THE UNIVERSITY of EDINBURGH

LEIBNIZ'S AESTHETICS

The Metaphysics of Beauty

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I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where states otherwise by reference or acknowledgment, the work presented is entirely my own.

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ABSTRACT

Here I argue that Leibniz's notion of beauty constitutes a coherent, although somehow implicit, position of realist and cognitive aesthetic formalism: beauty is metaphysically and ontologically explained as a formal structure, which is an objective property of things with objective value, yet at the same time accessible for subjective experience.

In the first part of the thesis, I respond to the question what is beauty for Leibniz? The general answer is that beauty is a nominalist notion grounded on a formal structure, which corresponds to the formula of unity in variety or harmony. Beauty is not something in itself, but it is in things that comply with the formal structure of unity in variety, as well as some formal features entailed by this formula, such as wholeness, intelligibility and potential for pleasure. After gaining an insight into a general definition of beauty, I focus on the notion of variety and argue that it is not just a multiplicity of things, but also the degree of difference between those things. For Leibniz greater variety, and thus greater beauty, is achieved when something expresses a harmonic whole that includes not only perfectly consonant and similar elements, but also conflicting and dissonant elements. In this way, beautiful things can exhibit a sort of complexity in their variety –which may even appear as disorder–, as long as this variety finds an underlying order that reduces complexity and guarantees beauty. For Leibniz, order is indeed an essential requirement for beauty. I argue that what unites this variety and effects beauty is not one entity imposing over many, but an abstract principle of order that organises many diverse things. This principle is the unity that the postulated formula of beauty expresses. Thus, an entity is beautiful when its diverse components relate among each other in accordance with one principle of order.

In the second part of the thesis, I argue that for Leibniz beauty is not only an objective property, but also an objective value, which is, nonetheless, available for subjective experience. The objectivity of beauty as a property consists in its independence from three factors: subjective recognition, existence, and God's will. I explain that, in accordance with Leibniz's philosophy, something is beautiful as a possible thing, before it gains existence, so even before it can be grasped by any subject. The beauty of a possible thing is determined by its compliance with the formal structure and requisites mentioned above. These rules of beauty do not depend on God's will, but they are in his intellect just as are mathematical truths. Hence, beautiful things are as such not only independent from finite subjects, but also from God's will. Likewise, the aesthetic value of the universe is also objective. This means two things; firstly, that beauty is not only valuable when appreciated by finite beings, and secondly, that nature's aesthetic value is not meant only for our pleasure and happiness. I explain that the world's value is perfection and, in turn, perfection is a rational order in the form of unity in variety, which is also beauty. Thus, unity in variety is valuable independently of valuers.

Finally, I claim that for Leibniz we can experience beauty through distinct knowledge and also through confused perceptions. Since unity in variety is a formal abstract structure it is better experienced through distinct ideas. However, Leibniz also considers that this structure manifests itself through matter and we can experience confusedly through our senses. Accordingly, even if we are not conscious of the structure of beauty itself, we still can experience it. Indeed our aesthetic experiences can have confused elements as well as distinct ones at the same time. Moreover, experience of beauty can be a progression from more confused to more distinct not too different from the progress of knowledge.

LAY SUMMARY

Gottfried Wilhelm Leibniz was a polymath and philosopher who lived between the 17th and 18th century. He is famous for many mathematical and scientific discoveries, as well as for his insightful philosophical views on many areas of this discipline. Because of his merits, scholars have researched and written profusely about his ideas. Yet, one aspect of his philosophy remains poorly considered by researchers: Leibniz's views about aesthetics, or more specifically, his philosophical ideas about beauty. In my thesis, I explain what beauty is for Leibniz, as well as how it relates to nature and us humans. As many of previous philosophers, Leibniz defines beauty as harmony. In turn, harmony is unity in variety. Hence, there is greater beauty when there is greater harmony, i.e. more variety with a higher degree of unity. What makes Leibniz' view distinctive from the rest is what unity and variety mean for him.

