

INTRODUCTION: THE LOGIC OF THE IMAGINATION: SPACE, TIME, PREDICTIONS

I mindlessly leave my coffee cup on the edge of the table and my husband exclaims: “Look, it’s going to fall”. I turn on the TV and hear about what the future holds following the Coronavirus pandemic: how universities are going to change their in-person activities; how shops are unable to reopen until new hygiene norms are applied; how travelling, shopping, and eating out will be affected following the most unprecedented of events. My sister calls and my niece pretends to talk to me using a toy phone.

What these examples respectively emphasize is the extent to which we rely on our capacity to imagine past, present, and future states as connected. Indeed, it is through this capacity that we can anticipate, for example, how much influence one event bears on another, in both the immediate and distant future. This capacity is as various as the subject matter it concerns. My anticipation that the coffee cup will imminently fall differs enormously from predictions about the economic effects of a virus, which has put all quotidian activities to an end for months. The former is a quasi-sensory presentation of how the cup can change; the other is a survey of events and their potential consequences.¹ Nevertheless, they have something in common: they connect a present or a past state with something that has not yet existed (and, indeed, *may never*), but which we nonetheless consider to be relevantly related to a present or preceding state of affairs.

This capacity to imagine or conceive of what is possible is normally thought to be the province of the imagination, a topic that this book tackles from a particular angle, viz. by unpacking Gottfried Wilhelm Leibniz’s reflections on the cognitive dimensions of the imagination as it functions vis-à-vis human and non-human mental processes. It therefore expounds Leibniz’s view that the imagination somehow permeates our cognitive life insofar as “human beings naturally tend (*conantur*) to explain through things that are subject to the imagination also those that they cannot imagine.”² However, in spite of its pervasiveness, the analysis of the imagination

- 1 This distinction is present in the contemporary literature, in which sensory imagining, such as when I imagine a flying pig, is counterpoised to conceiving of a “situation”, that is, a conformation of objects and events, which verifies the truth of a proposition, such as when I consider which events might have been required for Germany to win World War II. Conceiving is non-sensory. On this topic, see, for instance, Yablo (1993: 1–42) and Chalmers (2005: 145–200).
- 2 *De lingua philosophica* (1687–88?), A VI 4 A 890. The full sentence is a remark about the use of prepositions. Leibniz remarks that prepositions seem to originally have spatial meaning. It is only through the use of tropes that they acquire *metaphysical* meaning, because these are less subject to the imagination. It follows a general claim about the imagination: “This should not

in cognition has sparked little attention by scholars for several reasons.³ One of these is that, during Leibniz's time, the imagination was understood to be involved in the use and formation of signs (or any representative vehicles of thought), while today we do not think that the imagination has such scope. This caused scholars to overlook much of what Leibniz says about the use of signs, languages, and expressions more generally, viz. in their connection to the imagination and its broader function within cognition.⁴ Writing to Bayle, for instance, Leibniz claims:

Any time a human being reasons about abstract things that surpass the imagination, this does not happen without having in the imagination some signs that respond to them, such as letters and characters. There never is an understanding so pure that it is not accompanied by some imagination. So there always is in the body something mechanical that corresponds exactly to the series of thoughts that are in the mind of a human being insofar as what is imaginable is part of them, as a consequence the *automaton* of the body no more needs the influence of the soul, nor the supernatural assistance of God, than the bodies of non-human animals. (GP IV 541)

Indeed, the relation between the imagination and signs constituted my way into this topic. Thereafter, I realized that signs and languages were not the only domains presided over by the imagination. On the contrary, for Leibniz, the imagination is also relevantly involved in pre-linguistic and pre-conceptual forms of reasoning. More specifically, Leibniz's general claim that we have a natural tendency to imaginatively represent what is not in fact subject to the imagination must be interpreted, I argue, as the following claim: the imagination has the ability to transform subject matters that are – for various reasons – initially cognitively off-limits to finite, cognizant agents. This imaginative transformation renders those matters cognitively available to the agent. In other words, the imagination is the faculty responsible for what Leibniz calls *expression*, an activity through which a cognizant agent

surprise us, since ‘homines etiam ea quae imaginari non possunt per res imaginationi subjectas explicare conantur.’” For a discussion of prepositions, see Oliveri (2014).

