals are also part of this harmony, and on a more basic level, so are plants, artifacts, and everything inanimate. The dialectic between actions and passions guarantees that any substance in the world mirrors anything from its point of view: even the matter that composes the table on which I am

[31] There have been very important works on the role of harmony in Leibniz's Metaphysics, for instance Rutherford (1995: 7-46); Mercer (2001); Leinkauf (2012b: 291-302).

[32] Leibniz to De Volder, Hannover 30 June 1704 (GP II 270): "Imo rem accurate considerando dicendum est nihil in rebus esse nisi substantias simplices et in his perceptionem atque appetitum; materiam autem et motum non tam substantias aut res quam percipientium phaenomena esse, quorum realitas sita est in percipientium secum ipsis (pro diversis temporibus) et cum caeteris percipientibus harmonia."

[33] See 1.3. and the last quoted passage from the letter to Sophie Charlotte, where Leibniz comments Tolland's objections (A I 21 671-2).

writing mirrors the world through the resistance it exercises in denying the penetration of my body, and this is represented through sense perceptions in my soul as actions. Of course, the table does not properly have distinguished sense-perception of my body, as an organic body has –a unified representation– and hence not a self. What it does have is a passive and an active primitive force to resist.

Harking back to the principle of harmony, I think Leibniz says something very simple. Although he has to deny direct causation between two different systems, body and soul, we have to assume that everything that happens in the immaterial substance must happen *as if* it were affected by the body. It means that there should be mechanisms in the mind that produce the succession of minute perceptions *as if* the external objects were causing them. Even without direct causation then, perceptions are assumed to play the same identical role they have in a framework that accepts a direct interaction between body and mind. Therefore, the absence of causation does not affect Leibniz's explanation of cognition and of how we process the perceptual data and acquire conceptual knowledge. I think then, that we can just leave the problem of direct causation aside and focus on the mechanisms that allow this process.

The further level at which harmony plays an essential role is human cognition. Exactly as we must assume an analogy in the organic structure of the body in order to explain why bodies can be similarly affected and this similarity is represented by sense perceptions, we must also assume that the intellect is structured in a qualitative similar way in any rational finite spirit. Only on assuming that outstanding perceptions affect the intellect in an analogically similar way in all finite minds can we explain why minds can believe that other minds are affected in the same way, and so come to understand perspectives and share knowledge about the world. The mechanisms that explain this analogy are innate ideas as constraints on thought.

The way to conceptuality is nevertheless neither direct nor easy, and in this process, a fundamental role is played by imagination as the faculty that works together with the intellect in order to produce the analogy, and hence to find the rules of its expression. This process starts with perception, passes through affects, and reflecting upon them allows one to frame concepts. In this process, affects represent an initial expression of the point of view of minds: unlike sense-perceptions, affects express a mind's attitude towards the external world, and hence they entail the point of view of the substance. Moreover, though they are unreflective moments of the mind, they entail a tendency to make propositions, which finds a first confused expression in linguistic interjections. As we will analyze in the next chapter, by

reflecting upon this unfolded propositional tendency, minds can distinguish the components of a proposition: an agent, an object, an action expressed by a verb, something that caused an effect on something else, and so on. This rational differentiation in structuring and organizing the events in the world is expressed through structures in language. This explains Leibniz's systematic and constant interest in rational grammar. This being the case, the similarity among minds, and hence the second-level harmony among minds' thinking processes explains why minds can share concepts and language, but in a different way to how they share sense perceptions. A further presumption is that a finite mind's intellect is qualitatively similarly structured to God's.

Contrary to sense perceptions, thought is the realm of freedom. A prerequisite of perceptual harmony is that an object must produce similar effects in bodies structured in a similar way; an event can be interpreted and expressed in multiple ways. A thing can be "cold", "ice cold", "cold like snow", and so on. In the same way, we can say "the window broke", "Marc broke the window" or "he did it with a stone", and so on. The determination of the manner of expression depends on the perspective a mind is also willing to express, and as seen, an important role in the determination of a thought is played by affects: if someone is angry about the window being broken, maybe she wants to know who did it; on the other hand, one can imagine that someone will be angry about the window being broken and, imagining how one will react, she will try to formulate the sentence in order to point out that she did not do it or that it was an accident (1.4.).[34] Thus the understanding of other minds' similarity and the affective attitudes can enable other minds to understand what a mind would think or do in a certain situation. This process involves both the intellect and imagination: the intellect acknowledges the I-perspective and I-thou-perspective, and hence the similarity; imagination allows minds to figure out the scenario of what it is like to be the other based on the acknowledgment of a similarity. Intellect and imagination work together in the act of taking the other's place. Consequently, this understanding allows minds to attribute propositional attitudes to another mind, an aspect necessary to free action. Perspective-taking is fin-tuned by knowledge of concepts as possibilities, i.e., as expressing what it is like to perceive a CHAIR or feel ANGRY.

[34] I am following Tomasello's analysis of perspectivism here. However, a similar account has been offered by (Phemister, 2015) recently. According to her, through minute perceptions and affects, a mind can involve in her thinking activity and action processes the thoughts of the other and, in so doing, involving others' perspectives in her own. This is the process that allows someone to take the place of the other. As we will see soon, this principle also plays a decisive role in epistemology. Indeed, as I argued, it is grounded on a mind's capacity to consider not simply the actual perception but this as a instance of a possibility, that does not depend on its instances or someone's thinking of it. Leibniz's conceptualism as explained in 2.1. is the presumption for the understanding among minds.

If I am correct, Leibniz has a very clear theory of the mind, and this theory is constructed on the recognition of the existence of other minds as similar beings. This latter assumption is based on the recognition of the I-perspective and the passage from the I- to the I-Thou-perspective. It follows that reflection and innate ideas play a more fundamental role than the one attributed to them by Locke. Innate ideas always accompany all our knowledge, even if we do not explicitly reflect and form propositions about them. Leibniz's claim that reality consists in the harmony of a perceiver's with other perceiver's perceptual states must be taken seriously. It unfolds a component of the cognitive capacity which is not simply aimed at explaining and solving a metaphysical problem. It is rather the ground for a coherent and complex theory of cognition, which implies that abstract knowledge expresses possibilities because other minds similar to mine exist and can conceive of the world in an analogically similar way. Analogically similar means that minds could have found other conventions for expressing the same thing, but nonetheless, since they can take the place of the other and understand what other minds can think in a given situation, they can accept and understand established linguistic conventions.

The keystone of this explanation is the existence of God, which guarantees that the world created entails the possibilities he thought as compossible and that, hence, are entailed by his mind. Nonetheless, one could wonder whether the machinery will work as well once one takes away the keystone necessary to build it.

Now, we have all the elements to evaluate the novelty of Leibniz's conception of the origins of natural languages.

3.2. The origins of languages

Through the analysis conducted in the previous chapters, I sought to demonstrate that due to the cognitive structures of finite minds, both signs in general, and language in particular participate essentially in the process of reasoning proper to finite minds: without signs or other characters minds would be unable to think. Through this reconstruction, I offered insight into the theory of cognition which underpins Leibniz's claim that:

> homines etiam ea quae imaginari non possunt per res imaginationi subjectas explicare conantur. (A VI 4 A 890)

Central for the chapter are the consequences that Leibniz's theory of human cognition bears on his theory of the origin and evolution of language. Briefly, I would like to investigate the impact of cognitive and epistemological approaches to language on a historical consideration of the origin of language. We now inquire into how language emerges and why human minds depend on figurative expressions for their thoughts.

The cognitive aspect of signs is rooted, in part, in Leibniz's theory of harmony. Minds are always in an organic body, and consequently the most abstract thought must find a trace in the body: this is the role of signs and languages. Nonetheless, my approach to language is more radical. Natural languages are not simply a consequential presumption of Leibniz's theory of harmony. In light of the problematic that emerged with NE, and with the analysis of Leibniz's conception of knowledge acquisition and the shareability of knowledge among rational beings in particular, languages and signs assume a more essential role: without languages or a grammatically and syntactically-ruled system of signs there would be no thinking activity at all; no possibility to be in a society; no possibility to be rational. In my view, thought and language develop mutually: thought could not originate without language and language would not emerge if minds did not have the capability to develop thought structured in judgments. Language and thought therefore share a mutual evolution.[1] This does not mean that particular signs or a particular language is essential to thought, but rather that the ability to use perceptible tools in order to express mental states are a direct and natural consequence of the cognitive structures of minds. Without signs, mental states expressing connections among general and distinct concepts would remain precluded not only to other minds, but to the first-person perspective itself. Moreover, signs *per se* do not enable minds

[1] On this aspect, but from another perspective see Favaretti Camposampiero (2015).

to reason. As I shall argue in this last part, two aspects of languages are necessary conditions for the acquisition and development of reasoning: (i) their being blind thoughts –and, I want to underline that their being blind is not negative at all; (ii) their being a grammatically and syntactically structured system of signs. To begin with, I would like to focus on the role of blind thoughts.

From this analysis, it follows that the use of figurative linguistic expressions play a peculiar role for the establishment of linguistic conventions. Leibniz attributes great importance to figurative expressions in language and their use has thus been broadly analyzed in the secondary literature.[2] Nonetheless, the connection between use of figurative expressions for the establishment of linguistic conventions in connection to the cognitive capacity of finite minds has not been equally explored. My aim hence is to unfold this aspect of Leibniz's theory of the emergence of natural language.

3.2.1. Blind Thoughts and Language Origins: Towards Articulated Sounds

From my analysis it has emerged that Leibniz holds as a tenet of his epistemology and theory of cognition the distinction between perceptual and thinking activity. Without this tenet, the distinction between the soul's kinds fall apart. Moreover, in 3.1. we have seen that this conception bears consequences for the process of knowledge acquisition as well. Following the historical order of knowledge, minds first acquire knowledge about sensible things, and subsequently more abstract knowledge about notions that are beyond the senses. In 1.3., we see that perceptual activity determines judgment. The reason for this is that cognition is a complex process that, due to the finitude of minds, implies the activation of other faculties like memories, attention and imagination (1.3.). These are activated first by a concentration of minute perceptions that cause an outstanding perception (1.2.5). The organic body is more perfect than other kinds of aggregates, and this perfection is expressed in sensible souls through outstanding sense perceptions. When sense organs are aptly affected, for instance by light rays concentrated in the retina, this organic process is represented in the soul through a unified representation: an outstanding one (1.3.). When it reaches a certain intensity and happens repeatedly, it is stored in memory, and when it occurs again, it draws a soul's attention (Barth 2012). This process is analogous both in animals and humans, since

[2] Seminal works on this topic are the studies conducted by Dascal (1978) and (1987) and Heinekamp (1972). Marras (2010) offers a more specific work on metaphors.

both belong to the genus animal. Therefore they share this kind of dependence upon body and sense perception. However, whereas animals can act only when their body is affected, humans can self-determine their action through reasoning and the use of perceptible signs. Signs hence can substitute for an actual perception of the very thing.

The repeated sense perception of a sign provokes the storage of said sign in memory, so that the occurrence of this perception make the correspondent thought emerge. How signs, or better languages, become signs *for* specific thoughts is the question that concerns us in this chapter. Even if the mechanism is clear, the question now is more specific and refers to how different human beings *can* develop a *common* language to express shared thoughts despite the differences of perspective and experiential data available to them. Through language, different subjects can represent an analogous thought based on appeals to same concepts. The general dimension of concepts as possibilities, which is independent of a mind's actual thinking of them, is a necessary condition to have science and general knowledge according to Leibniz. Because of this, my focus in sections 2.1. to 2.3. has been to explain the need to distinguish between concepts as possibilities and ideas as constraints. We have seen what a theory of concepts as possibilities implies and why innate constraints are necessary to it. Now, we have to understand how the distinction between concepts and ideas connects to the inquiry into the origins of natural languages.

Rational beings develop a language because they can use signs as signs of distinct notions. The difference between animals and humans, as seen, is that while the latter can conceive of generality the former cannot. While the former can only perceive of "white" in chalk or in snow, the latter can form a notion of WHITE and express it through signs, whose use enables them to think of WHITE in absence of the present perception. The importance of general notions for reasoning consists in allowing minds to engage with the complexity of reality *as if* it were simple (as explained in 2.1.4. and 2.2.2.).

In 3.1., I tried to give an account of how minds can have general notions of sensible qualities. As seen, the problem raised by sensible qualities is that they are confused. As confused notions, their content can be but an actual perception, therefore a blind man cannot have a confused notion of the color red (MCVI, A VI 4 586). Nonetheless, if we consider (a) the distinction between perceptual and thinking activity and (b) notions of sensible qualities as confused, we have to grapple with the problem that notions of sensible qualities cannot be involved in reasoning directly. Perceptions *per se* cannot be part of thoughts: since thought is propositional, only distinct notions represented by signs can be part of thoughts. It is at this level that languages play an essential role. Only when we use the word, for instance *red*, to

express not our perception but the possibility RED, do we acquire the ability to deal with the confused notion RED *as if* it were a concept.[3] Due to the role of signs as blind thoughts, finite minds can think of and reason about notions without needing to think of those notions in the present. It follows that they allow minds to think of and reason about those things even when we do not have a distinct notion yet. Due to signs as blind thoughts, sensible notions can be part of reasoning, despite their being confused. In so doing, we can also cognize of particular things, like individuals, even if we do not have a corresponding distinct concept, simply by using indexicals or proper names as placeholders for those notions.[4] The use of blind thoughts allows minds to recall the signs and reflect upon the thought and, in so doing, to consider the general marks shown by those individuals (3.1.). Blind thoughts enable minds to recall the perception and reflect upon it under the perspective of secondary notions. In this way, I can cognize of this particular in front of me as PLANT and attribute to this particular all the marks I can attribute to PLANT and consider this particular not in its individuality, but *as if* it were identical to PLANT. This expedient allows finite minds to reason and deal with the complexity of the world (2.1.4 and 2.2.2). In a text, Leibniz explicitly says that without the use of characters as blind thoughts we would not be able to use abstract reasoning:

> La plus part de nos raisonnemens, sur tout ceux qui s'entremelent dans les pricipales veues, se font par un jeu de caracters comme on joue du clavessin par coustume en partie, sans que l'ame en cela s'en apperçoive assez, et forge les raisons avec reflexion, autrement on parleroint trop lentement [.] Cela sert à mieux entendre comment le corps exprime par ses propres loix tout ce qui passa dans l'ame. Car ce jeu de caracters peut aller loin et va loin en effect, jusqu'à un point qu'on ne pourroit penser des choses abstraites sans aide de caracters arbitraires.[5]

This game can go so far that through the use of blind thoughts like indexicals, one can refer to complete concepts of individuals of which she will never have a distinct concept, since it is beyond her power. It follows that general signs, like indexicals or signs for sensible qualities, play an essential role in the process of knowledge acquisition. Without blind thoughts as placeholders for notions, minds could never move from the perceptual to thinking activity, as perceptions cannot directly be part of propositions. On the contrary, signs as perceptible tools that stand for something other can be involved in reasoning. Due to the

[3] See also Oliveri (2016d).

[4] Favaretti Camposampiero stresses the role of blind thoughts as a middle way between the distinct and the confused. See Favaretti Camposampiero (2007, 238).