Unity for Leibniz is not the compression of many elements into one thing, but an order that governs the relations between two or more elements. Hence, there is unity wherever a set of things relate to each other with a certain order. On the other hand, variety is not just many things, but also the difference between two or more things. Thus, an object is more beautiful when it is composed of more diverse parts. Since a higher degree of difference among components is beneficial for harmony and beauty, a beautiful thing should include not only perfectly consonant and similar parts, but also conflicting and dissonant ones. Therefore, greater harmony is given by the inclusion of dissonant elements, which by themselves make things look chaotic. But according to Leibniz, true beauty comes from an order that unites the apparent chaos introduced by dissonances. So beauty follows the structure of a tonal musical piece that mixes dissonances with consonances, yet in the end, and as a whole, it always resolves dissonances in perfect harmony. In the same way, beautiful things can exhibit a sort of complexity in their variety that appears as disorder, but truly there is always an underlying order that reduces complexity and guarantees beauty. This order does not make dissonances disappear, it just shows that within a greater order they can find a correct place and thus become a contribution to overall harmony.

Based on this idea, Leibniz claims that the natural world is objectively beautiful, i.e. it is beautiful even if no one is there to perceive it. If beauty is harmony, the world only requires to be harmonious in order to be beautiful, independently of any individual impression that humans might have of it. For Leibniz, God is perfect, therefore he cannot but create the most perfect possible universe. Since harmony is a sign of perfection, the most perfect possible world must be harmonious. Thus, the world must be beautiful and hence valuable even if we do not notice it.

Yet, Leibniz insists that if we are wise we can indeed recognise the world's beauty and its value. According to him, we can experience beauty in two ways: on one hand we can distinctly recognise the structure of beauty, which means to acquire intellectual knowledge of the abstract structure that orders a variety of elements, like when we hear a piece of music and consciously understand its rhythmic patterns and tonal structure. On the other hand, even if we fail to gain intellectual knowledge of the structure of beauty, we can still perceive it indirectly through our senses. For example, we can hear a piece of music, without distinct knowledge of its structure, but still confusedly perceive it through the melody of the piece. Thus, even if we are unaware of the structure of beauty we can still experience it.

In this sense, Leibniz's notion of beauty is characterised as the structure of unity in variety that is an objective and fundamentally valuable property, yet at the same time accessible for subjective experience.

CONTENTS

ABBREVIATIONS

A   *Sämtliche Schriften und Briefe*, Darmstadt and Berlin: Berlin Academy, 1923-.

AG   Roger Ariew and Daniel Garber, trs. & eds., *G. W. Leibniz: Philosophical Essays*, Indianapolis: Hackett, 1989.

AT   Charles Adam and Paul Tannery, eds., *Rene Descartes: Œuvres de Descartes,* new edition. Paris: Vrin, 1964-74.

C   Louis Couturat, ed., *Opuscules et Fragments Inédits de Leibniz*. Hildesheim: Olms, 1966.

CE   Edwin Curley, trs, & ed., *Benedict De Spinoza*: *Ethics*. London: Penguin Books, 1996.

CP   Robert C. Sleigh Jr., ed & tr., with contributions from Brandon Look and James Stam, *Confessio Philosophi: Papers Concerning the Problem of Evil, 1671–1678*. New Haven: Yale University Press, 2005.

CSM   John Cottingham, Robert Stoothoff and Dugald Murdoch, trs. & eds., *The Philosophical Writings of Descartes*, 3 vols., Cambridge: Cambridge University Press, 1984-91.

D   George Martin Duncan, tr. & ed., *The Philosophical Works of Leibnitz*. New Haven: Tuttle, Morehouse & Taylor Publishers, 1890.

DS   Gottschalk Eduard Guhrauer ed., *Leibnitz's Deutsche Schriften*. Berlin: Veit und Comp., 1838-40.

FB   Louis Alexandre Foucher de Careil*, ed., Refutation Inedite de Spinoza.* Paris: Ladrange, 1854.

GM   Carl Immanuel Gerhardt, ed., *Leibnizens Mathematische Schriften*, 7 vols.,   Berlin: A. Asher; Halle: H. W. Schmidt, 1849-63.