- 3 When I began my PhD thesis, “Imagination and Harmony in Leibniz's Philosophy of Language” (2016), the only work on the imagination known to me on this topic was Enrico Pasini's PhD thesis, later published as “Corpo e funzioni cognitive in Leibniz” (1996). Pasini's work has many merits, among others, its drawing attention to Leibniz's interest in the body understood as an organism. Other important works are De Risi (2007: Chapter 3) and a paper by Meier-Oeser (2011: 660–666), who explicitly connects the work of the imagination with the expression of sense-perceptions as bodies. Even in my PhD thesis, however, I neglected most of the cognitive work carried out by the imagination, focusing mainly on the function of signs for cognition. Indeed, as presented at the Harvard History of Philosophy Workshop – the first draft of a paper now developed into Chapters 3, 5, and 6 (2018) – there was little scholarship on the topic: papers by Garber (2015, although he does not explicitly link the geometrization of bodies to the imagination) and Leduc (2017). At the time, I did not know about some groundbreaking scholarship by David Rabouin (2013: 109–130; 2017; 2018), whose work on the role that the imagination has in cognition highly influenced my own, as can be seen in Chapters 3, 4, 5, and 6. Recent scholarship on this issue has been advanced by Jorati (2019), Tropper (2019), and Weckend (2019).
- 4 Exceptions are Pasini (1996); Favaretti Camposampiero (2007); De Risi (2007), and Meier-Oeser (2011).

extrapolates and processes information in order to form the *idea* of *her* world as composed of bodies, viz. four-dimensional objects whose respective states must be internally and externally compatible with the states of other, co-perceived (or co-imagined) bodies. When they are not, these states are precluded from existence, although incompatible states may nonetheless be possible.

I further argue here that the idea of a world and the bodies populating it *qua* spatiotemporal unities are required for the anticipation and prediction of events. If this use of the imagination is evident in natural sciences, then it is also constitutive of social interactions. This book therefore advances the thesis that, for Leibniz, imaginative processes are *required* for *developing* forms of intentionality into what Leibniz calls “abstracta” or “essences”. Through these acts, we constitute ourselves not merely as *cognizant* agents but as *moral* agents. Given the manifold role that this faculty plays in cognition, this introduction has the aim of unfolding the theoretical and historical context within which Leibniz developed his theory of the imagination, and, thereby, his relation to Thomas Hobbes (sect. 1). Through this short excursus, we shall set the stage for understanding how Leibniz transforms issues relating to the work of the imagination (sect. 2). I conclude with some brief remarks regarding my methodological approach to the history of philosophy.

1. THE SUBJECT MATTER OF THE IMAGINATION

Each faculty has its own, peculiar subject matter that distinguishes it from other faculties. For example, the senses are directed towards what is present in our perceptual environment, thereby making us aware of sensations (colors, smells, tastes, etc.). Memory, by contrast, presents to our minds something that was present in the past but now is not. Finally, the intellect is directed towards truth. The imagination makes present the absent, presenting to us what is *possible* but does not actually exist (and, most importantly of all, *must not* exist). The imagination is, therefore, the faculty of *fiction*. However, given its relation to what is possible (and so, its relation to the future), the imagination seems relevantly related to knowledge. This is not completely true for Leibniz, who assumes that the proper subject matter of the imagination is continuous quantity, sc. magnitude like space and time. Continuous quantity is something abstract and ideal; it is for this relation to ideal magnitudes that the imagination is relevantly connected to what is possible, and hence to fictions. However, in order to understand *why* Leibniz takes a different stance (as well as the import of this change), we need to establish a link between the imagination and *fiction*, which can be understood in the early modern sense as “that which does not exist”.⁵

5 Leibniz uses “fiction” in a technical sense. Fiction either refers to things that cannot exist because they are logically impossible, or to those things that cannot exist because a set of conditions precludes them from being part of the world, although it does not therefore imply the *logical* impossibility of that fiction. In the early modern period, a fiction was a product of the mind *entertaining* a non-obtaining state or event. More on this in chapter V.