[5] LH, IV, VII, B,3, 16r, Niedersächsischen Landesbibliothek, Hannover/ ed. and trans. in. Dascal, Leibniz. Language, Signs, and Thought, John Benjamin Publishing Company, Amsterdam/Philadelphia, 1987, pp. VI-VII.

distinction between perception and thinking, constraints on thought are required: if mind had not already had some specific way of thinking, they could not move from perception to thought or share knowledge and reasoning, for the reasons explained in 3.1. It is due to this strict interrelation between thoughts and their symbolic expressions that languages mirror the intellect.[6] Exactly like our knowledge, languages are therefore structured according to the historical order of knowledge. Since rational beings acquire explicit knowledge of sensible notions first, and only subsequently of more abstract notions, they first name sensible things, and only later more abstract notions. Nonetheless, languages are not simply the expression of more abstract notions, but rather "inventive" tools (from *invenire*, to discover) that allow minds to find those notions. Considering the role of blind thoughts as placeholders, as well as Leibniz's conviction that we express notions of things that are beyond the senses by virtue of a figurative use of more sensible meanings, we can conclude that blind thoughts enable finite minds to retain the thought of a notion that *per se* is not yet clear and distinct, and analyze it into more distinct marks, *because* they take the place of notions of things that are not yet distinct, as in the use of pronouns like "I" by children, and in so doing enable minds to *refer to* and deal with them.[7]

My thesis is that languages as grammatically and syntactically ruled systems of signs depend on the cognitive structure of the mind, and enable it to move from the sensible to what is beyond the senses. To defend my thesis, I shall focus on the origins of language.

First, we can recognize a parallel between knowledge acquisition and the origins of natural languages: both are ruled by the historical order, according to which things that fall under the senses and affect the body are known/named before more abstract things.

> Rerum autem naturalium, sensibiliem, crebrius occurrentium appellationes priores fuere quam rariorum, artificialium, moralium et metaphysicarum. (ED 229)

This is important because, as we shall see, etymological studies demonstrate precisely this parallel. Abstract intellective notions are expressed through the figurative use of sensible

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[6] *Gedanken Betreffend die Teutschen Sprache*, A IV 6 532: "Es ist bekand, dass die Sprach ein Spiegel des Verstandes ; und dass die Völcker, wenn sie den Verstand hoch schwingen, auch zugleich die Sprache wol ausüben : welches der Griechen, Römer, und Araber beyspiele zeigen." NE 333: "[...] je croye veritablement, que les langues sont le meilleur miroir de l'esprit humain, et qu'une analyse exacte de la signification des mots feroit mieux connoitre que toute autre chose, les operations de l'entendement."

[7] The development of my analysis ebout natural languages would not have been possible without three groundbreaking studies on Leibniz's conception of *cogitatio caeca*: the first two by Favaretti Camposampiero (2007) and Favaretti Camposampiero (2009, 437-495); the second by Meier-Oeser (1997, 389-415). All studies focused on the positive role of blind thoughts and have clearly pointed out the cognitive role of signs within Leibniz's metaphysics and theory of knowledge.

meanings. A reconstruction of the etymology of a word shows us the history of our findings, but cannot furnish clues about the natural and logical connections and implications between notions. Nonetheless, this figurative use of the sign is essential in order to be able to think of more abstract notions.[8] Our cognitive limits indicate that we would be unable to form those notions if we could not use signs as blind thoughts for notions that are still confused.

Contrary to other theories contemporary to him, Leibniz accepts neither that languages originate with the work of a legislator or "name-giver," nor that they are purely conventional (*per institutum*, *kata syntheké*).[9] He rejects the biblical explanation of Adam as the name giver, as well as the hypothesis of an *Ursprache* (a proto-language), opting instead for a middle position between the natural and the arbitrary dimension of signs, a position exemplified by Plato.

> Originem Studii Etymologici [...] Mose non recentiorem esse censeo. Ille enim non Adamum tantum nobis onomatheten introduxit, sed et ipse nonnullorum nominum propriorum etymologiam explicat. Plato autem in Cratylo etiam philosophari de nominibus coepit, et quasdam naturales in iis rationes latere agnovit. At Aristoteles cum nomina ex instituto esse disputat, katà syntheken, ut loquitur, capite 2. Libri peri hermeneias, contradicendi magis quam veritatis studio doctus videtur. Itaque Ammonius et alii Graeci interpretes, Platonem Aristoteli conciliare conati sunt. [...] Verum quidem est, nomina rebus naturalia non esse; sed tamen hoc quoque verum, hominum deliberatione non nisi raro esse constituta. [...] Medium itaque tenendum est, quae et Platonis mens fuit, habere verba fundamentum in natura, etsi concurrant plurima ex accidenti. (ED 215)

Language emergence is a slow process governed by different human beings at different times, corresponding to their affects coordinating with the external world and among them.

> Diversis enim nominum impositores, suos quisque respectus, suos affectus, suas occasiones, suam etiam commoditatem secuti, diversa idem rebus diveris qualitatibus, interdum et casibus, vocabula dedere. (ED 215)

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[8] To Locke's idea that all notions derive from the sensible ones, Leibniz points out that the history of word meaning follows this principle, but not the containment of notions, that, on the contrary, are due to a natural order: "§. 5. PHILAL. Sans disputer là dessus, il sera plus utile pour approcher un peu plus de l'origine de toutes nos notions et connoissances, d'observer, comment les mots qu'on employe pour former des actions et des notions tout à fait eloignées des sens, tirent leur origines des idées sensibles d'où ils sont transferés à des significations plus abstruses. THEOPH. C'est que nos besoins nous ont obligé de quitter l'ordre naturel des idées, car cet ordre seroit commun aux anges et aux hommes et à toutes les intelligences en general, et devroit estre suivi de nous, si nous n'avions point égard à nos interests: il a donc fallu s'attacher à celuy que les occasions et les accidens où nostre espece est sujette nous ont fourni, et cet ordre ne donne pas l'origine des notions, mais pour ainsi dire l'histoire de nos découvertes." (NE 276)

[9] Leading studies on this topic has been carried out by Gensini (1991). It is thanks to him that we can read a very complex and extended text of Leibniz, *Epistolica de historia etymologica dissertatio*, which is my main source for Leibniz's theory of natural language.

Moreover, this conception of the origin of language attributes a completely different role to etymology, and implies a historical, evolutionary timeline of knowledge and language.[10] Other theories that presuppose a proto-language (such as an *Ursprache* or a *Natursprache*) meanwhile imply that things possess names naturally or essentially. Within this latter framework, etymology enables human beings to know the essential denominations for things, and with them, the essences of things. Leibniz adamantly rejects this conception, since the simple fact that one was born before others would have implied that she knows things better:

> linguam quandam naturalem, (Natur-Sprache) quam et appellabat Adamicam credebat erui posse; quam qui nactus esset, etiam arcana naturae rerumque proprietates nosset. (ED §14 216)

On the contrary, Leibniz believes that the process of knowledge discovery and acquisition requires time, and proceeds from obscurity to clarity and distinction (for thought), and for language, from inarticulation to articulation.[11] In his view then, the constitution of language is not the work of a single human being, but rather of multiple subjects. Moreover, languages do not result from the attribution of names to things. The emergence of language requires the capability of human beings to communicate. In other words, languages originate when the use of signs is directed to another human being with the aim of expressing something "internal", like an affect:

> [...] de linguis apud populis receptis agimus. Credibile autem est, in quantum primi homines, aut etiam populi postea a lingua protoplastis deviantes, propria vocabula sibi effinxere, accomodasse sonos perceptionibus affectibusque; atque usus initio interjectionibus seu brevibus particulis, ad affectus suos accomodatis, ex quibus tanquam seminibus paulatim natae sunt linguae. Exempli causa *oi*, *hoi*, sonus lamentabilis, hinc Itali ojulantes dicunt *hoi me*; (ED §15 216)

Specifically, languages do not originate with names for notions (or what was called "first operations of the mind"), but with the use of particles or interjections. By particles, Leibniz means syncategorematic words connecting categorems, viz. words expressing concepts. Particles, like the copula, contribute to expressing propositions rather than concepts.

[10] See also Oliveri (2016d).

[11] The passage from inarticulation to articulation is stated clearly in ED § 15 216, where Leibniz underlines that monosyllables precede other kinds of signs. Moreover, this is evident also by assuming interjections to be seeds of languages. Interjections are usually expressed by monosyllables and are a bestial heritage, as we will see, and animals cannot have an articulated language.

So in my view, an analysis of interjections and particles can (i) help us understand what languages are, and (ii) furnish a clue that helps us relate Leibniz's analysis of the origins of language with his theory of human cognition. Since thought is essentially propositional and a proposition is a connection of notions, language represents thought when it represents connections among notions: a judgment. Interjections are proto-judgments, and particles are the "glue" that hold together notions in a meaningful sentence.[12] I would like to start with interjections and then proceed to analyze particles.

3.2.2. Interjections

Two important features characterize interjections. The first is, as Leibniz says, their "bestial heritage" (see also Oliveri, 2016c: 467-78):

> Inerjectiones vulgo sunt residuum illius loquendi rationis quam solam habent bestiae, seu est modus loquendi bestialis, unde significant affectum aliquem etiam in bestias cadentem. (A VI 4 889)

The second is that they (a) express a sort of proto-judgment, (b) are connected to affects, and (c) are directed to others *when* used by rational beings only:

> Interjectiones usitatae aut exprimunt nostra judicia nostrosque affectus, aut tendunt ad aliena, scilicet auditorum. Ita habemus interjectiones admirationis et contemtus, approbationis, rejectionis, suspensionis animi, quibus respondent adverbia affirmandi negandi dubitandi. Habemus et interjectiones gaudii, tristitiae; amoris, odii; metus, spei; cupiditatis, avversionis aliorumque adeo affectuum. Videntur omnes affectus esse judicia quaedam. (A VI 4 890)

> Habemus interjectiones quibus aliorum attentionem excitamus; silentium imponimus ut *st* (unde patet interdum ad actus externos non tantum ad affectus aliorum tendere interjectiones). Interjectio Vae, est Minantis simul et compatientis. Minantis nomine Dei, compatientis nomine suo (*Ibidem*)

Interjections are connected to affects. Languages emerge when human beings "coordinate" (*accomodare*) their affects with sounds. We can conceive of this as a sudden and

[12] Leibniz distinguishes between a formal and a material part of languages. The formal part is represented by particles; the material one by name: A VI, 4 A, 882: "Vocabula sunt voces aut particulae. Voces constituunt materiam, particulae formam orationis."

intense affect provoking a corporeal movement of the face, mouth, and tongue.[13] This uncontrolled reaction thus provokes the emission of a sound. This mechanical causal explanation of the connection of sounds and affects is not enough, however, to produce a language. It is important that affects coordinate with sounds, and this is because they are kinds of proto-judgments that do not simply represent the external world, but rather express a subject's attitude towards the world or other subjects.[14] Interjections are the seeds of language: when the sound occurs repeatedly within a context, and is heard by a second subject that comes to interpret it as a sound expressing a subject's propositional attitude towards that situation. An important aspect, though, is that interjections are sounds *spontaneously* produced by a subject. In this process, the will has no control.

This interpretation of interjections as sounds spontaneously produced by affections of things is affirmed in another early writing of Leibniz, in which they are significantly connected with the use of onomatopoetic expressions, as the following passage confirms:

> Habent tamen Linguae originem quandam naturalem, ex sonorum consensu cum affectibus, quos rerum spectacula in mente excitabant. Et hanc originem non tantum in lingua primigenia locum habuisse putem, sed et in linguis posterius partim ex primigenia, partim ex novo hominum per orbem dispersorum usu enatis. Et sane saepe onomatopoeia manifeste imitatur naturam, ut cum coaxatio nem tribuimus ranis, cum st nobis significat silentii vel quietis admonitionem, et r cursum, cum hahaha ridentis est vae dolentis. (*De linguarum origine naturali*, A VI 4 A 59)

The individuation of the "seeds" of languages in interjections further confirms to Leibniz's eyes that thought is essentially propositional. Minds have thoughts when they connect notions. Nonetheless, interjections are not an unfolded expression of a proposition. The impulsive and compressed expression of an affect is at first an instinctive emission of

[13] See also Oliveri (2016d). As Leibniz explains in NE, the institution of language is a mix of physical connection and "*raisons arbitraires*". Even if we assume that they are natural, they are a mix of "*hazard*" and "*raisons physiques*" and he brings as example the word "coaxare" which refers to the sound emitted by frogs. The word is based on onomatopoeia and is produced by imitation of nature through the limited movement of human beings' organs (see Mugnai, 1976, 53). A VI 6 281-2: "Teuton a plus gardé du naturel, et (pour parler le langage de Jaques Bohm) de l'Adamique: car si nous avions la langue primitive dans sa pureté, ou assez conservée pour estre reconnoissable, il faudroit qu'il y parussent les raisons des connexions soit physiques, soit d'une institution arbitraire sage et digne du premier auteur. Mais supposé que nos langues soyent derivatives quant au fonds, elles ont neantmoins quelque chose de primitif en elles mêmes, qui leur est survenu par rapport à des mots radicaux nouveaux, formés depuis chez elles par hazard mais sur des raisons physiques. Ceux qui signifient les sons des animaux ou en sont venus, en donnent des exemples. Tel est par exemple le latin coaxare attribué aux grenouilles, qui a du rapport au couaquen ou quaken en Allemand." This aspect of the connection between natural movements and production of signs has been remarked by Heinekamp (1972); Gensini (1991); Favaretti Camposampiero (2007).

[14] Also Heinekamp insists on this point: languages represent how minds cognize of the world (Heinekamp, 1972); Following Heinekanp, also Rutherford (1995, 251-2) underlines this aspect and insists on the role of tropic expressions. On the same aspect also Mugnai (1976).

sounds, and this is due to the fact that the soul is overwhelmed by a dominant affect that arises in compliance with the actions of things upon the body, such as anger, fear, or pain.[15] Since minds can acknowledge their similarity to other minds, the instinctive sound can become the *sign* for an internal state. A subject can take the place of the other and imagine how she would feel in that situation. From observing the praxis in which the subject who emits the sound is engaged in and her capacity to take the other's place due to the acknowledgement of a similarity with other minds, one can conclude that that sound, e.g. "vae", expresses PAIN rather than JOY. This being the case, "vae" can be used as a sign of an affect: pain. At this level, however, the sign "vae" is a confused expression for a confused proposition: "vae" means "I feel pain", but the one who expresses it and the one who hears it are not in the position yet to distinguish between the subject and the object of the act. Neither are yet capable of articulating their thoughts (Oliveri, 2016d: 467-78).

In the first quote, Leibniz defines interjections as having a bestial heritage. Interjections by animals are not general signs for propositional attitudes. Animals lack the ability to acknowledge the similarity with other soul kinds, as argued in 1.3. Interjections by animals are rather signs simply by virtue of repetition: only because the interjection is produced by a subject within a specific type of situation (*vae* within the context of pain; a scream within the context of fear for a danger), hearing the sound provokes the emergence in the hearer's soul of the corresponding affect and, therefore, a related reaction (feeling pain in the case of vae; instinctive running in the case of fear). Even if animals associate the sound of the interjection with an affect, they cannot conceive of the affect. Therefore, the repetition of the sound in a certain perceptual context establishes a kind of corporeal habit (A VI I 282).[16]

Notice that this instinctive reaction does not characterize just animals, but human beings as well. Interjections can provoke instinctive reactions in both animals and humans because of their material aspects and capacity to affect sense organs: once a subject has repeatedly perceived an interjection within a certain context, a habit is established. Hence, the interjection becomes the signs of the affect, and once perceived, allows for the anticipation of the situation and a particular reaction. For instance, when in the Savannah a gnu produces a certain sound, the attack of a predator usually follows. Once this connection is established, hearing the sound provokes an affect of fear arise in the animal's soul, which provokes its running. Still, in humans interjections can become signs of the notion of an affect because minds can take the place of the other and conceive of similarity with other perceivers: in this

[15] Poser (2009, 479-94) suggests a connection between innate ideas, instinct and moral actions.

[16] On this aspect see also Oliveri (2016a).

process, the interjection can become an inarticulated expression of a subject that feels pain, and hence can represent someone else's thought or affectual state, such as "she feels pain". However, it should not be forgotten that the human ability of taking the place of the other and of recognizing a similarity with other minds extends beyond other humans. We have the tendency to acknowledge similarities with animals, plants, or even artifacts thanks to our capacity to take the place of the other. In this way, we assume the first person perspective and imagine ourselves to be who or what is experiencing a certain situation (Think of children play "animating" their toys for instance; what they do is to imagine to be that toy they are playing with.) Because of this, we ascribe affects and thoughts to other things; animals cannot do it, at least not explicitly.