GOC   André Gombay, ed., assisted by Calvin Normore, Randal Keen and Rod Watkins, *Œuvres Complètes de René Descartes*. Toronto: Connaught Descartes Project, University of Toronto; Charlottesville: InteLex Corporation, 2001.

GP   Carl Immanuel Gerhardt, ed., *Die Philosophischen Schriften von Gottfried Wilhelm Leibniz*, 7 vols., Berlin: Weidman, 1875-90. Reprint, Hildesheim: Olms, 1975-90.

Grua   Gaston Grua, ed., *Leibniz: Textes Inédits*, 2 vols., Paris: Presses Universitaires de France, 1948.

GW   Carl Immanuel Gerhardt, ed., *Briefwechsel zwischen Leibniz und Christian Wolff*, Halle: H. W. Schmidt, 1860.

H   E. M. Huggard, tr., *G. W. Leibniz: Theodicy; Essays on the Goodness of God, the Freedom of Man and the Origin of Evil*, London: Routledge and Kegan Paul, 1951. Reprint, La Salle, Illinois: Open Court, 1985.

Hasse   Rudolf Hasse, ed., *Der Briefwechsel zwischen Leibniz und Conrad Henfling.* Frankfurt am Main: Leibniz-Archives 9, 1982.

K   Onno Klopp, ed., *Die Werke von Leibniz*, 11 vols. Hanover: Klindworth, 1864-84.

L   Leroy E. Loemker, tr. & ed., *G. W. Leibniz: Philosophical Papers and Letters*, 2nd ed.. Dordrecht: Reidel, 1969.

Latta   Robert Latta, tr. & ed., *Leibniz: The Monadology and other Philosophical Writings.* London: Oxford University Press, 1898.

LAV   Stephen Voss, tr. & ed., *The Leibniz- Arnauld Correspondence. The Yale Leibniz.* New Haven: Yale University Press, 2016.

LDB   Brandon Look and Donald Rutherford, ed. & tr., *The Leibniz-Des Bosses Correspondence. The Yale Leibniz.* New Haven: Yale University Press, 2007

LDV   Paul Lodge, tr. & ed., *The Leibniz-De Volder Correspondence: With Selections from the Correspondence Between Leibniz and Johann Bernoulli. The Yale Leibniz.* New Haven: Yale University Press, 2013.

LGR   Lloyd Strickland, tr. & ed., *Leibniz on God and Religion: A Reader*. London: Bloomsbury, 2016.

LM   Lloyd Strickland, tr. & ed., *Leibniz's Monadology*. Edinburgh: Edinburgh University Press, 2014.

LTS   Lloyd Strickland, tr. & ed., *Leibniz and the Two Sophies: The Philosophical Correspondence*. Toronto: Centre for Reformation and Renaissance Studies, 2011.

M   Haydn Mason, *Leibniz-Arnauld Correspondence*. Manchester: Manchester University Press, 1967.

MP   Mary Morris & G. H. R Parkinson, tr. & ed., *Philosophical Writings*, London: Dent, 1973.

PDSR   G. H. R. Parkinson, tr. & ed., *G. W. Leibniz: De Summa Rerum: Metaphysical Papers, 1675-1676*, New Haven and London: Yale University Press, 1992.

R   Patrick Riley, tr. & ed., *The Political Writings of Leibniz.* Cambridge: Cambridge University Press, 1972.

RB   Peter Remnant and Jonathan Bennett, trs. & eds., *G. W. Leibniz: New Essays on Human Understanding*. Cambridge: Cambridge University Press, 1981.

S   Paul Schrecker and Anne Martin Schrecker, trs & eds., *Monadology and Other Philosophical Essays*. Indianapolis: Bobbs-Merrill, 1965.

SLT   Lloyd Strickland, tr. & ed., *The Shorter Leibniz Texts: A Collection of New Translations*. London: Continuum Impacts, 2006.

W   Philip P. Wiener, tr. & ed.*, Leibniz Selections*, New York: Charles Scribner's Sons, 1951.