The aforementioned cognitive states (for instance, my husband’s prediction about the falling coffee cup, causal connections between the virus and its effects, my niece’s pretense in using her toy phone), are manifestations of a cognitive agent’s reasoning, which furthermore relies upon imaginative skill. Some of these states result in new knowledge, as when we discover causal connections, while others do not. Still, they are all characteristic of a *rational* human being in her interactions with others. It seems that the same faculty is both *constitutive* of what we may define as “human rationality”, but also the *source* of our most intimate, *irrational* responses to the world, insofar as that involves entertaining fictions.⁶

Early modern philosophers insisted on the Janus-faced quality of the imagination, which was easily singled out as the primary source of human error, but challenging to recognize as *positively* contributing to knowledge-acquisition.⁷ Recognizing the imagination’s positive, cognitive role requires acknowledging its relation to what is possible. For, if the imagination contributes to cognition by making present the absent, then, it may also present to the mind’s eye things that are not only likely to happen, but have not happened *yet*. Indeed, the imagination may even bring to cognition *ideal* objects from which we can extrapolate knowledge (as in geometry and mathematics). The imagination also causes us to entertain things *as if* they were true or existent, although they are not. Thus, the simple fact that we can imagine them may explain why we believe them to be true.

The irony here is that this line of argumentation is shared by those who view the imagination’s work positively (like Spinoza or Leibniz).⁸ Hence, the role that the imagination plays in cognition is not just controversial, but *elusive*; an elusiveness still recognized in contemporary discussions. This is partly owing to the range of abilities the imagination allegedly controls. Contemporary accounts acknowledge the imagination’s multitasking nature: it seems to be the “junkyard of the

6 Following on from this Janus-faced character, philosophers have recognized a puzzle: how is it possible to acquire knowledge from fiction? For a discussion, see Kind-Kung (2017). A different approach is adopted by Williamson (2017) who argues that the main business of the imagination is not to produce fictions: while it has this function, imagination is first and foremost devoted to the possible (understood as what can obtain).

7 A wide-spread view in the early modern period was the idea that the senses never err, owing to which the source of error must be either the imagination or the will. The senses simply present aspects of external objects and hence do not deal with truth, which consists in a connection of ideas. For Descartes, the senses are the source of material falsity, but not *formal* falsity, for which the will is responsible. Senses therefore never err (see *Meditations* AT VII 56/ CSM II 39; for a discussion of material falsity, see De Rosa, 2010). Leibniz thinks the work of the senses is a necessary distortion of the objects in order to render them available to the mind; they present some kind of illusion, as in optics, although they do not thereby deceive us (on this, see Favaretti Camposampiero 2016). Deception is the result of a judgment that lacks sufficient consideration about the causes or reasons that account for its truth. This topic was also discussed by Leibniz in a short conversation with Gottlieb Samuel Treuer. On this, see Oliveri (2019: 83–109).

8 On Spinoza, see Renz (2019); for a confrontation on Leibniz and Spinoza, see Leinkauf ([2010] 2012).

mind”,⁹ the place – cognitively speaking – where we can project any state of mind. However, to focus on early modern discourse, both negative and positive attitudes toward the imagination are manifested in early modern philosophers’ vacillating between two extreme positions endorsed in order to exorcise the epistemic failings of the imagination. On this account, the imagination is either a useful capacity, albeit void of any epistemic role; *or* it is a pervasive power, whose tendency to lead cognizant agents astray needs accepting and, to whatever extent possible, *managing*.