The human use of signs to represent something internal aids in reconstructing the emergence of language, because signs allow one to involve those still confused notions in reasoning and make them clear. By retaining the signs, e.g. "vae", minds are capable of reflecting upon the confused judgment and of distinguishing between *who* felt pain and *what* she felt. The use of signs probably combined with the intention to communicate with other minds permits the rise of the need to distinguish between first, second, and third persons. This need pushes human beings to use signs for notions in the mind as they used them to express affects. Due to a combination of needs and occasions, human beings have *articulated* their thoughts through time in order to express more complex states of affairs and propositional attitudes towards those states.

Human beings can develop thought and with it language because they are capable of expressing thoughts, albeit confusedly, and of reflecting upon them because signs can function as blind thoughts: placeholders for notions that should be made distinct. Without this capacity of signs to precede distinct thoughts there would be no possibility for human beings to think and develop knowledge. The next step is therefore to understand how blind thoughts enable human beings to develop language.

3.2.3. Etymology and Imagination

The blind character of signs that enables minds to express notions before acquiring explicit and distinct knowledge about them turns out to be essential to the thinking process: by virtue of a sign, minds can retain the yet-indistinct thought and make it distinct through reflection. They can make their thoughts explicit, and thus articulate sounds into a language as

a syntactically and grammatically ruled system of signs. This function of signs is testified to by the work in etymology.

The use of signs as blind thoughts allows minds to use figurative expressions to designate notions of more abstract things. In studying how words acquire new meanings, etymology shows that minds use sensible meanings as the basis for "transferring" a given word to a more abstract sphere, which is done in order to designate what cannot fall under the senses. Leibniz's examples are words like "spirit" or "eye" (NE 285). The word "spirit" first signifies the untangeble breath and it is later used figuratively to refer to the soul.

I would like to focus here on the principle of fixation of meaning, in particular the movement of minds, so to speak, from the external towards the internal (i.e. from the sensible to the notions of the intellect). This movement of minds suggests that the analogy with other minds—which permits one to establish meanings of words for sensible qualities, as seen in 3.1.—is a paradigm that can be extended to more abstract notions. Moreover, the figurative use of meanings suggests that the imagination is involved in the process of finding an expression for things beyond the senses, albeit in a special way. Imagination here presents the *scheme* for the analogy. In working together with the intellect (which cognizes the way things are and thereby establishes the rules), imagination, based on the rules of thinking provided by the intellect, constructs the scheme for the application of those rules to particular expressions.[17] In this way, minds make explicit what is implicit. I shall start by analyzing the role of tropes, and then move to a specific case, namely prepositions, in order to show how imagination is implicated in the process of meaning fixation.

In ED §23, Leibniz states that frequently occurring sensible things receive names before things that occur more rarely, or that are more abstract, such as moral or metaphysical notions. An example follows:

> Itaque pneuma spiritus, anima, quae nunc vocabula res incorporeas significant, originarie denotant flatum: unde traslata sunt ad alias res invisibiles, et tamen activas, quales sunt animae et spiritus. (ED §23 229)

A few lines further he specifies:

> anteriores esse solent rerum cognitu faciliorum, et vulgi opinione simpliciorum denominationes. (Ibid.)

[17] Consider the passage of a letter to Tolland quoted in 3.1., where Leibniz says that the intellect is like an architect and it has its own rules: A I 21 724.

The order of denomination depends on human cognition: because the possession of organic bodies and attention by rational beings is related first to what affects sense organs, we first name sensible things. What is interesting, however, is that even in denoting things beyond the senses we still need a connection with things that are perceptible and can be figuratively represented. A first observation could be that Leibniz needs this aspect to preserve the coherence of his theory of harmony: since imperceptible notions (i.e. notions that are beyond the senses) must also find an expression or trace in the body, they need a figurative expression through signs. As he stated, there is nothing that happens in the soul that does not somehow leave a trace in the body. Signs play this role.

Nonetheless human minds need to appeal to figurative expressions for a different reason, per Leibniz. The need to use what can be known by the senses in order to represent the unknown (in the sense that notions of the intellect cannot be thought of without signs) indicates that this aspect of language is decisive for the explanation of two further desiderata of a language: (i) the establishment of conventions, and hence (ii) the shareability of thoughts. The hint about tropes signals that human beings do not choose signs arbitrarily. Tropes allow a figurative representation that implies a rule for transferring the meaning from the sensible to the more abstract sphere. This rule is based on how minds cognize the world. By appealing to the figurative sphere, a mind guarantees that other minds can also understand the passage from a meaning related to notions of the senses to meanings related to notions that are beyond the senses because any mind could have find the same rule in order to express the abstract meanings.[18] Even if the chosen rule of expression is not the only possible way to express the same meaning (as the variety of languages testify), the fact that in principle another mind can understand the analogy that permits the passage from a knowledge domain to another vouches that different minds can understand the reference of a word within a new context, acknowledge that convention and subsequently accept it. Moreover, for the sake of communication, rational beings find it easier to accept the already established conventions rather than seeking new ones, even if they could find them. This aspect is what makes languages a middle way between the arbitrary and the natural: arbitrary because there could

[18] This could also be the reason why Leibniz believed that concrete names, i.e. names that refer to things that are perceptible can be better understood than others and can be of greater use in philosophy. He believes, indeed, that German language could better serve the scope of handling with philosophical questions because it contains less abstract notions, which in turn are highly present in other languages, like French. For a discussion of this aspect and the role of translation in a universal language, see Favaretti Camposampiero (2015).

have been other possible ways to express the same thoughts; natural because we have reasons to express those thoughts in one way rather than another.[19]

The appeal to the figurative use of notions that are initially related to the sensible sphere corroborates once more the human dependence on the body and the need for an external reference in order to express and coordinate internal states with the states of other perceivers. Some sense perceptions, affects, and thoughts are produced in the mind because of the harmony and innate constraints on thought. The capacity of minds to recognize other minds as similar allows them to conceive that analogically similar states occur in any mind in determined situations.

The relevant aspect for using tropes is that the process of understanding other minds' mental states is more intuitive, immediate and easier when minds are concerned with what is presented to the senses. The reason for this is to be found in Leibniz's theory of human cognition (as explained in 1.2. and 1.3). Since sense perceptions are not controlled by the will, but spontaneously occur in the soul, minds are inclined to think that just as they cannot avoid feeling pain in a certain situation, neither can others. This acknowledgement may not be fully

[19] The work of Gensini offers an extended analysis of the way in which one has to interpret Leibniz's *naturalism* with respect to symbolic expressions and his rejection of characters as representing things arbitrarily. There is also an English translation of Gensini's essay that unfortunately does not entail Leibniz's text: (Gensini, 2000). According to Gensini (1991), Leibniz's conception of languages is based on a distinction between signs as natural, proper of the natural languages, and signs as arbitrary. According to this latter interpretation, signs as natural are essential to thought in the sense that thought is only a manipulation of signs or that there is no difference between signs and thoughts. The project of a *characteristica universalis*, that implies the interpretation of signs as arbitrary is therefore possible because natural languages allow a meta-reflection upon language itself and the finding and substitution of signs with other signs. The consequence is that there is a tendency in Leibniz's conception from the natural to the arbitrary. This conception is marked by a change in Leibniz's conception of signs, a change already pointed out by Dascal in his ground-breaking study on Leibniz's semiotic Dascal, (1978); Dascal (1987). According to Dascal (1978: 178), the young Leibniz, who projected a formal language, accepted the view of signs as arbitrary. However, an evident change of mind can be found in NE, where Leibniz designates natural signs (like hieroglyphics) as signs apt to a formal language. This should point to the fact that natural languages are more apt for thinking than other kind of arbitrary signs, as were the number in his former project. In Gensini's view, hence, the arbitrary is not completely denied; it is a result of a reflection upon language allowed by language itself. Even if Gensini's work has the merit to have tried to do justice to Leibniz's claims that signs are arbitrary, I do not fully agree with him. As it results from my analysis, there is a third path that allows us to interpret signs as a middle way between the arbitrary and the natural. Also the signs of natural languages are arbitrary, but their being arbitrary does not deny that they are instituted *naturally* through the process I have described. An aspect that can support this view has been recently pointed out by Favaretti Camposampiero (2015). In this work, Favaretti shows that concrete expressions, that is expressions that do refer to terms that have sensible instantiation, are more apt to be understood and are of more use in science than abstract terms, that is terms that refers to abstract entities, like the one introduced in the scholastic. This aspect fits pretty well into my interpretation, since it allows me to suggest that concrete terms allow minds to understand the analogy which pushed a mind to use a term in the new context, and hence to better understand the term involved in reasoning than abstract terms could do. This is due to the cognitive structures and limits of finite minds.

conscious, but nevertheless, one can easily cognize that when her body is affected in a determined way, certain states occur in her mind, and analogically similar states occur in other minds when engaged in the same situations. This is not the case with more abstract thoughts: I could sit in my office and think of something independently of my perceptual sense-perceptual environment. However, the kind of regularity proper to sense perceptual states can be produced by words and languages due to the fact that signs, too, are perceptible. Since signs are perceptible, one can presume that the sounds one produces in a certain sequence will affect the senses of another subject, and let the corresponding thought arise in her mind. Signs can only function in this way, however, if they are within a grammatically and semantically determined and fixed system. Only when conventions of language are established in a linguistic community can we presuppose that the same regularity presupposed for sense perceptions occurs between thoughts and language: the use of certain words in a certain order will cause a perception in another mind that awakens a thought analogically similar in structure (i) to the words used to express it and (ii) to the one the speaker intends to express.

It is nonetheless difficult to explain the passage from the establishment of linguistic conventions for sensible notions, which are relatively easy to account for, to the establishment of conventions for notions of things which cannot be perceived via the senses. It is at this level that the tropic use of signs plays an essential role. The use of a sensible meaning should induce the recollection of that sensible notion in someone else's mind, but in a context different from the one in which it is usually deployed. The evocation of the sensible notion within an unusual context causes in the other mind a spontaneous search for a reason for its use, and hence for a meaning related to the context. The spontaneous activity of the mind (notice that the search for a cause is the innate principle of sufficient reason according to Leibniz), together with its capacity to cognize things in an analogically similar way to other minds will lead her to realize that the word does not stand for the known sensible notion any longer, but rather for a new insensible one. What allows the passage from the original to the transferred meaning is the fact that the word's use is based on the analogy present between two different knowledge domains that enables one to relate the known meaning to the unknown one. The other subject, by hearing the word—that already possesses an established sensible meaning—can recall what the word expresses (for instance, "spiritus" as referring to the intangible breath), and because of this she can start searching for connections and similarities between the already known meaning and the one the same linguistic expression acquires within a new context ("spiritus" as referring to soul). In so doing, the subject can find

the analogy between the two domains, since she shares with other subjects the same constraints on thought. In other words, she can understand the analogy and find the rule because the *possible ways* of *conceiving* of the relation between the two domains are *limited* in the same way for her as it is for the subject who proposed the analogy, due to the fact that their thinking capacity is structured by the same constraints.

This is the passage from the use of signs to the use of symbols, a passage that allows a subject to understand other subjects' thoughts and to express their thoughts to other subjects, as well as to establish the cognitive harmony among rational minds based on the perceptual harmony among the perceptual states of perceivers which are evoked by signs. Signs, symbols, and languages are made of perceptible bodies and as such they are phenomena. It does not follow from this that they are not real.

Once a habit between the abstract notion and its expression is established, the perceptible aspect of signs guarantees that the reproduction of words according to a certain order lets the thought arise in the mind of another subject, exactly as affections of the objects upon the senses let sense perceptions arise in the soul. As we have seen in 1.2., an essential tenet of Leibniz's theory of thought and judgment is that a subject has no voluntary control upon its sense perceptions. She is responsible only for the judgment upon a sense perception. In the same way, linguistic subjects belonging to a linguistic community have no control over what signs (which are arranged according to grammatic and semantic rules) represent in their minds when they acquired the linguistic conventions proper of a language. They can always interpret the signs, though within a limited range of possibility. In order to make my point, a passage from NE will help. Here, Leibniz says that different particular compositions of things can produce analogically similar causes in a subject. In that passage, Leibniz explicitly refers to sensible qualities. My idea is that this model can be transferred to signs:

> Quelques reglemens que les hommes fassent pour leur denominations, et pour les droits attachés aux noms; pourveu que leur reglement soit suivi ou lié et intelligible, il sera fondé en realité, et ils ne sauront se figurer des especes que la nature, qui comprend jusqu'aux possibilités, n'ait faites ou distinguées avant eux. Quant à l'interieur, quoyque il n'y ait point d'apparence externe qui ne soit fondée dans la constitution interne, il est vray neantmoins qu'une mème apparence pourroit resulter quelques fois de deux differentes constitutions; cependant il y aura quelque chose de commun et c'est ce que nos philosophes appellent la cause prochaine formelle. Mais quand cela ne seroit point, comme si selon M. Mariotte le bleu de l'arc en ciel avoit toute une autre origine que le bleu d'une Turquoise, sans qu'il y eut une cause formelle commune (en quoy je ne suis point de son sentiment) et quand on accorderoit, que certaines natures apparentes qui nous font donner des noms, n'ont rien d'interieur commun, nos definitions ne laisseroient

pas d'estre fondées dans des especes reelles; car les phenomenes mèmes sont des realités. (NE 309)

Consider the sentence "do not do this." The sound and the order of the words is always the same, but it can have different tokens in different situations due to different causes (if we assume Leibniz's theory of minute perceptions, for instance, we have to say that for each token there is a different conformation of the minute perceptions that cause a different representation of the actual state of the world, and hence furnishes the subjects different reasons for pronouncing the same type-sentence). However, the connection established between the sentence and its meaning within a conventional language allows the production of a similar effect when it is produced in different contexts. More precisely the reasons that bring a subject to utter this sentence can vary in different contexts (exactly as the texture of the compound that produces the effect of this blue is not the same as the texture of the compound that produces that blue). Despite the difference, the reproduction of sounds in that order will produce an analogically similar perception in the other subject, and hence awaken a similar thought that allows her to interpret my utterance in a correct way. This connection between signs and meaning is due to the perceptible aspect of signs. Notwithstanding this causal relation between signs and thoughts due to their perceptual aspect, the same token can further cause many different reflections in another mind, and hence, it undergoes an infinite number of interpretations. These hermeneutic aspects of thought are due to the fact that each thought is situated in the history of each individual substance and acquire a unique meaning within this history.

Despite the importance of signs as perceptible, this aspect of signs is not alone sufficient to explain why the appeal to tropes both makes the establishment of linguistic conventions possible and once this possibility is established, it makes its establishment more likely. An analysis of particles in language can help us in explaining why.

At this point, it should be clearer why languages make the cooperation among human beings possible, and how it ground society. Unlike his contemporaries, Leibniz offers an explanation of the emergence of thought and language, in particular at offering an historical explanation of how minds can cooperate based on their cognitive capacities. I do not want to label Leibniz's theory, but I acknowledge a sort of scientific empirical approach in his theory of human cognition and language origin: based on facts observed by analyzing language evolution, furnished by the study of etymologies, Leibniz tries to fit those facts into a theory based on other facts that can be related by observing human cognition. The mirror of human cognition cannot but be language, since without it one cannot express thoughts. The method is

inscribed in a phenomenological frame: one can observe her own cognitive process, and this observation of one's own cognitive process can furnish a basis to draw analogies with other minds. This analogy is confirmed by the use of languages. None of these processes, however, were possible without a shared presumption of innate constraints on thought that all minds, even God, have. In this way, Leibniz can offer a coherent theory of the emergence of language and thought.