INTRODUCTION

Over the course of his lifetime, Gottfried Wilhelm Leibniz (1646-1716) explored through his writings a vast range of philosophical topics, encompassing among others ontology, philosophy of mind, epistemology, logic, mathematics, philosophy of language, science, politics, jurisprudence and ethics. In his writings, we can find insights, arguments or fully fleshed theories about many of what today can be considered as the main topics in philosophy. It would not be an exaggeration saying that his works have made important contributions in many of these areas. It is no coincidence, then, that scholars have researched and wrote profusely about his ideas. Nevertheless, one important aspect of his philosophy remains underresearched: Leibniz's views about aesthetics, or more specifically, his philosophical ideas about beauty. Some recognised authors in the field of aesthetics have suggested that during the period in which Leibniz was writing philosophers did not make many significant or original contributions to the field. For example, Wladyslaw Tatarkiewicz states that philosophers in the 17th century were not interested in aesthetics (1963, p.167).[1] If this were the case, it would explain the limited interest in Leibniz's views on the topic. Yet, Leibniz did write about beauty and other issues related to aesthetics. In fact, his influence is undeniable in the work of Alexander Baumgarten, who was the first to propose the idea of a discipline of aesthetics as an independent science. For this reason, Fredrick Beiser claims that if Baumgarten is to be considered the 'father of aesthetics', Leibniz deserves the title of 'grandfather' of the discipline (2009, p.31).

A more likely explanation for the lack of interest in Leibniz's aesthetics is that his ideas about the matter exhibit two particularities that make them difficult to identify and assimilate to the modern understanding of the field: firstly, the lack of an explicit theory; and, secondly, the strong metaphysical flavour in his treatment of the matter. Here we consider both particularities, as they both limit and guide the present work. In the pages to follow we hope to show that once both traits are taking into consideration, it is clear that there is much of interest in Leibniz's views on aesthetics and thus they should be considered no less significant than many of his contributions to other fields.

Although Leibniz never formulated a systematic theory about aesthetics, discussions of aesthetic concepts are abundant through Leibniz's corpus. Key aesthetic notions such as beauty, harmony and sensations have significant roles in Leibniz's philosophical system. At

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[1] Another example is Jerome Stolnitz, who holds that only with the British thinkers of the 18th century the notion of aesthetic theory, as we know it today, started to take shape (1992, p.186).

the same time, these concepts find new meanings and reach new dimensions of philosophical depth when examined within the framework of Leibniz's metaphysics. Accordingly, Leibniz's views on aesthetics are not limited to subjective experience, as they stand on strong metaphysical grounds. Indeed, the present work starts from the conviction that Leibniz's most important and original ideas on aesthetics derive from his metaphysical system. As we will show, Leibniz's view consists in a coherent, although somewhat implicit, position of aesthetic formal realism grounded on ontological and cosmological arguments. Thus, as we announced above, there are two conditions that determine the way in which the study of Leibniz's view of aesthetics should proceed: firstly, since Leibniz proposed no explicit systematic theory about this matter, a proper account on his aesthetics requires arranging and organising arguments and remarks that might seem more or less scattered; and secondly, these remarks about aesthetics are to be systematised in the light of the broader context of Leibniz's metaphysical system. With this in mind, the main purpose of this thesis is to articulate a coherent, although not necessarily exhaustive, account of Leibniz's aesthetics from the relatively sparse comments and arguments that he offers through his works and explain them within the context of his much more systematic metaphysical views.

The articulation of metaphysics with aesthetics stands in stark contrast with the language based position found in 20th century analytic philosophy and the subject oriented tradition in continental philosophy after Kant, which tends to uncouple aesthetics from metaphysics. This is so to such an extent that the modern use of the term aesthetics seems almost inseparable from subjective experience. Indeed, this seems to be the case since its origin: the term 'aesthetics' itself derives from *aisthetikos*, whose meaning relates to sensitive, sentient or, in general, something pertaining to sense perception. This is close to the meaning that the Leibnizian philosopher Alexander Baumgarten wanted to convey when he coined the term in his book *Metaphysica* (1739). There, aesthetics is defined as a science dedicated to the study of sensory cognition or sense knowledge (2013, p.205).[2] Later, in *Aesthetica* (1750), Baumgarten explains that aesthetics also is a 'theory of the liberal arts, lower theory of cognition, art of beautiful thinking, art of the *analogon* to Reason' (2007, p.10). Thus aesthetics, as a discipline dedicated to these topics, seems to be, from its foundation, in great part inseparable from subjectivity. Nonetheless, there is one aesthetic