Descartes veers toward the first extreme and, in the *Meditations on first philosophy*, denies that the imagination may be a source of knowledge. Despite early sympathy for the contribution of this faculty to knowledge (especially in the twelfth rule for the direction of the mind), knowledge is understood by Descartes as the evidence and intuition of intellectual items, viz. ideas, which differ greatly from the presentation of images, for which the corporeal imagination (*phantasia*) is responsible.¹⁰ Even if the imagination is relevantly involved in reasoning, Descartes unburdens it from any epistemic responsibility – or so argues Leibniz, as we will soon see.¹¹ To do justice to the Cartesian stance, however, we need to add that the contentious point regarding the contribution of the imagination to knowledge is *not* about whether or not the imagination contributes to *factual* knowledge, as when we apprehend the distance between two objects or the shape of a book. Instead, the denial concerns the idea that the imagination may *relevantly* contribute to knowledge regarding the ideas we have about something, especially those ideas that are, on Descartes’ view, innate, as the distinction between imagining and understanding in the *VI Meditation* proves. In there, Descartes makes clear that our capacity of representing extended figure is not tantamount to our capacity of understanding their constitutive properties and deriving truths from them, a task exclusive of the pure understanding.¹² If Descartes denies this role to the imagination, then other figures

9 See Kind (2016: 1).

10 See *Rule Twelve* (AT X 414–416/CSM I 41–3) and *Meditation VI* (AT VII 74–5/CSM II 50–54).

11 For a more accurate discussion of the role of the imagination in Descartes, see Sepper (2001), whose final analysis is that the imagination is an aid to truth. As Chavez-Arviso (1997: 143–4) notes, the fact that it is “an aid” does not amount to seeing it as an *epistemic* faculty. Indeed, this is a consequence of Descartes’ theory that truth depends on the intellect, which intuits ideas about objects. According to Bos (2011), this change of attitude towards the imagination is owing to Descartes’ discovery of the application of algebra in solving geometrical problems. On the imagination, also see Foti (1986).

12 AT VII 72/CSM II 50: “To make this clear, I will first examine the difference between imagination and pure understanding. When I imagine a triangle, for example, I do not merely understand that it is a figure bounded by three lines, but at the same time I also see the three lines with my mind's eye as if they were present before me; and this is what I call imagining. [...] Such a representation is useless for recognizing the properties which distinguish a chiliagon from other polygons. But suppose I am dealing with a pentagon: I can of course understand the figure of a pentagon, just as I can the figure of a chiliagon, without the help of the imagination; but I can also imagine a pentagon, by applying my mind's eye to its five sides area contained

like Spinoza or Leibniz emerge as taking a more nuanced stance. In order to explain these positions, we first need to recall Hobbes' contribution, which veers towards the opposite extreme.

Hobbes considers any cognitive operation (except for sensation) as a form of imagination, generally defined as a "decaying sense", or the impression left on the mind by the object when it is no longer present to the senses.¹³ Besides this general definition, the "decaying sense" takes several forms: there is memory, or the recalling of past sensations; the "compounded" imagination, or the formation of fictitious entities; and *understanding*, or imagination by means of signs.¹⁴ To confirm this position, Hobbes rejects Descartes' notion of an idea as an intellectual item that presents itself to the understanding in a pure way, that is, deprived of a representative vehicle.¹⁵ Leibniz follows this lead, which we can deduce from his answer to Bayle (quoted above), as well as in a series of writings composed between 1675 and 1684, whereby he rejects the Cartesian notion of a *pure intellection*, which considers knowledge to consist in connections of ideas by means of representative vehicles, such as images or the words of a language.¹⁶ This Hobbesian sympathy, however, does not amount to an *endorsement* of Hobbes' ultra-nominalism, viz. that truth depends on names, a position that Leibniz criticizes in precisely the same years as when he was grappling with Descartes' philosophy.¹⁷ These are also the years in which Leibniz – through a confrontation with Descartes and Hobbes, *inter alia*¹⁸ – settles on various matters relating to knowledge and cognition, as well as some metaphysical issues regarding the nature of the continuum and of mathematical fiction.¹⁹ Indeed, he does not change his position until being confronted with Locke's philosophy. This shakes Leibniz's epistemology to the point of prompting a book-length exposition (viz. *New Essays on Human Understanding*, published posthumously in 1765) of parts of his theory that had not yet been fully explicated nor adequately thought through. For this reason, it is worth contextualizing Leibniz

within them. And in doing this I notice quite clearly that imagination requires a peculiar effort of mind which is not required for understanding; this additional effort of mind clearly shows the difference between imagination and pure understanding."