3.2.4. The Role of Blind Thoughts in Reasoning. A Case Study: Preposition

Together with interjections, linguistic particles are considered seeds of language. Particles designate within Leibniz's jargon those parts of speech that during the centuries have been known as syncategorems.[20] The word has Greek origins and designates those parts of the speech that do not express a term, and, hence, does not have a meaning if not in connection to other significant parts: names (categorems). Names usually stand for concepts; it follows that they can be defined and words that express them have a meaning. On the contrary, syncategorems per se do not possess a meaning, since they do not express a concept: prepositions like "in", "about", or the copula "is" have a meaning only in connection to categorems. Because of this, Leibniz assumes the distinction between matter and form of the language: being categorems the significant part of languages, syncategorems describe the way of connecting per se significant parts.

As I argued in another paper, however, syncategorems contribute significantly to thinking (Oliveri, 2014). In particular, I argued that prepositions must be interpreted as blind thoughts, since they allow minds to perform rather complex operations of thought without needing to recall every passage of the reasoning implied by that operation. When we say "either A or B", for instance, four different operations are meant: "if A is, then B is not; if B is not, then A is; if A is not then B is; if B is then A is not".[21] In a similar way, prepositions enable minds to express complex relations among notions and things in an easy way: when one says "Evander's sword" the sentence contracts the thought that "the sword is a tool, as far as Evander is the owner". Prepositions function as operation signs (plus, minus, and so on) do in mathematics: they do not express a meaning, but they rather signal how we have to

[20] For an introduction to syncategorems see Meier-Oeser (1998).

[21] A VI, 4 A, 1249: "Cum dicimus *vel A vel B est*, enuntiamus simul quatuor propositiones *si A est B non est, si B non est A est*. Si A non est B est, si B est A non est. Verum contractio illa in unum non est mentalis sed verbalis." This example is reported in Leibniz's notes from a text by Jungius.

interpret those notions.[22] Because of this, Leibniz defines them as *modi cogitandi*[23] (ways of conceiving) that express *modi rerum*[24] (the ways in which things are). The contraction they operate at the language level, moreover, enables minds to deal with complex thoughts *as if* they were simple and in this way they permit minds to perform reasoning that otherwise would be impossible to perform because of the complexity implied.[25] From my analysis it follows that prepositions are simple terms (*incomplex* within Leibniz's jargon) that represent the way in which minds can conceive of reality and signal how minds have to connect words in order to determine the truth value and meaning of a sentence.[26] For the present analysis, I would like to investigate into prepositions in order to explain how language emerges and what role the imagination plays in the establishment of grammatical rules.

Due to the role of connectors within sentences, particles, in general, and prepositions, in particular, allow the expression of thoughts, rather than notions. Once again, hence, Leibniz's conception that the simplest operation of the mind is a judgment is confirmed by the fact that languages emerge with these sorts of connectors for names.[27] If languages emerge with particles and particles per se do not have meanings, when we have names for things we do not have a language yet. Language emerges when we find out how to connect those terms in a meaningful sentence. We have a meaningful sentence, for instance, when we attribute something to something other: when we use the copula "is".

Here I would like to focus on the role of prepositions within sentences. According to Leibniz, prepositions express every kind of relations among notions through a figurative use

[22] In the scholastic terminology, they do not refer to *aliquid*, but *aliqualiter*. See (Meier-Oeser, 1998).

[23] A VI 4 A 336: "Modi concipiendi designantur particulis".

[24] A VI 4 A 596: "Venio ad ipsam enumerationem, et primum Terminorum, deinde Particularum et Affixarum. Termini sive Notiones concipiuntur a nobis ut completae tanquam res, vel ut incompletae, tanquam quibus modi rerum exprimuntur".

[25] A VI 4 A 884: "Particula differunt a vocibus, ut in algebra signa a quantitatibus sive a numeris. […] Sunt tamen signa quae non sunt quantitates, talia sunt signa connexionum, ut vincula, item signa aequalitatis"; A II, 1, 353–354: "Etsi in rebus valde compositis soleamus uti symbolis in ratiocinando, sine ulla consideratione ipsarum idearum, quas cogitationes voco caecas, cum in iis contenti simus analogia parvarum simpliciumque distincte comprehensarum, ut cum 100 000 dicimus, nemo omnes hujus numeri unitates sibi mente fingit, scit enim eo labore sibi post symbola supersedere licere. Et in eo consistit ars symbola excogitandi, ut sint compendiosiora ipsis Ideis, et tamen confusionis expertia, aptaque ad omnis generis proportiones in ipsis non minus facile, quoad ejus fieri potest detegendas ac si in ultima elementa, fuissent resoluta, seu clare distincteque intellecta."

[26] GP II 470–471: "Cognoscibilia sunt incomplexa vel complexa. In complexa sunt categoremetica seu Termini, vel syncategoremata, vel ex his conflata. Termini sunt significationes vocabulorum in recto. Syncategoremata sunt significationes particularum. Conflata ex his sunt terminorum inflexiones, dum scilicet ex termino et particula fit compositum obliquum, v.g. cum dico, hominis quod idem est ac TOU homo, ubi TOU est particula, Homo terminus."

[27] Gensini (1991, 179) notices the importance of particles for the origins of language.

of spatial prepositions: “Omnis relatio rerum exprimitur quodammodo relatione situs corporum” (A VI 4 A 893). Because of this, prepositions are more suited to understand the figurative use of expressions based on the analogy between the sensible and the insensible:

> Il sera bon cependant de considerer cette analogie des choses sensibles et insensibles qui a servi de fondement aux tropes: c'est ce qu'on entendra mieux en considerant un exemple fort etendu tel qu'est celuy que fournit l'usage des prepositions, comme à, avec, de, devant, en, hors, par, pour, sur, vers, qui sont toutes prises du lieu, de la distance, et du mouvement, et transferées depuis à toute sorte de changemens, ordres, suites, differences, convenances. (A VI 6 276)

The reason why we use figurative meanings in order to express more abstract relations among things, such as causality, subsistence, dependence, similarity, and so on, responds according to Leibniz to the same principle that inclines minds to conceive more abstract notions through more sensible ones:

> Circa praepositiones observandum videtur omnes in nostris linguis usitatis originarie significare respectum ad situm, et inde transferri tropo quodam ad notiones quasdam metaphysicas minus imaginationi subjectas. Quod mirum non est, quia homines etiam ea quae imaginari non possunt per res imaginationi subjectas explicare conantur (A VI 4 A 890)

Minds have the implicit tendency to represent notions of things that do not fall under the senses through figurative meanings. This need is due to minds’ being in a body which implies the impossibility of intuitive, pure intellectual knowledge: since our organs are always stimulated by the external world, even when we are asleep, our attention is drawn first of all by what affects the senses. As seen, this aspect is not negative at all: this dependence on perceptual activity, broadly understood, guarantees that minds represent the same world, a fact that should exclude any possibility of solipsism (1.4.). The further interesting thing that follows from the quoted passage is that relations, exactly as other intellective notions, are things that are not subject to imagination: similarities, causal relations, dependence, and so on, are a kind of operations of the mind depending on how we can conceive of things, i.e. on our constraints on thought. This, in turn, follows from the fact that minds cannot have notions of individuals. Due to their limited cognition, which makes them dependent on generality and on a representation of reality *as if* it were identical to idealization of notions, minds need to express how individuals existing in the actual world are related (2.3.-3.1.). Those connections are implicit in the complete concept of a single individual, but since we cannot know complete concepts, we have to represent their being *per partes*, from the perspective of from

time to time different ways of cognizing and reflecting, like causality, coexistence, dependence, similarity, time and space, and so on.

As they represent the ways in which things are, moreover, particles express relations in languages. In *De totae cogitabilium varietatis complexione*, Leibniz maintains that the highest level of cognition a finite mind can have is when all that is thinkable and a mind can observe is considered "uno obtutu", in a single moment. In this way, we understand the relations and connections among things; we find what we are looking for; we connect our findings with other things.[28] These operations are what Leibniz calls "modi rerum", the ways in which things are, and are expressed in language through particles, like prepositions. The function of prepositions, hence, is to express the act of considering many different aspects of things in an easy and compendious way, so that also someone who reads the sentence can reproduce in her mind the same connections among things as the one performed in the mind of the speaker.

In the same text, Leibniz distinguishes different ways in which things can be contingent. Among these, there could be the ways of existing that can be with respect to time or with respect to space.[29] Particles express first of all these latter kinds of relations, and *tropically* any other kinds. The very interesting thing for my analysis is that *modi rerum* are considered reflexive notions, meaning that they are not terms, but rather express a mind's reflections upon terms (considered both as terms representing individuals or notions):

> [modi rerum] sunt quaedam reflexiva notionum potius quam rerum, ut esse absolutum, respectivum, esse positivum, privativum; subjectum, adjunctum; commune; proprium; idem; diversum. (A VI 4 599-600)

For this reason, I find it relevant that Leibniz holds prepositions to be blind thoughts that express the ways in which things are, based on the ways in which minds can cognize of them. In particular, prepositions as blind thoughts that express a sort of reflection, along with their being origins of language and thought are two aspects that significantly suggest that with

[28] A VI 4 594: "Magni momenti est in Cogitando totam Cogitabilium quae nostris mentibus obversari crebrius solent, varietatem, uno obtutu complecti posse. Ita enim rerum comparationes et connexiones intelligemus; rem propositam inveniemus, datam cum aliis combinabimus."

[29] A VI 4 A 599-600: "Atque ita Res enumeravimus, sequuntur rerum Modi, vel accidentia, eaque aut communia, aut certis rerum generibus propria; Modi communes sunt modi existendi, et Modi agendi ac patiendi. Modi existendi sunt esse necessarium, contingens, possibile, impossibile, facile, difficile. Et respectu temporis, esse aeternum, incipere (idque variis modis), durare, finire. Respectu loci; situm esse; respectu partium, figuratum esse; respectu aliarum rerum, facere cum iis numerum et ordinem; Esse crebrum, rarum, primum ultimum; habere comparationem, ut esse ordinarium, extraordinarium; magnum parvum. Idem diversum, contrarium, simile dissimile, aequale, inaequale; perfectum imperfectum; habere cum iis connexionem ut totum et pars; esse iis compossibile, incompatibile, connecessarium, aptum, ineptum; Esse ab iis dependens; esse alterius originem fontem, etc. Et respectu loci, esse varie situm et figuratum."

language minds aim at expressing thoughts that at the beginning cannot but be confused. In 1.3. and 1.4. I have already underlined the important role that reflection has within thinking: reflection is a mind's operation to consider her perceptions by recalling them and analyzing them under the perspective of general notions. From the analysis on languages as blind thoughts it follows that only by using signs minds can involve perceptions in thinking and make those confused thoughts distinct and, hence, they can exercise reflection. This is a fundamental aspect of thinking activity because without this capacity to use signs as placeholder for yet confused notions, human beings would never be able to accept already established linguistic conventions and, in so doing, to learn an existing language.

How does the passage from sensible to tropic meanings occur? The analysis of prepositions permits one to point to the role of imagination in this process. Leibniz states that prepositions have first of all a sensible meaning: they express spatial relations. In Leibniz's view, however, space is an *ens imaginarium*.[30] Only individuals and their modifications exist and this is the ground for their being represented *as if* they occupy a place in an absolute space. Spatial distinctions are due to the perceiver's point of view: something is *in front of* me or *behind* me, and so on. In other words, a subject distinguishes into space in compliance with the way in which she can distinguish things' positions with respect to her situated body. In so doing, she can imagine an absolute space constructing on her being at the center of this space and presenting the distinction she can make.[31] In this respect, the idealization of things as if they were disposed on a plan is the first kind of relations minds had the need to express since more related to sensation. Led by their body, subjects had first the need to express what something was and *where* it was. We can easily imagine that the next stage was to express when something happened. In this sense, the order of *neben-ein-ander* becomes the order of *nach-ein-ander*: *neben* (near), *nach* (after) are all prepositions that possess a spatial meaning at first. Due to an analogy with space, we can imagine time as a line and events as disposed on it in order of appearance. In the same way, we can say that something will happen "next", meaning that it is near to us. Exactly as we express time relations through spatial ones, we can use space as a model for other kinds of relations: in English one says that "something acts *upon* something other"; that "a notion is contained *in* another" and so on. What we do is to find a figurative expression for relations that are abstract and not subject to imagination. In this way, we find an expression for those relations that does not yet have one. The search for

[30] A VI 4 A 629: "Tempus est Ens imaginarium, quemadmodum, locus, qualitates, aliaque multa."

[31] Eloquent are Leibniz's draws of the relation of things in space in *Analysis particularum*, where he tries to determine a spatial meaning for every preposition. See A VI 4 A 648.

the figurative expression is led by a kind of analogy we can find between different knowledge domains: spatial representations can become the exemplification of other more abstract domains due to an analogy. As we have seen, when something is upon something other a modification in the second member of the relation can follow. Given that, we started to use "upon" not simply in order to express spatial relations, but also to express causal relations that, properly, are not object of senses or of imagination, but of intellect, since they depend on the ways in which minds conceive. From here, we moved to express also causal relations, which do not imply any kind of physical contact, by the preposition "upon".

I want to stress two points now: (i) expressions have to be perceptible; (ii) their meaning must be represented by imagination.[32] Why? I think that these two points are necessary aspects for the fixation of signs and meanings shared in a linguistic society. Both aspects are needed in order to determine language conventions. As said above, subjects cannot voluntary control what we perceive. The figurative use of words, hence, aims at establishing a kind of relation between minds due to a correspondence between signs and notions. As suggested, the use of the sign in a new context prompts the mind to search for a meaning. Since minds share the same constraints on thought and they can organize thought in an analogically similar way, a subject can understand what another subject means by using the expression in that context because she can recognize the analogical structure that underpins the two different domains of knowledge. And she can acknowledge that analogy because she shares the same constraints on thoughts with other minds. In so doing, a subject can find the analogy between $\text{expression}_{(1)}$ in its sensible domain and $\text{expression}_{(2)}$ in its new, more abstract, domain. Analogy, indeed, is an operation that permits one to find correspondences among the parts that compose something in something different from it, but that due to this analogy of organization can express it.[33] This is what happens between thought and language for instance. Thought is not spatial or sensible, but it can find an expression through the spatial representation allowed by signs. Signs, as they are perceptible, find an organization and order in language and can mirror the relations among notions. From this point of view, imagination relevantly contributes not only in the process of representing, but also of discovery. Imagination, whose structures are exemplified in tropes (metaphore, irony, metonyme) is

[32] See also Mugnai (1976, 57) who stresses that signs must have a figurative meaning in order to express ideas of what is not imaginable.

[33] This idea is also present in his conception of a characteristica universalis, A VI 4 A 916: "Characterem voco, notam visibilem cogitationes repraesentantem. Ars characteristica est ars ita formandi atque ordinandi characteres, ut referant cogitationes, seu ut eam inter se habeant relationem, quam cogitationes inter se habent. Expressio est aggregatum characterum rem quae exprimitur repraesentantium. Lex expressionum haec est: ut ex quarum rerum ideis componitur rei exprimendae idea, ex illarum rerum characteribus componatur rei expressio."

essential for the representation of the natural order of notions, not because with the relation of more abstract meanings to sensible ones we can learn something about how to distinguish within notions conceptually, but rather because without figurative representations minds would not be able to think of those notions that are beyond the senses and, at the same time, to find rules for sharing them with other minds in a constant and regulated way. Only through the establishment of linguistic conventions can minds start to conceive things as possibilities because they can share knowledge also with other minds. Without the need for communication minds would not need to constantly find ways of expressing their thoughts.

Similarly as Thomasius, hence, Leibniz thinks that minds can be rational only in cooperation with other minds: only when they join a society and find ways of communicating and cooperating with other minds.[34] As seen before, an essential aspect of being in a society is that minds can use signs as blind symbols in order to express their thoughts. In order to conclude my analysis, I would like to furnish an argument about why the assumption of innate ideas is a necessary presumption in order to explain how minds can share a language, at least within Leibniz's metaphysics and epistemology.