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[2] In Baumgarten words: 'The science of knowing and presenting [*proponendi*] with regard to the senses is AESTHETICS'. (2013, p.205). We should mention that the quoted English edition from 2013 follows the fourth edition of the *Metaphysica*, from 1757.

concept that stands out and gives itself to be understood beyond subjective experience; namely, beauty. Although, beauty was understood by Baumgarten as a phenomenon observable by taste (2014, pp. 239-40), thus a subjective phenomenon, much of the history of philosophy before him says otherwise. For many of Baumgarten's forerunners, beauty was defined metaphysically, prior to any subjective experience.[3] Leibniz was no exception. For him beauty is also a rich and complex metaphysical notion that is not dependent on subjectivity. Hence, a first approach to Leibniz's notion of beauty must start from metaphysics and not subjective experience. We acknowledge that, since the founder of aesthetics, i.e. Baumgarten, delimited the term around subjective phenomena, it could be said that the term 'aesthetics' is somewhat anachronistically applied to previous philosophical endeavours that understood beauty as a metaphysical notion that is not grounded in subjectivity. Yet, at the risk of being charged with anachronism, we must insist on the significance of the metaphysical notion of beauty in order to articulate a Leibnizian aesthetic theory.

Beauty is the most important concept regarding Leibniz's views on aesthetics. Contemporary aesthetics focuses on a number of specific concepts. For example, notions such as art, taste, aesthetic experience, aesthetic value, sensation and beauty constitute different topics in aesthetics. Leibniz does mention many of these concepts but none in much depths. The one exception is the notion of 'beauty'. From all the mentioned notions, beauty is not only the most developed by Leibniz, but also the most interesting one, especially when compared to the other aforementioned notions. For example, Leibniz's remarks on the subject of the arts are in most cases just illustrative and lack any significant theoretical argumentation. His discussion about music is more thickly elaborated than the rest of the arts, but it is mostly technical and mathematical. Although he does consider the notion of 'taste' a bit more often, it is scarcely analysed in depth. Aesthetic experience and aesthetic value were not yet in Leibniz's vocabulary. Finally, even though Leibniz offers a very consistent and interesting theory of sensations or sense perceptions, he does not think of them exclusively in aesthetic terms. That said, all these notions can be supplied with theoretical content and consistently explained as ingredients of a Leibnizian aesthetic theory, if examined in light of an organised theoretical framework. However, we think that by themselves they are not enough to guide and articulate a general theory of aesthetics. On the contrary, beauty is often

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[3] We will return to this point in the introductions of the first and the second parts of this thesis.

mentioned, it is imbued with aesthetic content and, more importantly, it is related to one of the most significant and ubiquitous notions in Leibniz's philosophy; harmony. For Leibniz beauty is harmony and as such it can be placed close to the centre of his metaphysics and, at the same time, in connection with many of the other important philosophical themes treated by him. Thus, in order to articulate an aesthetic theory of Leibniz, the key concept is beauty. This notion constitutes for us a guiding idea and a starting point to understand and organise his views on aesthetics. Hence, this thesis is concerned mainly with the metaphysical aspects of beauty in Leibniz's philosophy.

Because aesthetics and metaphysics have been treated as distantly related areas of philosophy since modernity, we think that Leibniz's views offer an original approach to the matter. Even though it could be acknowledged that some of Leibniz's ideas about beauty were not completely new –such as grounding beauty on harmony– the ways in which he articulated his arguments reveal a novel and varied relation between metaphysics and aesthetics. Since for him beauty is harmony and most of his conceptions about harmony are heavily integrated into the larger content of his philosophy, Leibniz's account of beauty delivers an argument coherent with his own metaphysical system and displays the same originality that characterises all his oeuvre. Therefore, the consideration of Leibniz's ideas about the topic has the potential to widen and enhance contemporary discussion about aesthetics. Also, Leibniz's historical role must not be underestimated, since his philosophy inspired an entire generation of German thinkers. The influence of Leibniz is undeniable at the beginnings of German aesthetics: he not only influenced philosophers with recognised contributions to the field, such as Christian Wolff and Moses Mendelssohn, but also art historians and critics, such as Joseph Christoph Gottsched, Johann Joachim Winckelmann and Gotthold Ephraim Lessing. More importantly, Leibniz's influence weighs heavily on Alexander Baumgarten, who was the first to proclaim aesthetics as an autonomous discipline.