- 13 Hobbes's definition of imagination is echoed in *Definitiones cogitationesque metaphysicae*, A VI 4 1394/LoC 237: "Imago est continuatio passionis in organo cessante licet actione objecti. Imaginatio est imagines perception. [An image is the continuation of a passion in an organ, despite the cessation of the action of the object. Imagination is the perception of the image.]"
- 14 Hobbes, *Leviathan*, I 2 "On Imagination".
- 15 See *Objections and replies*, AT VIII 184/ CSM II 129–30.
- 16 We will discuss these texts in Chapter I.
- 17 He broaches this subject already in his introduction to Nizolius' *Antibarbarus* (1671) and in *Dialogus* (1677; A VI 4 A 20–5), and then in *Meditations on Knowledge, Truth and Ideas* (1684; A VI 4 A 589–93/L 293–6). In *Dialogus*, Leibniz's spokesman rejects the view that truth rests on the connection of names.
- 18 They are not the only figures. We can moreover name Jungius, Plato, Aristotle, Thomasius, Spinoza, Malebranche, *inter alia*. However, Descartes and Hobbes are explicit points of reference in Leibniz's most important writings on epistemology and cognition, such as MKTI.
- 19 See Arthur (2018); Rabuoin – Arthur (2020).

within Hobbes' discourse on the imagination, and especially the latter's remarks about the so-called "train of thought".

There are many parts of Leibniz's philosophy that evidence Hobbes' legacy. One such part is the idea that human beings are not alone in being capable of reasoning, a claim highly controversial at the time.²⁰ Although Leibniz is certainly more cautious than Hobbes – for instance, he never explicitly claims that non-human animals are capable of reasoning – he nevertheless does not deny to non-human animals some form of *empirical reasoning*, or a *shadow* of reasoning, which consists in connecting experiential states to either expectations about the future or recollections of foregoing states. If we expect the sun to rise after night-time, then this is because we have had repeat experiences of day succeeding night. Since reasoning consists in connecting images or signs, non-human animals count as *imaginative animals*, just like human beings. The outstanding question thereafter becomes a matter of *why* human animals are capable of forms of reasoning precluded to other animals.

That this approach is Hobbesian in spirit can be proved with a passage of the *Leviathan*. Here, Hobbes explains why human animals are capable of developing *other* forms of reasoning that differs from (and may even be *superior* to) those forms that are proper to non-human animals. Reasoning is not exhausted by representational states of some sort, neither does it rest on a capacity for representing objects, nor their consciousness. Reasoning rather consists in the ability to *feel* a connection of quasi-dependence between images or representational states, such as when I see clouds in the sky and imagine that it is about to rain. In this way, Hobbes thinks we form a "train of thought". These are not *random*, as when we move haphazardly from one thought to the next. Rather, a train of thought may have a *design*, that is, a sort of *certainty* and *necessity* felt along with the connection between one thought (the clouds) and another (the rain); the latter being a consequence of the former:

The train of regulated thoughts can be of two kinds: one, when of an effect imagined, we seek the causes, or means that produce it; and this is common to man and beast. The other is, when imagining anything whatsoever, we seek all the possible effects that can by it be produced; that is to say, we imagine what we can do with it, when we have it. Of which I have not at any time seen any sign, but in man only; for this is a curiosity hardly incident to the nature of any living creature that has no other passion but sensual, such as are hunger, thirst, lust, and anger. In sum, the discourse of the mind, when it is governed by design, is nothing but *seeking*, or the *faculty of invention*, which the Latins called *sagacitas*, and *solertia*; a hunting out of the causes, of some effect, present or past; or of the effects, of some present or past cause. (Hobbes, *Leviathan*, I, 3)

20 The posthumous edition of Hieronymus Rorarius's essay, *That animals use reason better than man* (1539), and the entry "Rorarius" in Bayle's Dictionary of 1696 and then 1702, help to explain why the topic was intensely discussed. Another reason is the denial by Descartes and Cartesians that animals have a soul. Leibniz intervenes in the debate publicly with his comments on the entry *Rorarius* in 1702.