3.2.5. Constraints on Thought and Language Origins

By analyzing the process of language emergence, I have highlighted how the fact that human minds share constraints on thought allows them to acknowledge (i) the similarity with other minds and (ii) the analogy between different knowledge domains, a process that allows minds to find figurative expressions for those notions that are beyond the senses. According to my understanding of Leibniz, it is because minds share these constraints that they can cognize of the world in an analogically similar way. In my view, the analogical way in which minds can cognize of the world allows them to find common ways to express their thoughts and establish linguistic conventions: minds can understand the figurative use of words in a new domain of knowledge because different minds can cognize of the world in an analogically similar way. By recognizing the analogy that there is between those domains, hence, they can acknowledge the new meaning expressed by the word and use it in compliance with the other speakers. In this way conventions arise not by virtue of an arbitrary imposition, but due to

[34] See 3.1.; See Meier-Oeser (2007, 218), in particular the following quote from Christian Thomasius, *Einleitung zur Vernunftlehre*, p. 291: "Denn ob wir gleich gern zugeben, daß der menschlichen Seele ein natürliches Vermögen sey zu gedenken [...], so würde doch solches Vermögen ihm nichts nützen, wenn es nicht durch die Hülffe anderer Menschen angefeuret würde."

natural processes of transferring meanings. Consequently, languages can be said to be both arbitrary and natural: arbitrary because the figurative way we choose to express a thought is only one of many other possible ways of expressing it; they are nonetheless natural because minds have reasons to find and choose a figurative expression over another. Moreover, reasons for linguistic conventions are based on how minds are capable of cognizing of things and sharing those thoughts in compliance with the occasions and the needs minds have to face. From this perspective, hence, I think that we can explain why languages are subject to history and occasions, as Leibniz often says, and why at the same time they are natural and depend on the cognitive capacities of rational minds. Indeed, it is due to minds' cognitive constraints and the fact of being in a body that (i) minds first gave name to sensible notions and at length to other kinds of notions and that (ii) denomination also depends on contingent conditions, as the historical needs they were subject to because of their being in a body.

Once conventions are established, however, minds can use the word simply as a sign that is independent from the original domain. We use words without being aware of their etymological meaning that, hence, requires investigation. This use depends on the blind character of signs: since we can use a sign instead of a concept, we learn to use a language before an explicit understanding of concepts involved in reasoning. In this way, as seen before, we perform thoughts that otherwise we were not able to perform.

This being the case, I shall focus in this paragraph on the role of constraints on thoughts for language emergence in order to point out that language praxis without the assumption of mental constraints can only partially explain the use of linguistic conventions in an already established linguistic society, but not the emergence of language. Through a confrontation with theories contemporary to him, the question that Leibniz aims at answering is that of language origins. Contrary to his contemporaries, however, Leibniz's theory rejects the assumption of a language of the origin (an *Ursprache*) or the figure of a name giver. The reason for this rejection is that even if language were already given, either by a language of the origin or by a language established by a name giver, one could still not explain why different subjects can engage into language practices together, and hence share language and knowledge. Even if a language had already existed, without the assumption that minds cognize of the world in an analogically similar way (which means that they structure their thoughts in an analogically similar way so that they are inclined to look for causes, think of space as a possible model of order, recognize the analogy with other minds, and so on) minds would not have the certainty that there is a regulated and certain correspondence between words and their own and other minds' thoughts.

This analogy among minds is required in Leibniz metaphysics: minds do not have direct access to other minds mental states. Therefore, they cannot know for sure how another mind cognizes of the world. In this framework, where a subject has immediate and certain access only to her own thoughts, her cognizing of the world could not represent a model since she can notice that there could be different possible ways to interpret and cognize of a same event. However, if we assume that minds cognize in an analogically similar way despite the difference in perspectives, we have a common ground to explain how they can move from different perceptual perspectives to a common cognition of the world and to general knowledge. The fact that minds can develop a common language based on a certain correspondence between thought and its expressions is indeed a necessary condition to acquire knowledge. In other words, the real concern of Leibniz is to explain why human rational beings can acquire scientific knowledge: general contingent truths about the actual world. This implies explaining why human beings independently from each other would have cognize of the world as in a temporal and spatial dimension, governed by causes and effects, and so on. Rational beings can come to find a common way of expressing their thoughts because they share constraints on thought. Because of these constraints, as seen, the reference of a word or of a sentence is not the particular thought of a particular contingent speaker, but a possibility (something that can be correctly thought of because of the world created by God and of the human cognitive structures). A concept as a possibility is not an *ens*, but since it is independent from a mind's actual thinking of it it can be thought of and comprehended by different minds. In this way two different subjects can refer to the same possibility, though they have two very different tokens of the same possibility. In the same way, we can explain how we can misrepresent a concept. Since our minds are limited and we can represent notions only *per partes*, we can neglect some aspects of notions that would lead us to consider a proposition as false. Another explanation is that since our concepts about natural kinds are based on a possibility apprehended *a posteriori*, it can happen that some information is not accessible to our knowledge, and hence we construct a possible explanation that does not represent the phenomenon properly. (A historical example could be Galileo and his telescope.)[35]

As we have seen, however, an important constituent of harmony and the fact that minds can share thoughts is a common perceptual environment of which signs are an essential constituent. It is because signs are perceptible and cognizable that they can establish a connection between words and thoughts due to habits and, in so doing, guarantee that when a

[35] For an explanation of conceptual misrepresentations see Oliveri (2016b).

subject hears a words ordered according to known grammatical and semantical rules, a corresponding thought arises in her exactly as a certain sense perception (which is not an act of the will 1.2.) arises in her soul when the body is affected by external object. The aspect analyzed in 1.2. hence, i.e. that judgments are determined by perceptions and that sense perceptions cannot be controlled by the will, turns out to be a necessary constituent of Leibniz's theory of harmony that guarantees that by using a language minds can reliably believe to be sharing their thoughts.

Because of this, the simple exposure to language practices cannot explain why minds can acquire language and use it to express thoughts. In Leibniz's view, hence, constraints on thought are necessary conditions both for the explanation of language origins and for the explanation of the acceptance of linguistic conventions. Nonetheless, we can notice that different mechanisms are at work when subjects have to create new words by moving from one domain to another, like when they learn words that express already established praxis. In the former case, what is relevant is the understanding of the figurative use of the word within the new context by relying on the former sensible meaning. One could argue, however, that when meanings are already established in social praxis, a subject can use linguistic expressions without any appeal to innate constraints exactly because of the role of blind thoughts. Since blind thoughts enable one to use an expression without an explicit full understanding of the notion implied, one can use a language via imitation purely, and in a second step reflect on the language and make the implicit meanings explicit. I do not think this is a correct way to interpret language acquisition because even if this is possible, and this is how language acquisition works for Leibniz, we can engage into language practices because we share the same need with those subjects that we acknowledge as similar. Due to the strict difference between perceptual and conceptual activity, the fact that things affect the senses in a similar way is not however a guarantee that we will develop the same conceptual apparatus and categorization to express them. In Leibniz's view, our thinking activity needs some sort of natural "guide". Constraints on thought, as pointed out, are natural limits of the minds. As my hand can make only a limited number of movements due to the muscles and tendons that compose it, my mind can think only within a certain spectrum of possibility, due to the constraints on thought.

Because of these considerations, it seems to me that a position coherent with Leibniz's analysis is that the simple exposure to a language can be the trigger of language emergence, like for instance in a new born subject. Nonetheless, the subject is able to develop linguistic common skills only when she has a mind that already possesses some constraints on thought

that enable her to accept and use the conventions proper to that particular linguistic community (even if that same subject could have found other ways of expressing her thoughts).

The necessity of constraints, hence, is determined further by the nature of linguistic signs that always entail a creative aspect according to Leibniz. By "creative aspect" I mean that every linguistic token is a new *imposition* in a certain way. The use of language is a game, according to Leibniz, where we combine and connect signs in order to express thought and it can never be reduced to a mere psittacism: a simple repetition of words. By being immersed in linguistic practices, rational beings acquire a habit: they learn both how to connect words to express meaningful thoughts and how to use language in different situations. Nonetheless, once one acquires the art and technique, a rational subject can play and combine words due to the occasion she is engaged into: it follows that any new speech act is a creative way to use symbols to represent what is going on in someone's mind. We already discussed this aspect in 3.1., when we noticed that a same state of affair can be represented in different ways that produce different effects in the listeners. (Think of the many ways one can talk about a sunset.) Consider the following passages where Leibniz compares the use of language to the act of playing the piano:

> Car il y a des choses, sur tout celles qui dependent des sens, où on reussira plustost et mieux en se laissant aller machinalement à l'imitation et à la practique, qu'en demeurant dans la secheresse des preceptes. Et comme pour jouer du clavessin, il faut une habitude que les doigts mêmes doivent prendre, ainsi pour imaginer un bel air, pour faire un beau poeme, pour se figurer promtement des ornemens d'architecture, ou le dessein d'un tableau d'invention, il faut que nostre imagination même ait prise une habitude, après quoy on luy peut donner la liberté de prendre son vol, sans consulter la raison, par une manière d'Enth[o]usiasme. Elle ne manque pas de reussir à mesure du genie et de l'experience de la personne, et nous experimentons mêmes quelquesfois dans les songes que nous nous formons des images qu'on auroit eude la peine à trouver en veillant. Mais il faut que la raison examine par après, et qu'elle corrige et polisse l'ouvrage de l'imagination, c'est là où les preceptes de l'art sont necessaires pour donner quelque chose de fini et d'excellent. (A VI 4 A 710)

> Les actions habituelles aussi (comme celles qu'on exerce en jouant au clavecin, sans penser tout ce qu'on fait) confirment ce que je viens de dire, c'est à dire que la Machine est capable d'agir raisonnablement sans le savoir, lorsqu'elle y a este predisposée par une substance raisonnable; car on ne jouiroit pas si bien sans y penser assés, si on ne s'estoit donné auparavant la disposition necessaire pour cela, lorsqu'on y avoit pensé en apprenant à jouer. (GP III 274-5)

Exactly because of the *freedom* that signs confere, since they enable different possible ways of representing a same event or state of affair (an aspect, as seen in 1.3. essential to human freedom, since rational beings are free when they can represent different possible scenarios and find reason to choose one instead of another), language origins and acquisition cannot be established by simple linguistic practices, but must be accompanied by internal constraints.

From a Leibnitian analysis, both language emergence and acquisition cannot be explained by the simple practices of a linguistic community. Pragmatist theories about languages are committed to a philosophy of mind that assumes innate ideas, as Leibniz intended them. I have nonetheless to sharpen this position: *within Leibniz's metaphysics and theory of human cognition*, linguistic practices are not of secondary importance to the acquisition of a particular language. Quite the opposite. As we have seen, thought, together with language, is established when subjects are involved in communicative practices. Once a subject is engaged in the praxis of communicating with another subject (acknowledged as similar) her propositional attitude towards the world, she cognizes of concepts expressed by language. Nonetheless, within Leibniz's theory of human cognition explaining these processes of linguistic practices would be impossible without the assumption of constraints on thoughts. In other words, a Lockean epistemology cannot explain how minds are in the condition to use a common language and share thoughts, since it rejects that minds possess more fine-grained faculties that enable them to think in an analogically similar way. Constraints on thought vouches that different minds can understand the other speaker's point of view despite the difference of experiences of the world and a different possible way of cognizing of things by taking the place of the other. In so doing, constraints on thought guarantee that different minds can acknowledge the linguistic expression used as an expression *of something*. I am not saying that Locke did not have the resources to offer a coherent theory about this, or that Leibniz directly argues against Locke on this point.[36] What I am trying to say is that at this point of our analysis we can remark that for Leibniz it is important to stress that the engagement in society and linguistic practices, and so, the shareability of knowledge, is neither a matter of chance nor a matter of choice. He thinks that his philosophy can explain why human minds *naturally* and *spontaneously* engage in these practices because of their nature. In order to understand this latter point it is important to consider why for Leibniz linguistic practices have to be grounded in minds' ways of cognizing of reality.

[36] For an account of Locke's conception of language see Lenz (2009).

I would like to present two arguments: the first based on Leibniz's metaphysics. Roughly, it suggests that due to his theory of substance, only minds can be bearers of actions. In this sense, a group of individuals cannot be straightforwardly the bearer of speech acts: Only if we presume a kind of social bond among individuals, we can explain how they can cooperate. But since this bond is exactly what has to be explained we cannot presuppose it as the explanation of the common development of a language. The reason why a linguistic community (a group of individual minds) uses the same conventions must be found in the cognitive skills of those minds.

The second argument, which follows from the first, has already been partially discussed and states that without assuming some constraints on thought minds will not be in the position to develop a common language.

I start with the first argument. Theories of language acquisition based on linguistic practices assume that subjects can learn a language because they are already exposed to linguistic practices. From a Leibnitian point of view, the problem of considering languages as impersonal practices of a linguistic society or community is that from this perspective we would "substantialize" society, meaning that we would have to consider society as a substance capable of acting.

If we ask whether groups of individuals can act, from Leibniz's perspective we have to answer that no, they cannot; at least straightforwardly as the ontological subject of those actions. According to Leibniz's metaphysics, only substances act. Substances are true unities. Their main characteristic is that they are not composed by parts, but rather that they are simple. Exactly because they are simple, they can unify the multitude of minute perceptions and express them, a necessary requisite of every kind of action (as explained in 1.3.4.). Evidently, a group of individuals cannot have the same nature of substances since it lacks an essential feature: it is not simple, since it is an aggregate of individual substances, minds.[37] We talk of a group of individuals as a subject only by virtue of tropes: we imagine a society of those individuals *as if* it were an individual (a true substance) and we attribute some of the properties we can think of an individual to it. Despite this metaphysical assumption, society is not a simple *ens per aggregationem* neither. Individuals are organized in a society according to an order given by a common goal: good and happiness (1.5.). This order, however, is based on the freedom of the individuals that acknowledge themselves as members of the society

[37] A VI 4 A 576: "ens est Reale ut sol, imaginarium ut parhelius vel iris aliave phaenomena.Omnis Res est aut Ens per se, aut Ens per Accidens; Ens per se quod revera unum est, ut Homo, Animal, Ens per Accidens, quod et dicitur Ens per aggregationem, ut multitudo hominum, strues lignorum; Machina."

because they tend to a same everlasting good.[38] Nonetheless, when we consider whether a substance can act, we are in the metaphysical domain and we can say, *in rigore metaphysico*, that only the individual belonging to that group can act. It follows that a common action between the members of that group is possible only if we presuppose some coordination between them: only when each single individual can acknowldge its actions as aimed to a everlasting good and acknowledge that also other rational agents tend to the same everlasting good. A coordination and cooperation that, according to Leibniz, is possible only by virtue of language and common constraints on thought. Since language is what we have to explain, we cannot assume that language can emerge because of linguistic practices established within an already existing society. The question Leibniz aims to answer is why human can cooperate and the answer to this question must be found in the cognitive skills of the individuals that *can* convene in a society and cooperate.

In the same stream of thought, we can say that minds can cooperate by using a language only if we assume that subjects are inclined (in the sense explained, i.e. because of mental constraints) to react to the world in an analogically similar way. As seen, moreover, the basic act in order to engage in social practices is to acknowledge the self and through this act other minds as similar to me. It follows that the reasons for an action that can be thought as a general coordinated action among different individuals (like an army) must be found in the cognitive structure of the components of the group: actions must be grounded in the "power", "nature", or capacity of minds. The consequence is that by invoking already established linguistic practices, we tell only a part of the story that, even if essential, it is *per se* not sufficient.