Despite these facts, studies dedicated to Leibniz's aesthetics are rather scarce. There are relatively few papers and book chapters that explain Leibniz's own views on the matter.[4] Nonetheless, it is possible to find important works on the history of aesthetics that include Leibniz's views, such as Benedetto Croce's *Aesthetic* (1920) or, more recently, Frederick Beiser's book *Diotima's Children* (2009). However, in these works the space dedicated to

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[4]The following is a comprehensive list of the works about Leibniz's aesthetics that we came across, yet we do not claim that it is complete: Knight (1891), Colorni (1939), Brown (1967), Galeffi, (1975), Frankle (1975), Villanueva (1984), Ortiz (1988), Barnouw (1993), Breger (1994), Buzon (1995), Beiser (2009), Zelle (2013), Phemister and Strickland (2015).

Leibniz is limited to one chapter or even a few paragraphs, so they tend to treat the topic from a more or less general approach and relate Leibniz's ideas to the works of his contemporaries, followers and critics. In this way, they respond more to historical or contextual intentions and do not always focus on more detailed aspects of the subject. This has not only resulted in aspects of Leibniz's aesthetics passing unnoticed, but also in incorrect readings of key elements of his view,[5] which this research hopes to rectify. On the other hand, there are well documented papers that focus on specific aspects of Leibniz's aesthetics, such as Herbert Breger's 'Die mathematisch-physikalische Schönheit bei Leibniz' (1994) and Pauline Phemister's and Lloyd Strickland's 'Leibniz's Monadological Positive Aesthetics' (2015). The first one provides a thorough review of Leibniz's aesthetics in relation to science and mathematics; while the second, compares Leibniz's views on nature's beauty with the contemporary theory of positive aesthetics. Yet, because of their extension and limited scope, these papers do not pretend to provide a general theory of Leibniz's aesthetics.

The objective of the present work is to present a comprehensive and general account of Leibniz's views on beauty. Yet, in doing so we also explain some specific issues that result from the relation between beauty and other important matters, such as science, the natural world and the theory of monads. We also review other themes pertaining to aesthetics, such as sensations, aesthetic experiences and aesthetic value, among others. In this sense, we hope that, through the exploration of Leibniz's notion of beauty, this thesis will contribute significantly to scholarship on Leibniz, as well as the history of aesthetics.

Nevertheless, our main focus here is only the notion of beauty, specifically in relation with metaphysics. Thus, we do not pretend to give a complete account of Leibniz's aesthetics, but rather an organised theory about beauty that serves as a starting point for later efforts in the interest of further research about aesthetics. Indeed there are many aspects of Leibniz's aesthetics that we do not include in this research. For example, although in chapter VII we tackle the matter of the subjective experience of beauty according to Leibniz's theory of distinct and confused perceptions, we think that there is still more to say about the topic. For instance, there are interesting views on the epistemological value of aesthetic experience that are worth following through, although we did not consider them here, since we focused on the metaphysics rather than the epistemology. Also, in every aesthetic theory there is

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[5] Some of these mistakes will be considered in detail through this thesis, especially in chapter VI.

always an important place for art, yet we did not find enough material about this in Leibniz's writings. However, we abstain from categorically affirming that the possibility of a Leibnizian theory of art is null. Other topics not exhaustibly explored here are those related to the historical context. Without a doubt there is much to say about the historical context in which Leibniz's ideas were developed, especially about how previous philosophers influenced his views, but also how he influenced later aestheticians. This is why we reserve place for an introduction at the beginning of both parts of this thesis to talk about some important aspects of Leibniz's context. Nevertheless, explaining the historical place of his thought on aesthetics is not our main purpose. Thus there is still much left unexplored about this matter, such as Leibniz's influence on Wolff and Baumgarten, as well as on Kant.