What distinguishes human and non-human animals, then, are the kinds of connections between images that human animals are capable of producing, viz. through their *cognitive activity*, which is invoked in two discrete moments (although both can be said to result from the faculty of *invention*). One such moment proceeds from *effects* to recalling a *cause* (i.e., memory or recollection), while the other *begins* with the cause to imagining the possible effects. To borrow Hobbes' example, if I lose my keys, then I can recollect the places where I have been in attempting to retrieve them. In this case, I move from an effect to its cause. We can moreover imagine somebody doing something, e.g., my sister goes into the kitchen, and I can imagine what she is about to do, e.g., eat or cook something, talk to my mother, or innumerable other things. This act of imagining the future *as having a link* to a present state, and, more specifically, of deducing an effect through consideration of its cause, constitutes the *anthropological* difference between human and non-human animals. Why? Because, while recalling a cause by experiencing an effect does not imply that the subject has *knowledge* of the cause, the *deduction* of an effect from the cause implies both knowledge of *what* the cause is and an understanding *that* multiple effects can follow from the same thing, viz. one understands *necessity* and *contingency* – concepts not shared by non-human animals. The relation from the effect to the cause may be an extrinsic relation apprehended by circumstances, viz. habit and repetition, which fail to amount to knowledge, while the latter implies knowledge of the reasons why the effect follows.

Knowledge of the cause requires some form of *abstraction*, of which non-human animals are incapable. The idea that non-human animals do not develop skills identical to (or at least *similar* to) those of rational beings owing to their limited faculties for abstraction is reiterated by early modern philosophers, for instance Locke, with whom Leibniz concurs (NE 142). However, these words of Hobbes' are echoed and transformed in the writings of his eager readers, viz. Spinoza and Leibniz, and peculiarly too. Consider, for example, the first part of the *Treatise on the emendation of the intellect*. There, Spinoza explains what distinguishes the third from the fourth form of perception, viz. awareness of a connection as holding true. This insight is fairly Hobbesian insofar as the third form of perception consists in perceiving a connection from the effect to the cause, while the fourth form consists in the perception of the cause and what can follow from it. However, Spinoza also relevantly *modifies* Hobbes' words: only the fourth form of perception is knowledge of the *essence*, that is, what the thing is *in se* and *per se*.²¹

Leibniz, for his part, complicates Hobbes' thought with his notions of possibility and existence, on the one hand, and *abstract essences* and *concrete beings*, on the other. The difference between human and non-human animals does not consist in the direction of the connection (sc. from cause to effect, nor from effect to cause). It consists in the *contents* connected through the cognitive activity of the agent. Such *connections* are not entirely *extrinsic* to the kinds of states they relate. Non-

21 See Spinoza, TdIE II/9 20–35. Interestingly, the idea of forms, or “degrees of knowledge”, is likewise picked up by Leibniz. On the differences between Spinoza's treatise and Leibniz's MKTI, see Leinkauf ([2010: 107–24] 2012).

human animals, understood as sentient, imaginative, and non-rational, are directed towards concrete existing beings and their states. This means that they connect states because they *experience* them as temporally and spatially related, owing to which they are *empirical*. By contrary, *human* sentient, imaginative, rational animals have the capacity to conceive of “the pure possible”, which, in Leibniz’s jargon, means that they are capable of considering beings and their modifications in the *abstract*, viz. by isolating properties and considering them to be conceptual marks, which altogether constitute not the *being* but the essence *expressing* the being as a kind. This distinction is revolutionary when analyzed in the light of Leibniz’s reformation of the modalities required to resist necessitarianism, as we shall see in chapters V and VI. In short, Leibniz’s revolutionary metaphysics distinguishes between a notion of *possibility* as it is related to *existence* (according to which something is possible when, given a series of conditions, it can exist), and *logical possibility* (according to which something is *per se* possible when its essence does not imply a contradiction). For now, it is sufficient to claim that Leibniz distinguishes between two cognitive acts: first, the act of apprehending a being; and second, that of apprehending an essence. Remarkably, however, Leibniz does not think of either of these acts as independent of the imagination. In short, they should be understood respectively as varieties of intentionality or conceivability:

Terms are either simple or composite. Simple terms are those which cannot be made clear by more familiar terms, because they are given immediately to sense, that is they are themselves sensible qualities. That which has sensible qualities, or is perceptible, is called a being. So, with respect to us it can be said that the essence of a thing is for us the distinct conceitability (or imaginability) of that thing, and the existence the distinct perceptibility (or sensibility) of it. Indeed, the compound of the qualities assumed simultaneously, that is conceitability, constitutes the essence of a thing; perceptibility proves its existence (as evidently it is not a thing’s fault that it is not actually sensed). (A VI 1 285)²²

The incipit of this passage recalls Leibniz’s claim that “terms” (that is, the words of a language) may either refer *in concreto* or *in abstracto* – a distinction that is, once again, Hobbesian.²³ Terms may refer to concrete and so be analyzed into simples which are sensible qualities; or they may refer to abstracta, that is essences whose simple constituent are primitives.²⁴ However, Leibniz attempts to couch this Hobbesian distinction within an ontological and epistemological framework that is

22 This passage is a revised version of Leibniz’s *Nova methodus descendae docendaeque jurisprudentiae* (1677). Between 1695 and 1708, Leibniz produced three distinct revisions of his printed version of *Nova methodus*. Indeed, Leibniz remarks on several occasions, such as in a letter to Placcius (1695), that he wished to publish a new version of the text. (A II 3 51: “Ego ante multo annos cogitaveram de Methodo mea recudenda et augenda, quin et subinde corrigenda.”). The quotations and translations here constitute the latest version of the passage, as reconstructed using the various manuscripts and notes present in the critical edition (A VI 1 285), which reproduce Leibniz’s three textual revisions.

23 See Di Bella (2005).

24 An analogue distinction can be found in MKTI, where Leibniz says that primitives are constituents of notions that, in contrast to sensations, can be the object of an intuition. An example of primitives is mathematical unity (see Oliveri, 2020).

decidedly *non-Hobbesian*, viz. within a distinction between beings and essences, the latter to be understood as connections of conceptual marks that do not depend on languages because they are ideas in God's intellect. Leibniz defines a being as a bearer of sensible qualities or what can be known through perception. A being, however, is not an essence, viz. a cluster of qualities that are altogether *conceived* as possible or without contradiction. The result of this distinction is a variegated ontology that is characterized by a denial that abstract entities can exist, because *abstracta* cannot be beings, that is, things that can mechanically interact with a cognizant agent's sense organs and thereby be possible objects of perception. The essence of a geometrical sphere cannot be a possible object of existence unless it is *reified* through expression, that is, transformed into a vehicle that can causally interact with a cognizant agent's sense organs, like a diagram, as Leibniz explains to Bayle. We will analyze the impact of this distinction at length. For now, we need to investigate the difference between two cognitive acts. The first being that through which an agent apprehends and predicts something's possible *existence*; the second being that through which one evaluates the possibility of an *essence* (as well as what can be deduced from it).