If we ask how minds can cooperate and act together, Leibniz's answer is that they can cooperate because they *can* engage in linguistic practices, and they can do this because they *can* cognize of the world in an analogically similar way. In other words, Leibniz stresses that cooperation among minds is neither a matter of chance, nor a matter of choice. Due to the ways in which they cognize of the world, when minds are in narrow contact with other similar beings (indeed, human beings can cooperate with animals too), they engage in those practices because they acknowledge the others as similar to them and they can do this because their thought is structured in an analogically similar way. The kinds of practices different subjects can engage in depend on the degree of similarity there is among them: the cooperation human beings can establish with a dog or an ape differs from that that human beings can establish

[38] A VI 4 A 2900: "Societas est compositum ex pluribus ad commune bonum (velut finem) tendentibus Societas naturalis, cum et appetitum ad finem Societatis, et instrumenta velut media natura suggessit."

with epistemic peers. (The fact that it differs does not mean that it is better, since the important aspect is that we have strategies to establish cooperation also with other species.)

Due to Leibniz's ontology, hence, society cannot be a bearer of actions and, consequently, cannot be the subject of speech acts. Speech acts are actions and, as actions, they can be supported by true unities: minds. Leibniz has to endorse that the reasons for the establishment of conventions cannot be the praxis of a society since the praxis itself needs to be grounded in minds' cognitive capabilities. Minds' cognitive skills can explain why and how minds conceive of the world and find linguistic conventions for their thoughts. This explanation answers the question how subjects can cooperate and act collectively within a group. If we want to explain language origins, we need to explain human cognition and, with it, society. Society, exactly as language, is a middle way between the natural and the arbitrary. Natural because it is grounded in minds' cognitive skills: minds can cooperate because they are capable of thinking of the self and recognizing other minds as *minds* entitled to say "I". At the same time, the form assumed by human cooperation varies in compliance with needs and accidentalities people have to face within particular historical, environmental and technological contexts.[39]

If we consider the ontological status of a society, it is clear why Leibniz's theory of cognition and language requires the assumption of innate ideas: without this assumption we could explain the fact that minds are together either by assuming a Hobbesian position, i.e. that society is conventionally instituted in order to avoid the natural state, or a Lockean position, according to which, from Leibniz's point of view, human beings are together by chance. We have argued in the previous chapter (2.1.) that in Leibniz's view Locke's epistemology is not capable of accounting for the shareability of knowledge and language because it structurally entails the risk of a private language. In Leibniz's understanding of Locke's view, indeed, when human beings speak, they can only refer to ideas in their minds and they cannot make them either the idea in someone else's mind or the ideas of something (2.2.1.). Ideas are in this sense chimerical because they refer to nothing: since the real essences are precluded to us, and, according to Locke, the nominal essences are only in the mind of the speaker. Locke's ideas do not represent anything but the ideas in the mind that, however, can vary a lot from mind to mind, or even from two different mental states of a very mind on the same idea, as Locke acknowledges. From this perspective, Locke's theory is not

[39] We do not have to forget that Leibniz dedicated part of his life in developing new machines as the calculator or a mechanical system of hydraulic pumps for improving mineral extraction, which means that he believed that technology can change human beings' way of living and cooperate.

capable of explaining the origins of language and human cognition. Locke's theory can explain the *status quo* because it already assumes this status: it assumes that there is a society and there is a common language. But it does not furnish the conditions of possibility of this *status*, that is how human beings can originate a language and share knowledge.[40] Leibniz's approach, on the other hand, has the aim to explain the origins of human language and cognition, and, in so doing, to furnish an account that possesses normative status: forms of human association, like society, are natural because human beings cooperate and share knowledge by nature. In order to do this, he considered that we have to avoid the risk presented in Locke's account: that minds can cognize of things in a very different way because from this assumption we cannot come to explain how minds cooperate and share knowledge. To this end, constraints on thought have the role of guaranteeing that minds despite the difference of perspective are inclined to cognize of the world and react in certain situation in an analogically similar way. Constraints on thought, hence, exactly as perception, posit the condition for the harmonization of minds that can be gained by the invention of signs capable of expressing thought whose rules are figuratively found by imagination.

[40] On the topic of language emergence according to Locke, the work of Lenz (Lenz, 2009, 3; 33) tries to avoid this problem and to show that Locke can deliver a coherent view on language emergence. Lenz proposes to interpret Locke as a social externalist. Social externalism maintains that the standard for ideas, what ideas are ideas *of* is fixed by linguistic practices in a linguistic community. According to Lenz, one has to distinguish between the origins and the establishment of the standards. What gold is is shown by nature, but the marks which determine what we refer to by the name "gold" (its definition) is determined by the use of language in a society. Therefore, it is the use of names in a society, and not the nature of things, which fixes the standard of things presented by nature. In my opinion, Leibniz is pointing out that exactly because of the sharp distinction between origin and establishment, Locke is not able to explain how rational beings can share ideas. And the main reason is the generality of faculties assumed by Locke. Because of this, if the standard is fixed by a social externalism, which means by the linguistic practices already in use in a society, Locke cannot explain *both* how human beings share ideas *and* how they share language. If language as used in a community is necessary for the establishment of what ideas are *of*, then ideas can only be fixed within an already established linguistic community. This view, however, does not furnish a theory of how languages are established. As we have seen, Leibniz develops a theory capable of explaining the mutual development of language *and* knowledge. In order to do this, however, innate ideas are required. Locke's conception of ideas and languages may explain the *status quo* of human knowledge, but it cannot explain how we come up to this status, since he has to assume the existence of a linguistic community which already fixed a standard. On the other hand, as seen, also for Leibniz minds grasp of notions as possibilities when they are engaged in the communicative praxis, but this praxis does not need a language already, but can also be devoted to the establishment of languages. Due to their cognitive similarity determined by constraints on thought minds can take the place of the other and understand what the other is thinking, a position that Locke's philosophy cannot fully support due to the generality of faculties involved in cognitive processes and his (heavy) assumption that minds cannot have ideas if they are not aware of them: since a mind at the beginning of its experience has no idea of the "I", it cannot recognize itself and others as "I". On the other hand, Leibniz's pragmatic view that we can follow rules even if we are not aware can explain why we can do this before an explicit knowledge of the notion "I".

3.2.6. Conclusion

The analysis conducted in this chapter shows that languages as grammatically and semantically ruled systems of signs are necessary tools for the development and shareability of human knowledge and account for human cooperation. The essential aspect for the development of language in compliance with thought is represented by the function of signs as blind thoughts. Blind thoughts enable minds to talk and "play" with linguistic expressions even if they do not yet have access to an explicit knowledge of the concept involved in reasoning. In this way, children and other members of a linguistic community can acquire the habits to express thoughts through signs and, in a second step, reflect upon their thoughts and acquire the concept. Moreover, this use of blind thoughts enables the acceptance of linguistic conventions. Nonetheless, an important aspect of this theory is that minds are structured in an analogically similar way because they share some constraints on thought.

Conclusion

From the above analysis has emerged the relevance of language (as a syntactically and semantically ruled system of signs) for the cognitive processes of finite minds. In the historical order of knowledge, it explains how minds acquire and develop knowledge and language; a system of signs that expresses connections between notions is required both due to the cognitive structure of minds, whose basic activity is judging—to form propositions upon the presentings of the perceptual activity—and to the fact that minds are naturally and spontaneously engaged in communicative praxis with other minds. From this perspective, truths and knowledge have to be discovered. Even if Leibniz's theory of concepts as possibilities is correct, that truth is indeed independent of the knowledge of minds, the process of discovery is still profoundly historical, and it still implies that sensory-perceptual experience and cooperation between rational subjects contributes greatly to the discovery of truth. Cooperation and thinking were impossible without the use of a language as a syntactically and semantically ruled system of signs, and this is why thought and language develop mutually.

The mutual development of language and thought in the historical order of knowledge is explained by the sharp distinction Leibniz assumes between perception and thought. Leibniz conceives of the existence of different *kinds* of souls, that belong to the same genus of "substance", and whose basic activity are minute perceptions (both as perceptions and appetites), and this conception is a fundamental tenet of Leibniz's metaphysics. This framework requires an account of the distinction between kinds of souls, and this Leibniz finds in cognitive processes. Though adhering to the classical distinction assuming thought (equated to the rational capacity of minds) to be the specific difference of finite minds, Leibniz develops a philosophy of minds and theory of human cognition far more comprehensive than those of his contemporaries including Descartes and Locke—at least in Leibniz's view, an advantage that stems from his critical strategy: Leibniz doesn't directly argue for the inconsistency of the views of his opponents, but shows that his account is far more comprehensive and can better explain phenomena.

Leibniz denies the transparency of the mind to itself, a fact that implies that a mind's cognitive activity is not tantamount to its conscious mental states. This assumption grounds his theory of human cognition, and serves to better explain the functioning of finite minds. The rejection of the transparency of the mind implies that reflection alone cannot account for all our thoughts since there are innate constraints and unconscious processes that contribute to

our present conscious thoughts too. According to Leibniz, the upshot is that reflection has a different essential role in human cognition than the one attributed to it by proponents of the view stating that all thoughts are conscious. The acknowledgement of minute perceptions and of their role in cognitive processes is the main reason for Leibniz's refusal of the transparency of the mind, and leads him to hold that perceptual activity and thinking activity are sharply distinct. Nonetheless they are inseparably interrelated in the cognitive processes of finite minds.

The mutual and constant relation between perception and thought within human cognition proves Leibniz's monism and unitarism about mind and body, despite the fact that they respond to different orders and rules and the impossibility of a direct communication between them. This mutual and constant relation between perception and thought also implies that signs are not merely an afterthought in Leibniz's theory of harmony. The complexity and confusion introduced by perception into thinking, together with the assumption of innate tendencies to cognize of particulars, both require signs as blind thoughts. Blind thoughts enable minds to (i) handle the complexity of their internal processes as if they were simple, (ii) bring order to the complexity of thinking and reasoning, and, in so doing, (iii) direct the attention of minds as they consider some aspects of a concept while neglecting others. The simplification introduced by the use of signs enables minds to express the world from the perspective of generality. Blind thoughts stand neither for things nor for particular perceptions or thoughts; they stand for representations of things as possibilities: concepts. The representation of general concepts as expressing possibilities implies that minds consider particular instances of a concept *as if* they were all identical. In other words, concepts introduce simplification in the world and enable minds to consider particular things that differ in many respects *as if* they were all identical. Without this strategy the world would overwhelm minds.

Specifically, signs as blind thoughts bridge the gap between sense perception and thought. Since minds are always embodied, their primary concern is what falls under the senses. Memory and attention are not under the control of the will. The perceptual activity, related in souls to the affective sphere that "occupies" a mind's attention, is a mind's first object of reflection. Reflection, as the act of re-flecting towards the self, is an *action into the self*, and is not straightforwardly directed "ad extra." Reflection, as proper of thought, operates with distinct notions. Since the intellect is constrained and governed by what Leibniz's calls innate ideas, minds spontaneously direct their attention to their internal perceptions, and, when a perception repeatedly occurs and is connected to an affect, the mind

begins to store certain features, patterns, and aspects of the repeatedly occurred circumstance and to organize its perceptual contents due to a certain order. The tendency to generality is, indeed, a natural operation of the mind that cannot but conceive of things in a certain way. Nonetheless, since sense perceptions are confused notions, they cannot directly take part in the thinking processes: Therefore the use of blind thoughts as a placeholder for the notion is a mind's way of involving and considering the particular under the general. The use of a sign enables a mind to do *as if* it also had a distinct notion of those things that are beyond their cognition: individuality and simple notions of the senses—in a word, particulars.

The use of blind thoughts as placeholders for notions enables minds to involve perceptions in the thinking activity due to the materiality of signs: signs are bodies, as bodies they are perceptible, and as perceptible they can stand for the notion instead of an actual sense perception of an object. Due to this function, when signs acquire meanings they direct a mind's attention (exactly as outstanding sense perceptions do) and allow it to focus on one particular aspect of a notion over another without needing to consider the notion itself.

A more decisive aspect of blind thoughts is that their materiality and perceptibility allow for the mechanization of thought. Exactly as there is a "necessary" connection between the present effect of an object upon the senses, as well as the corresponding sense perception that arises in someone else's mind, the perceptual character of signs guarantees a "necessary" connection between sense perceptual or imaginative affection of signs and the occurrence of thoughts: When a speaker uses words in a determined regulated order, she assumes that this ordered sequence produces the occurrence of an analogous thought in the perceiver.

An inquiry into the figurative use of signs and the historical order for the origins of languages along with the analysis of the cognition of finite minds explain the acquisition of what Leibniz calls intellectual habits: language and knowledge.

The analysis of the passage from the I- to the I-Thou-Perspective and the role played by "the place of the other" for the epistemological and cognitive dimension have highlighted why signs cannot be understood simply as corporeal habits such as those animals can acquire. Even if signs as perceptible bodies depend on the acquisition of an ability of the body to produce determined sounds or lines—an ability that other animals can also develop—the use of signs for thought further depends on the capacity to form distinct concepts, and, above all, to conceive of the mind, self, and substance. When finite minds acknowledge other minds as also entitled to say "I" and, hence take the place of the other, they also understand that other minds cognize of the world in an analogically similar way, and in so doing, conceive of notion as expressing a possibility that is independent from a mind's actual thinking of it.

Since the idea of substance and self are innate, they function as innate constraints on thought. It follows that minds are inclined to distinguish and acknowledge the I-Perspective before acquiring explicit reflective knowledge about them. The distinction between reflection and awareness, along with the assumption of innate ideas as constraints on thought, explain how minds are inclined to cognize of the world in an analogically similar way. Innate ideas as constraints on thought always operate in thinking by structuring and ordering the content in compliance with the limits of what can be thought. In other words, constraints on thought delimit what *can* be thought (the possible) from what *cannot* be thought (the impossible). Because of this, minds are inclined to distinguish between different kinds of substances, or to use the principles of contradiction and the principle of sufficient reason before acquiring explicit knowledge of metaphysics or of those structures and rules that govern thought. Signs as blind thoughts explain how a subject can nonetheless involve those as-yet-confused notions in thinking without having knowledge of them. A child, for instance, can use the pronoun "I", can talk about herself as "I", and can distinguish herself from "you" or "we" before knowing what "I" metaphysically implies.

The acknowledgment of the I-Perspective and the passage from the I-Perspective to the I-Thou-Perspective both explain why concepts are possibilities and how concepts acquire normativity. Concepts acquire normativity for finite minds only when minds grasp a concept's possibility by understanding that other minds cognize of the world in a way analogically similar to their own. This does not mean that truths or the normativity of concepts is created by the thinking activity of finite minds. Instead, the historical order of knowledge simply shows how minds discover the truth guaranteed by the existence of God and his act of choosing the actual world among all other possible worlds. Since God's intellect is also qualitatively structured, just as those of finite minds, we can assume that the possibilities we conceive of are also entailed by God's intellect though *eminenter*, i.e. in an incomparable and unknowable way for finite minds.

The basic acknowledgement of a similarity between minds and the use of blind thoughts explain how minds can acquire sensible notions and express them through signs so that a regulated and necessary connection is established between the word and its notion: When I say "red," a notion of RED is produced in the hearer's soul, exactly as an affection of her senses by a red object produces the sense perception of "red." The analogy with other minds alone cannot account for the establishment of linguistic conventions for expressing notions of things that are beyond the senses and the imagination. The appeal to figurative expressions is a "natural" tendency of minds, which are also inclined to represent through the imagination

what is not subject to it. The inquiry into the origins of natural languages has shown that the reason for this appeal to the sensible domain is twofold: On the one hand, it is due to the fact that minds invent a language for the sake of communication. Language emerges when a mind is involved in a triadic relation with another mind and the world, and both subjects are involved in practices that require communication. As Leibniz points out, language follows the order of needs and occasions. On the other hand, the second more compelling reason for appealing to the sensible domain of meaning is the cognitive structure of finite minds, whose attention is directed initially by senses. Because of this, minds denominate first what fall under the senses and then denominate the concepts that are subject only to the intellect, as the study of etymology shows.