Finally, it is important to consider that here we abstain from offering an account of the chronological development of Leibniz's thought about beauty or aesthetics. Although we do not deny that this might be possible to do, we found no evidence of a significant change in his ideas about this subject across his writings. Therefore, in almost all cases we treat every reference to beauty, no matter its date, as piece of the same implicit theory. There are a few exceptions to this rule that will be considered, yet they are not significant enough to affect our synchronic approach.

The structure of this thesis consists in two parts, each one with an introduction and three chapters. In order to focus almost exclusively on Leibniz's own views during the chapters, we conceive an introduction for each part in which we offer historical and theoretical context. The first part of the thesis seeks to answer the question what beauty is for Leibniz. In chapter I, we show that beauty is harmony or an instance of harmony. In turn, we establish that harmony is the formal structure of unity and variety. The degree of harmony, and thus beauty, is accounted for according to the objective measure of these two terms, unity and variety. This measure is a formal structure because it only fixes these two terms as functions, independently of any content. The result is that anything that complies with the formula of unity in variety, no matter what its content, is harmonious or beautiful. In other words, something is beautiful when that something is constituted by many elements that are united. This entails that Leibniz's notion of beauty is a nominalist one: beauty is not something in itself, but it is in things that comply with the formal structure of unity in variety. Later in this chapter, we point out other formal features entailed by this formula that also constitute important features of beauty, such as wholeness, intelligibility and potential for

pleasure. In chapter II, we establish what variety is for Leibniz. We start by identifying what sort of elements comply with the formal measure of the variety in Leibniz's ontology. We argue that in all entities variety is a multiplicity of parts, of properties, or of both parts and properties. In this sense, while composite things can be beautiful on account of the unity of the multiplicity their parts, simple things can be beautiful by expressing[6] a unity of many properties. Afterwards, we claim that Leibniz's writings suggest that greater variety is accorded by, not only the quantity of different things, but also by the degree of difference among those things. The result is that higher degrees of variety are achieved when unity includes not only many similar elements but also contrasting or even dissonant ones. Accordingly, the heterogeneity of an entity's constituents contributes to its beauty. This is the case as long as the diverse and dissonant constituents reach unity. For Leibniz, beauty is achieved when dissonances are harmonically resolved in the unity of a whole. This means that an entity's beauty is the result of a variety, where dissonances have a certain order that offers complexity, yet at the same time harmonic resolution. In chapter III, we argue that the idea of unity postulated in the formula of beauty is a principle of order. We claim that in Leibniz's philosophy unity is the abstract principle that defines an order in which two or more things relate to each other. We show that this sort of unity can be found in many of the entities proposed in Leibniz's ontology. In chapter III, we focus primarily on the unity of simple substances (i.e. monads), possible worlds and aggregates. With the explanation of unity we arrive at an adequate definition of the main features that characterise the ontology of beauty, as the formal structure of harmony. Thus, we conclude that, according to Leibniz's philosophy, an entity is beautiful when its diverse components relate among each other in accordance with one principle of order.

With an understanding of what the ontological structure of beauty is, we can proceed to examine its traits as a property and as value in the world, as well as how it relates to subjective experience. Accordingly, in the second part of this thesis, we show that Leibniz's notion of beauty refers to an objective property with objective value, yet accessible by subjective experience. In chapter IV, we explain that Leibniz's views on cosmology present a framework that posits beauty as an objective property of things. We argue that Leibniz's arguments lead to a completely mind-independent notion of beauty, where things are

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[6] We acknowledge that the concept 'expression' has a specific meaning in some Leibniz's texts. However, in this thesis we abstain from using it in this way. Thus here we use the term 'expression', and its derivative forms, in a colloquial sense.