In other words, while nested within an eclectic nomenclature, "perceptibility", "imaginability", and "conceptibility", understood as kinds of conceivability, which will be exhaustively unpacked herewith, correspond with distinctions between *kinds* of cognitive act. Unlike Hobbes, however, Leibniz explains the distinction between various cognitive acts in terms of their respective dependence upon different faculties and not on the *kinds* of connections between cognitively-equivalent terms. Indeed, there is already a difference between the act of sense-perceiving a wolf and conceiving of (sc. conceptualizing) the essence of a wolf. The kinds of connection possible between sense-perceptual and conceptual states supervenes on this distinction. Sense-perceiving rests on principles analyzable into spatiotemporal constraints on beings that are apprehended as bodies, which simply *cannot* provide knowledge of *essences*, viz. clusters of conceptual marks that are joined by virtue of identity and contradiction. Prior experience of a wolf, for example, is required in order to recognize beings *as wolves*, although it is not sufficient for achieving *knowledge* of a wolf's essence as a cluster of conceptual requisites necessary for defining its essence. Experience alone, therefore, does not afford knowledge of a wolf as a mammal with four legs of the genus "canis", etc. As we will see in chapter IV, this claim is problematic insofar as Leibniz's metaphysics – which is based on the harmony between body and soul (sc. between bodily states and cognitive states) – implies that cognitive states are first and foremost *about* those things that can *causally* interact with a cognitive agent's sensory organs, that is, they are *about beings*. If this is the case, then how can minds conceive of *essences*, especially if essences are neither beings nor are they objects of possible sensory experience? The answer proffered by the present enquiry is that the work of the imagination fills the gap between perceiving and conceiving because both acts are in fact imaginative, and are therefore both relevantly related to possibility.

To anticipate the argument developed at length in this book, both beings and essences are expressed by a cognizant agent's imagination, which deploys innate

ideas in performing those acts. Perceptibility is the construction of a being as a body changing within given spatiotemporal parameters. Indeed, because space and time (understood as continuous quantities) are *innate* notions of common sense and are the proper subject matter of the imagination (as shall be argued in chapter II), the expression of beings as bodies that undergo alteration in fact rests on the synthetic (*viz. expressive*) character of the imagination and its native spatiotemporal logic. Meanwhile, conceptibility is a capacity for ordering and connecting conceptual marks by means of imagistic vehicles, such as the words in a language, which combine to constitute definitions. To this act, the agent needs the expressive work of the imagination, which reassesses representative vehicles, that are subject to space and time, in order to express identity and contradiction between concepts. The synthetic work of the imagination in processing perceptual data and their organization results in *types*, to be understood as acquired abilities to interpret a being as having a nature common with other, similar beings. Types, I argue, constitute a necessary step in a cognizant agent's acquisition of concepts, which may in turn be couched as abilities to define abstract essences.

The constitutive chapters of this monograph textually support and expound this theory in detail. Herewith, I argue that the distinction drawn by Leibniz between types and concepts constitutes an attempt to distinguish soundly between "perceptibility" and "conceptibility". Leibniz's aim in arguing for such a distinction is the attribution of a kind of reasoning to non-human animals, which is similar to pre-conceptual forms of reasoning in human beings, owing to which it is a form of empirical reasoning. However, in spite of their similarities, non-human empirical reasoning differs from human empirical reasoning insofar as it is a "shadow of reasoning", as Leibniz writes in the NE. Animals lack the innate ideas possessed by human beings, which are required for the formation of more specific *types*, as well as abstract *concepts*. These innate ideas include the ideas of substance, unity, and identity, which are intellectual ideas that are not shared by non-human animals, and allow for the cognitive activity of abstraction (again, enjoyed only by human beings).

The distinction between perception and thought is furthermore relevant to explaining a tenet of Leibniz's theory of cognition that is, as demonstrated in chapter IV, intrinsically related to his theory of substance, *viz.* that both human and non-human animals are *cognitive agents*, although the latter cannot be *moral agents*. Forms of action based on empirical reasoning, such as going to bed because we expect the sun will rise after the darkness of the night, is not *moral* action. The development of such inductive responses is indispensable to animal survival and explains why human beings (in this respect like their non-human counterparts) act like empirics for three-quarters of their lives. All animal action begins with habitual expectations of what will occur in the future. Unlike non-human animals, however, rational-agential action is characterized differently. Their actions can be *free*, owing to which their actions can be evaluated *morally*, *viz.* as either good or bad, just or unjust, since rational agents can establish civil and moral peer relationships. Their capacity to understand pure possibility also turns out to explain why human animals