The use of linguistic tropes is related to the fact that a mind cannot be sure of what is going on in another mind when at issue are thoughts about intellective notions that are not dependent on an affection of the body. Since there is no evident connection between an external occasion and a thought (as in the case of sensible notions such as the color red), a subject has to establish this regularity and interdependence between perceptions of signs and thoughts about things that are beyond the senses. In order to do this, the use of a sign expressing a sensible meaning within a new context and linguistic praxis provokes in another mind the searching for a new meaning. Through this search, the sign acquires a new meaning. It is at this level that the use of motivated signs, i.e. linguistic tropes that find and express an analogy between the sensible meaning and the new meaning (like metaphor, synecdoche, metonym, and so on), turns out to be essential for the cognition and shareability of knowledge and language. Since minds share the same constraints on thought that incline them to conceive of the world in an analogically similar way, the subject when faced with the new use of the word is inclined to look for a reason for its use in the new context. Since she is capable of finding the analogy between the sensible and the more abstract knowledge domain expressed by the figurative use of the sign (as intended by other speaker), she can grasp both the new meaning, and the speaker's intention. The establishment of a convention is based on the mind's capacity to understand another speaker's use of a sign in a new context. Due to the process by which new meanings are acquired, signs can establish the "necessary" bond between language and thought: A subject can assume that a regulated sequence of words causes an analogous thought in another subject whose senses are affected by those words.

The adjective "necessary" appears within quotes because even if a kind of mechanization between signs and thought is produced, the use of motivated signs is a natural and spontaneous way of expressing thought, and it does not mean that thought is necessarily

connected to a particular historical language. Signs are arbitrary according to Leibniz, and likewise the signs of a natural language. Rational beings could have found different conventions from the ones they use, as the differences among natural languages show. Nonetheless, the passage from sensible to abstract meaning is natural because due to its cognitive structures the mind spontaneously appeals to a use of sensible meanings based on tropes.

There is another reason why "necessary" appears within quotes. The necessary connection between thoughts and signs vouches for an understanding between minds; this connection cannot be fully accounted for in terms of the mechanization of thought, contrary to what Leibniz believed or thought to be able to acquire through the invention of a *characteristica universalis*. Animals cannot have a language because they cannot acquire distinct concepts and so cannot take the place of the other. The acquisition of concepts as possibilities enables minds to figure out possible scenarios and, in so doing, enables minds to attribute propositional attitudes to other minds. With the use of language, hence, minds express the different perspectives they are capable of conceiving. The use of signs essentially undergoes a hermeneutic principle that makes every use of signs a new imposition: There is not a unique way to express a thought and there is not a unique way to interpret a sentence in the series of thoughts.

The acquisition of intellectual habits thus rests both on the sensitive and on the intellective faculties of the rational soul. If minds are more perfect than other kinds of souls, then this is because of reason; the exercise and development of their perfection is however built on their limitation: the body.

Bibliography

Primary Sources

A: Works of Leibniz

A *Sämtliche Schriften und Briefe*, Berlin: Akademie Verlag/ DeGruyter, 1923ff. cited by series, volume and page.

GP *Die Philosophischen Schriften von Gottfried Wilhelm Leibniz*. Ed. by, Gerhardt, Immanuel Carl. Berlin: Weidemann, 1875-90. Repr. Hidelsheim: Olms, 1978. Cited by volume and page.

NE *Nouveaux Essais sur l'entendement humain*. In A VI 6 cited by page.

MCVI *Meditationes de cognitione*, *veritate et ideis*. In A VI 4 A 585-92

Monad. Monagologie. In: GP IV 607-623

NMDDJ *Nova methodus discendae dodecendaeque jurisprudentiae*. In A VI I 263-364

PNG *Principes de la nature et de la grâce fondés en raison*. In: GP IV 598-606

Theod. *Essais de theodicée sur la bonté de Dieu, la liberté de l'homme et l'origine du mal*. In: GP VI quoted by paragraphe and page.

B:

AT *Oeuvres de Descartes*. by Adam, Charles & Tannery, Paul, Paris: 1897–1910 and 1964–1978, cited by volume and page.

EHU John Locke. An Essay Concerning Human Understanding, by Nidditch, Peter H., Oxford/New York: Oxford University press, 1975. Cited by page.

Thomas of Aquinas, *Quaestiones disputatae «De veritate»*. In: Sancti Thomae Aquinastis. Opera Omnia, XXII, 1, Leonina, Roma 1975

Thomas Hobbes. *Elementorum philosophiae sectio primaa: De Corpore,* by Schumann, Kurt. Paris: Vrin 1999

Joachim Jungius. *Joachimi Jungii Logica Hamburgensis*. by Meyer, Rudofl Walter. Hamburg, 1957.

Christian Thomasius. *Einleitung zur Vernunftlehre*. Halle 1691, reprint by Schneiders, Werner. Hildesheim 1968

Secondary Sources

Aarsleff, Hans (1969). 'The Study and Use of Etymology in Leibniz'. In: Studia Leibnitiana, Supplementa, vol. III. Wiesbaden: Franz Steiner.

Adams, Robert Marrihew. *Leibniz. Determinist, Theist, Idealist. Oxford*: Oxford University Press, 1994.

Antognazza, Maria Rosa. "The hypercategorematic infinite." *Leibniz's Review*, forthcoming.

Bartels, Andreas, Eva-Maria Jung, und Albert (Eds) Newen. *Konwledge and Representation.* Paderborn: mentis Verlag, 2011.

Barth, Christian. "Apperception in the New Essays Concerning Human Understanding. A critique of the Reflective Account." In: *Natur und Subjekt. IX. Internationaler Leibniz-Kongress*, von Herbert Breger, Jürgen Herbst und Sven Edner, 37-43. Berlin: Akademie Verlag, 2011b.

—. *Intentionalität und Bewusstsein in der frühen Neuzeit: die Philosophie des Geistes von René Descartes und Gottfried Wilhelm Leibniz.* Berlin: Habil.-Schr., 2012.

—. "Leibnizian Conscientia and its Cartesian Roots." In: *Studia Leibnitiana*, 2011a: 216-236.

—. "The Great Chain of Souls: Leibniz on Soul Unitarism and Soul Kinds." In: *Partitioning the Soul. Debates from Plato to Leibniz*, von Klaus Corcilius und Dominik Perler, 271-298. Berlin: DeGruyter, 2014.

Bender, Sebastian. "Von Menschen und Tieren—Leibniz über Apperzeption, Reflexion und *conscientia*." In: *Zeitschrift für Philosophische Forschung* 67.2 (2013): 214-241.

Boyle, Mattehew. “Additive Theories of Rationality: A Critique”. In: *European Journal of Philosophy,* 2016, 1-29.

Bolton, Martha B. "Leibniz and Locke on the Knowledge of Necessary Truths." In: *Central Themes in Early Modern Philosophy: Essays Presented to Jonathan Bennett*, by Mark Kulstad and J.A. Cover, 195-226. Indianapolis/ Cambridge: Hackett, 1990.

—. "Leibniz and the Limits of Perception." In: Erdner. *Einheit in der Vielheit, VIII. Internationaler Leibniz-Kongress, Hannover, 24. bis 29 Juli.* Edited by Herbert Breger, Jürgen Herbst and Sven, 94-100. Hannover: Druckerei Hartmann, 2006.

—. "Leibniz on Knowledge of general contingent truths." In: Antognazza M.R. (ed. 2013, online) Oxford Handbook of Leibniz, http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199744725.001.0001/oxfordhb-9780199744725.

—. "The Nominalist Argument of the New Essays." In: *The Leibniz Review*, 1996.

—. "Leibniz's Nouveaux Essais: a Contest by Dialogue." In: *Leibniz and the English Speaking World*, von Pauline Phemister und Stuart Brown, 111-132. Berlin: Springer, 2007.

—. "Leibniz's Theory of Cognition." In: *Continuum Companion to Leibniz*, von Brandon C. Look, 136-158. London/New York: Continuum, 2011.

—. "Locke on Sensory Representation." In: *Perception and Reality. From Descartes to the Present*, edited by Ralph Schumacher, 146-167. Paderborn: Mentis, 2004.

Brandom, Robert. "Leibniz and Degrees of Perception." In: *Journal of the History of Philosophy*, 1981: 447-479.

—. *Making it explicit: reasoning, representing, and discoursive commitment.* Cambridge, Massachussetts/ London, England: HArvard University Press, 1994.

Carey, Susan. *The Origin of Concepts.* Oxford/ New York: Oxford University Press, 2009.

Chomsky, Noam. *Cartesian Linguistics: A Chapter in the History of Rationalist Thought.* New York: Harper & Row, 1966.

Couturat, Louis. *La logique de Leibniz.* Paris: Felix Alcan editeur, 1901.

Cowie, Fiona. *What's Within? Nativism Reconsidered.* Oxford: Oxford University Press, 1999.

Damschen, Gregor, Schnepf Robert, und Karsten R. Stüber. *Debating Dispositions. Issues in Metaphysics, Epistemology and Philosophy of Mind.* Berlin/ New York: DeGruyter, 2009.

Dascal, Marcello. *La sémiologie de Leibniz.* Paris: Aubier Montaigne, 1978.

—. *Leibniz. Language, Signs and Thought.* Amsterdam/Philadelphia: John Benjamin Publishing & co., 1987.

—. "Leibniz Two-Pronged Dialectic." In: *Leibniz: What Kind of Rationalist?* , edited by Marcello Dascal, 37-72. New York: Springer, 2009.

—. "Leibniz vs. Locke on the role of logic in the workings of reason." In: *Natur und Subjekt: IX. Internationaler Leibniz-Kongress, Hannover, 26. September bis 1. Oktober*, edited by Herbert Breger, Jürgen Herbst und Sven Edner, 201-7. Berlin: Akademie Verlag, 2011.

Di Bella, Stefano. "Le 'De Affectibus' leibnizien: de la dynamique des passions à la constitution de la substance individuelle." In: *Les passions à l'âge classique*, edited by Pierre-François Moreau, 193-208. Paris: Presses Univ. de France, 2006.

—. "Leibniz on Error: Between Descartes and Spinoza. Will, Judgement, and the Concept of Reality." In: *Rivista di Storia della Filosofia*, 2016/4: 713-25.

—. "*Multum interest inter terminos et res.* On Leibniz Theory of Distinction*."* In: *Individuals, Minds and Bodies: Themes from Leibniz*, edited by Massimiliano Carrara, Antonio M. Nunziante and Gabriele Tomasi, Vol. Studia SH 32, 15-48. Stuttgart: Franz Steiner Verlag, 2004.

—. *The Science of the Individual: Leibniz's Ontology of Individual Substance.* Dordrecht/Berlin: Springer, 2005.

Dummett, Michael. „Review: Nicholas Rescher, Leibniz's Interpretation of HIs Logic Calculi.“ *The Journal of Symbolic Logic*, 1956: 197-99.

Favaretti Camposampiero, Matteo. *Conoscenza simbolica.* Hildesheim/New York/Zürich: Georg Olms, 2009.

—. *Filum cogitandi. Leibniz e la conoscenza simbolica.* Milano: Mimesi, 2007.

—. "Leibniz et la traduction universelle.“ In: *Le masque de l'écriture. Philosophie et traduction de la Reneaissance aux Lumières*, edited by Charles Le Blanc und Luisa Simonutti. Geneva: Librairie Droz, 2015.

—. Mariangela Priarolo & Emanuela Scribano. "I volti dell'errore nel pensiero moderno: da Bacone a Leibniz." In: *Rivista di Storia della Filosofia*, 2016/4.

Fodor, Jerry. *LOT 2: The Language of Thought Revisited.* Oxford: Carendon Press, 2008.

Formigari, Lia. "Re-reading Locke." In: *Beiträge zur geschichte der Sprachwissenschaft*, 2003: 177-85.

Garber, Daniel. *Leibniz: Body, Substance, Monad.* Oxford: Oxford University Press, 2009.

Gensini, Stefano. *"De linguis in universum". On Leibniz's Ideas on Languages. Five Essays.* Münster: Nodus Publikationen Münster, 2000.

—. *Il naturale e il simbolico. Saggio su Leibniz.* Roma: Bulzoni editori, 1991.

Giampietri, Francesco. "*Conscientia mutabilis*. I significati della coscienza nei lessici filosofici latini del Seicento." In: *Coscienza nella filosofia della prima modernità*, edited by Roberto Palaia, 91-114. Firenze: Leo S. Olschki Editore, 2013.

Heinekamp, Albert. "Natürliche Sprache und allgemeine Charakteristik bei Leibniz." In: *Studia Leibnitiana Supplementa XV*, 1972: 257-286.

Hight, Marc A. *Idea and Ontology: An Essay in Early Modern Metaphysics of Ideas.* Pennsylvania State University Press, 2008.

Hintikka, Jaako. "Leibniz on Plenitude, Relations, and the Reign of Lawas." In: *Leibniz. A Collection of Critical Essays*, edited by Frankfurt, 155-190. New York, 1972.

Hübner, Wolfgang. "Ist Thomas Hobbes Ultranominalist gewesen?" In: *Studia Leibnitiana*, 1977: 77-100.

Ishiguro, Hide. *Leibniz's Philosophy of Logic and Language.* Ithaca, New York: Cornell University Press, 1972.

Ivaldi, Marco. "Fichte und Leibniz zur Intersubjektivität." In: *Fichte in Geschichte und Gegenwart: Beiträge zum vierten Kongress der Internationale Johann-Gottlieb-Fichte-Gesellschaft in Berlin vom 03.-08. Oktober 2000*, edited by Helmut Girngt, 59-72. Amsterdam: Rodopi, 2003.

Jansen, Ludger. "Aristotle's Theory of Dispositions From the Principle of Movement to the Unmoved Mover." In: *Debating Dispositions. Issues in Metaphysics, Epistemology and Philosophy of Mind*, von Damschen Gregor, Schnepf Robert und Karsten R. Stüber, 24-46. Berlin/New York: DeGruyter, 2009.

—. *Tun und Können. Ein systematischer Kommentar zu Aristoteles' Theorie der Vermögen im neunten Buch der Metaphysik.* Frankfurt M.: Hänsel-Hohenhausen, 2002.

Jolley, Nicolas. *Leibniz and Locke. A Study of "New Essays on Human Understanding".* New York/Oxford: Oxford University Press, 1984.

—. "Leibniz and Malebranche on Innate Ideas." In: *The Philosophical Review*, Nr. 97 (1988): 71-91.

—. *The Light of the Soul: Theories of Ideas in Leibniz, Malebranche, and Descartes.* Oxford/New York: Oxford University Press, 1990.

Jorgensen, Larry M. "The Principle of Continuity and Leibniz's Theory of Consciousness." *Journal of the History of Philosophy*, April 2009: 223-248.

—. "Mind the Gap: Reflection and Consciousness in Leibniz." In: *Studia Leibnitiana*, 2011, 179-195.

Knobloch, Eberhard. "Leibniz's mathematical handling of death, catastrophes, and insurances." forthcoming.

—., und J.-Matthias Graf von der Schulenburg (Ed.). *Gottfried Wilhelm Leibniz: Haptschriften zur Versicherungs- und Finanzmathematik.* Berlin: Akademie Verlag, 2000.

Kulstad, Mark. *Leibniz on apperception, Consciousness, and Reflection.* München/Hamden/Wien: Philosophia Verlag, 1991.

Laurence, Stephen, und Eric Margolis. "The Poverty of the Stimulus Argument." In: *British Journal of the Philosophy of Science*, 2001: 217-276.

—. *Concepts. Core Readings.* Cambridge, Massachussetts/ London, England: The MIT Press, 1999.

—. "In Defence of Nativism." In: *Philosophical Studies*, 2013: 693-718.

Leinkauf, Thomas "Leibniz und Plato." In: *Einheit, Natur, Geist: Beiträge zu metaphysischen Grundproblemen im Denken von Gottfried Wilhelm Leibniz*, edited by Thomas Leinkauf, 191-212. Berlin: trafo Verlagsgruppe, 2012.

—. *Einheit, Natur, Geist. Beiträge zu metaphysischen Grundproblemen im Denken von Gottfried Wilhelm Leibniz.* Berlin: Trafo Verlagsgruppe, 2012b.

—. "Leibniz‘Abhandlung. Meditationes de cognitione, veritate, et ideis (1684)“ In: Kisser, Thomas (ed.) *Metaphysik und Methode. Descartes, Spinoza, Leibniz im Vergleich*, pp. 107-124, Stuttgart 2010.

—. "Der Platz der Anderen. Überlegung zu Liebe, Glück, Leben bei Leibniz." In: *Pensés de l'"Un" dans l'histoire de la philosophie. Études en hommage au professeur Werner Beierwaltes*, edited by J. M., Reckermann, A. Narbonne, 275-301. Paris: Vrin, 2004

—. "Interpretation und Analogie. Rationale Strukturen im Hermetismus der Frühen Neuzeit" In: Anne-Charlott Trepp/Hartmut Lehmann (eds.), *Antike Weisheit und kulturelle Praxis. Hermetismus in der Frühen Neuzeit*, pp. 41-61, Göttingen 2001.

—. "Substanz, Individuum und Person: Anthropologie und ihre metaphysischen und geisttheoretischen Voraussetzungen im Werk von Leibniz." In: *Internationale Zeitschrift für Philosophie*, 1999, 1 Ausg.: 24-45.

—. "Diversitas identitate compensata. Ein Grundtheorem in Leibniz' Denken und seine Voraussetzungen in der Frühen Neuzeit." In: *Studia leibnitiana* 28/1 (1996) pp. 58-83 and 29/1 (1997) pp. 81-102.

Lenz, Martin. *Lockes Sprachkonzeption.* Berlin/New York: De Gruyter, 2009.

—. "Why is Thought Linguistic? Ockham's Two Conceptions of the Intellect." In: *Vivarium*, 2008: 302-317.

Lenzen, Wolfgang. "Zur extensionalen und 'intensionalen' Interpretation der Leibnizschen Logik." In: *Studia Leibnitiana*, 1983: 129-148.

Liske, Michael-Thomas. "Harmonizing Modern Physics with Aristotelian Metaphysics. Leibniz's Theory of Force." In: *Debating Dispositions. Issues in Metaphysics, Epistemology and philosophy of Mind*, edited by Gregor Damschen, Robert Schnepf und Karsten R. Stüber, 99-126. Berlin/New York: DeGruyter, 2009.

Lodge, Paul, and Puryer, Stephen. "Unconscious Conceiving and Leibniz's Argument for Primitive Concepts." In: *Studia Leibnitiana* 38/39 (2006/7): 177-196.

Maat, Jaap. *Philosophical Languages in the Seventeeth Century: Dalgarno, Wilkins, Leibniz.* Dordrecht: Springer, 2004.

Margolis, Eric, and Stephen Laurence. "The Poverty of the Stimulus Argument." In: *British Journal of Philosophy of Science* 52 (2001): 217-276.

Marras, Cristina. *«Metaphora translata voce» Prospettive metaforiche nella filosofia di G.W. Leibniz.* Firenze: Leo S. Olschki Editore, 2010.

Mates, Benson. *The Philosophy of Leibniz: Metaphysics and Language.* Oxford/New York: Oxford University Press, 1986.

McRae, Robert. *Leibniz: Perception, apperception, and thought.* Toronto: University of Toronto Press, 1976.

Meier-Oeser, Stephan. "Das Ende der Metapher von der >inneren Rede<. Vom Verhaeltnis von Sprache und Denken in der deutshcenFruehaufklaerung." In: *Strukturen der deutschen Fruehaufklaerung 1680-1720*, by Hans Erich Boedeker, 195-223. Vandenhoeck & Ruprecht, 2007.

—. *Die Spur des Zeichens. Das Zeichen und seine Funktion in der Philosophie des Mittelalters und der frühen Neuzeit.* Berlin/New York: De Gruyter, 1997.

—. "Leibniz' These von der körperlichkeit allen kreatürlichen Denkens." In: *Natur und Subjekt. IX. Internationaler Leibniz-Kongress*, edited by Herbert Breger, Jürgen Herbst und Sven Edner, 660-666. Berlin: Akademie Verlag, 2011.

—. "*Synkategorem/synkategorematisch".* Bd. 10, in *Historisches Wörterbuch der Philosophie*, 790. Basel, 1998.

Mercer, Christia. *Leibniz's Metaphysics. Its Origins and Development*. Cambridge: Cambridge University Press 2001.

Mugnai, Massimo. "'Alia est rerum, alia terminorum divisio': about an Unpublished Manuscript of Leibniz." In *Unità e molteplicità nel pensiero filosofico e scientifico di Leibniz. Simposio Internazionale, Roma, 3-5 ottobre, 1996*, edited by Antonio Lamarra and Roberto Palaia, 257-270. Firenze: Leo S. Olschki Editore, 2000.

—. *Astrazione e realtà. Saggio su Leibniz.* Milano: Feltrinelli Editore, 1976.

—. "Intensionale Kontexte und 'termini reduplicativi' in der grammatica rationis von Leibniz." In: *Die intensionale Logik bei Leibniz und in der Gegenwart: Symposion der Leibniz-Gesellschafft Hannover, 10. und 11. November 1978*, edited by Albert Heinekamp und Franz Schupp, 82-92. Wiesbaden: Steiner, 1979.

—. *Introduzione alla filosofia di Leibniz.* Torino: Einaudi, 2011.

—. "Introduzione a: Leibniz, *Nuovi saggi sull'intelletto Umano*." In *Leibniz, Nuovi Saggi sull'intelletto umano*, edited by Massimo, 9-36. Editori Riuniti: Roma, 1982.

—. "Leibniz's Nominalism and the Reality of Ideas in the Mind of God." In: *Mathesis Rationis. Festschrift für Heinrich Schepers*, edited by Albert Heinekamp, Wolfgang Lenzen und Martin Schneider, 153-168. Münster: Nodus Publikationen, 1990.

—. *Leibniz's theory of relations.* Stuttgart: Steiner, 1992.

—. "Phänomene und Aussenwelt in der Leibnizschen Erkenntnistheory." In: *Wissenschaft und Weltgestaltung: Internationales Symposium zum 350. Geburtstag von Gottfried Wilhelm Leibniz vom 9. bis 11. April 1996 in Leipzig*, edited by Kurt Nowak, 145-154. Hildesheim: Olms, 1999.

—. *Possibile. Necessario.* Bologna: Il Mulino, 2013.

—. "Contesti intensionali e termini reduplicativi nella grammatica rationalis di Leibniz." In: *Rivista di Filosofia*, 1979: 32-44.

—. "G.W. Leibniz. *Ricerche generali sull'analisi delle nozioni e delle verità e altri scritti di logica."* Edited by Massimo Mugnai. Pisa: Edizioni della Normale, 2008.

Nachtomy, Ohad. "Leibniz's rationality: divine intelligibility and human intelligibility." In: *Leibniz: What Kind of Rationalist?*, edited by Marcllo Dascal, 73-82. Berlin: Springer, 2009.

—. "Leibniz's Theory of Modality." In: *The Continuum Companion to Leibniz*, edited by Brandon C. Look, 159-173. London: Continuum, 2011.

—. "Locke, Leibniz and Borges on Particular and Universals in the Nouveax Essais." In: *Leibniz selon les Nouveaux essais sur l'entendement humain*, edited by François Duchesnaeau and Jérémie Girard, 167-78. Paris: Bellarmin/Vrin, 2006.

—. *Possibility, Agency, and individuality in Leibniz's Metaphysics.* Dordrecht: Springer, 2007.

Nef, Frédéric, *Leibniz et le langage*, Paris: Puf, 2000.

Nita, Adrian (ed.). *Leibniz's Metaphysics and Adoption of Substantial Forms. Between Continuity and Transformation.* Dordrecht: Springer, 2015.

Oliveri, Lucia. "Perché gli animali non sono capaci di articolazione? Leibniz sul linguaggio animale." In: *Blityri*, 2016a: 57-74

—. "On Concepts and Ideas: Themes from G.W. Leibniz's New Essays on Human Understanding". In: *Concepts and Categorization. Systematic and Historical Perspectives*, edited by Kann Christoph et al., 141-166. Münster: Mentis Verlag, 2016b.

—. "Leibniz on the Role of Innate Ideas in Human Cognition." In: „Für unserer Glück oder das Glück anderer." Vorträge des X. Internationalen Leibniz-Kongress, ed. Li Wenchao et al., pp. 37-48, Hildesheim: Olms, 2016c.

—. "Leibniz on the Cognitive Conditions for the Origins of Natural Languages." In: *„Für unserer Glück oder das Glück anderer." Vorträge des X. Internationalen Leibniz-Kongress*, ed. Li Wenchao et al., pp.467-478, Hildesheim: Olms, 2016d.

—. "Review: 'I volti dell'errore nel pensiero moderno. Da Bacone a Leibniz' - Univeristà Ca' Foscari, Venezia, 20-21 Marzo 2014." In: *Rivista di Storia della Filosofia*, 2015: 639-643.

—. "Logische und semantische Funktion der Präpositionen in Leibniz' Sprachphilosophie." In: *Studia Leibnitiana Supplementa*, 2014: 55-82.

Paganini, Giovanni. "Significato, falsità ed errore in Thomas Hobbes." In: *Rivista di Storia della Filosofia*, 2016/4: 579-98.

Pasini, Enrico. *Corpo e funzioni cognitive in Leibniz.* Milano: FrancoAngeli, 1996.

Perler, Dominik. "Die Systematizität des Denkens. Zu Ockhams Theorie der mentalen Sprache." In: *Philosophisches Jahrbuch* 111 (2004), 291-311.

—. and M. Wild. "Der Geist der Tiere – eine Einführung." In: *Der Geist der Tiere*, edited by Dominik Perler & Markus Wild, Frankfurt a.M.: Suhrkamp 2005, 10-74.

—. "Ideen als abstrakte Gegenstände. Zum Ideenbegriff bei Malebranche." In: *Archiv für Begriffsgeschichte* 39 (1996), 207-232.

Phemister, Pauline. *Leibniz and the Environment.* Routledge, 2015.

—. *Leibniz and the Natural World: Activity, Passivity and Corporeal Substances in Leibniz's Philosophy.* Dordrecht: Springer, 2005.

Picone, Marin. "Vers la doctrine de l'entendement en abrégé: élements pour une généalogie des *Meditationes de cognitione, veritate et ideis*." *Studia Leibnitiana* 35 1 (2003): 102-132.

Poser, Hans. "Innate Ideas as the Cornerstone of Rationalism: The Problem of Moral Principles in Leibniz's Nouveaux Essais." In: *Leibniz: What Kind of Rationalist?*, edited by Marcelo Dascal, 479-94. Dordrecht: Springer, 2009.

—. *Leibniz' Philosophie. Über die Einheit von Metaphysik und Wissenschaft*. Edited by Wenchao Li. Hamburg: Meiner 2016

Priarolo, Mariangela. "Conoscenza e verità in Locke e Leibniz." In: *Instruction and Amusement. Le ragioni dell'illuminismo britannico*, edited by Emilio Mazza und Emanuele Ronchetti, 127-42. Padova: IlPoligrafo, 2005.

—. "The Consequences of Error: Leibniz on Toleration." In: *Rivitsta di Storia dealla Filosofia*, 4/2016: 745-64.

Prinz, Jesse. *Furnishing the Mind. Concepts and Their Perceptual Basis.* Cambridge, Massachussetts/ London, England: The MIT Press, 2002.

Quine, William von Orman. "Two Dogmas of Empiricism." In: *The Philosophical Review*, 1951: 20-43.

Rauzi, Jean-Baptiste. *La doctrine leibnizienne de la vérité. Aspects logiques et ontologiques.* Paris: Vrin, 2001.

Rescher, Nicholas. "Leibniz's Interpretation of His Logical Calculi." In: *The Journal for Symbolic Logic*, 1954: 1-13.

Russell, Bertrand. *A Critical Exposition of the Philosophy of Leibniz.* Cambridge: Cambridge University Press, 1900.

Rutherford, Donald. "Philosophy and language in Leibniz ." In: *The Cambridge Companion to Leibniz*, von Nicholas Jolley, 224-269. Cambridge: Cambridge University Press, 1995.

—. *Leibniz and the Rational Order of Nature*. Cambridge: Cambridge University Press, 1995.

Schepers, Heinrich. "Leibniz' Konzeptualismus: Ein Programm.“ In: *Leibniz. Wege zu seiner reifen Metaphysik*, von Heinrich Schepers, 227-31. Berlin: Akademie Verlag, 2014.

—. *Leibniz. Wege zu seiner reifen Metaphysik.* Berlin: Akademie Verlag, 2014.

Schierbaum, Sonja. *Ockham's Assumption of Mental Speech. Thinking in a World of Particulars*. Leiden: Brill, 2014.

Schütte, Kurt. "Bewußtsein." In: *Historisches Wörterbuch der Philosophie, Band 1: A-C*, by Joachim Ritter, 888-893. Darmstadt: Wissenschaftliche Buchgesellschaft, 1971.

Scribano, Emanuela. "Descartes on Error and Madness" In: *Rivista di Storia della filosofia*, 4/2016: 599-613.

Simmons, Alison. "Leibnizian Consiousness Reconsidered." In: *Studia Leibnitiana*, 2011: 196-215.

Siroka, Norman. *Leibniz and the Brain.* Basingstoke: Palgrave Macmillan, 2014.

Smith, Justin E. H. *Divine Machines. Leibniz and the Sciences of Life.* Peinceton/Oxford: Princeton University Press, 2011.

—. and Ohad Nachtomy. *Machines of Nature and Corporeal Substances in Leibniz.* Dordrecht: Springer, 2011.

Tarlazzi, Caterina. *Il secondo realismo del XII secolo: Gualtiero di Mortagne e la teoria dell'individuum.* Padova/Parigi: PhD Dissertation, 2013.

Thiel, Udo. *The early Modern Subject. Self Conscsiousness and personal identity from Descartes to Hume.* Oxford/New York: Oxford University Press, 2011.

Tomasello, Michael. *Constructing a Language. A Usage-Based Theory of Language Acquisition.* Cambridge, Masschussets; London, England: Harward University Press, 2003.

—. *Origins of Human Communication.* Cambridge, Massachussetts/London, England: MIT, 2008.

—. *The Cultural Origins of Human Cognition.* Cambridge, Massachussetts/London, England: Harward University Press, 1999.

—., und Michael Jeffrey Farrar. „Joint Attention and Early Language.“ In: *Child Development* (Wiley) 57 (1986): 1454-63.

Vanzo, Alberto. "Kant on Empiricism and Rationalism." In: *History of Philosophy Quarterly*, 2013: 53-74.

Wilson, Margaret Dauler. "Compossibility and Law." In: *Ideas and Mechanism*, by Margaret Dauler Wilson, 442-454. Princeton, New Jersey: Princeton University Press, 1999.

—. "Confused Ideas." In: *Ideas and Mechanism*, by Margaret Dauler Wilson, 322-335. Princeton, New Jersey: Princeton University Press, 1999.

Yolton, John W. *John Locke and the Way of Ideas.* Oxford: Oxford University Press, 1956.

—. *Perceptual Acuaintace: From Descartes to Reid.* Oxford: Basil Blackwell, 1984.

Zimmermann, Robert. *Über Leibnitzens Conceptualismus: Ein Vortrag.* Whitefish, Montana: Kessinger Pub Co., 1854 (2010).