beautiful even as possible entities, i.e. even before they even exist or even if they never exist at all. If things possess the property of beauty independently of their existence, it is the case that they do not need to be perceived by us in order to be beautiful. Furthermore, we claim that an entity is beautiful whenever it complies with the structure of beauty as a possible entity in God's intellect, independent of God's will. In chapter V, we examine a similar idea, but in this case focusing on beauty as a value. We claim that beauty is an objective, non-anthropocentric, value. We argue that for Leibniz harmony is value in itself and that therefore beauty is not an instrumental value: harmony is not valuable just because of its effect (e.g. pleasure or happiness) on us or even on God. Finally, in chapter VI, we support the idea that the experience of beauty can include confused and distinct perceptions, sensations and thoughts, and can therefore be sensitive as well as intellectual. Beauty is grounded on a formal structure and as such it is insensible and abstract. Therefore, in itself this structure can only be experienced intellectually. However, in most cases this structure is expressed through a variety of sensible elements related in determinate order. In this form, beauty manifests in sense perceptions. At times, we perceive a beautiful object only through sense perceptions, having only confused perceptions, i.e. unaware of the structure of unity in variety. Yet, even in those cases we still experience beauty at some level. More generally, Leibniz promotes a type of aesthetic experience that mirrors the progress of our knowledge about the world, as a constant progress from confused perception to a distinct intellectual experience.

In summary, we claim that Leibniz's views express a formalist, realist and cognitive understanding of the notion of beauty, as beauty is metaphysically and ontologically explained as a formal structure, which is an objective property of things with objective value, yet at the same time intellectually accessible by rational subjects.

PART I: WHAT IS BEAUTY?

Introduction to Part I[1]

Leibniz is an heir of a pervasive tradition in the history of the philosophical discussion about beauty. Roughly defined, this tradition posits beauty as a sort of transcendental value, a real objective property of the universe, often associated with a divine, cosmological or metaphysical dimension. A common notion within this tradition is to consider beauty as intimately related to harmony. Philosophers in line with this this tradition, such as Plato and the Pythagoreans, believe that harmony is a real property of things and their relations, thus harmony is an ontologically grounded in the universe.[2] When beauty is conceived as equivalent to harmony in this way, it gains independence from the realm of subjective phenomena. Accordingly, beauty is not just a sensorial effect perceived by the subject or an anthropocentric value. This view, however, does not deny subjective aesthetic experience, it just posits beauty as a property outside the mind and places pleasure –or other emotional responses– in the subject, as an effect caused by the extra-subjective property of beauty.

This tradition can be traced back at least to the Pythagoreans and Plato, whose theories about harmony and beauty are based on a profoundly metaphysical background. A fitting presentation of this background is found in Pseudo-Timaeus's *On the Soul and the World*, written by an anonymous neo-Pythagorean and Platonic philosopher. In that text it is stated that the cosmos follows perfect proportions based on mathematical ratios, which at the same time correspond to the rules of musical harmony (Navon, 1986, p.8). The author explains that from matter and form, God developed the best production; a perfect and beautiful world, endowed with soul and reason, following equal intervals as the base of proportions harmonically combined according to numbers. The author adds that this pattern 'is perceived by the mind, to which the created thing, having been carefully adjusted, has become the most beautiful' (Navon, 1986, pp.116-18).

This argument offers a cosmological view where the universe is beautiful, since it is a harmonic whole, and it is so because it was produced to be perfect. This reasoning soundly links perfection, harmony and beauty in a rather similar manner as Leibniz's philosophy will

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[1] Some of the ideas expressed in this section are contained in the following published articles: Portales, Carlos (2016) Variety and simplicity in Leibniz's aesthetics. In *Vorträge des X. Internationalen Leibniz-Kongresses, Band V*. Hildesheim: Georg Olms Verlag and Portales, Carlos (2018) Objective beauty and subjective dissent in Leibniz's aesthetics. *Estetika: The Central European Journal of Aesthetics,* 55(1), 67–88.

[2] This way to understand beauty could be paired with what Wladyslaw Tatarkiewicz calls 'The great theory of beauty' that, according to the author, ruled the European philosophical scenery until the 18th century. Tatarkiewicz states that this theory conceives beauty as the effect of the interrelation of parts, their qualities and number; in other words, the harmony between things (1980, p.125).

do several centuries later.[3] Furthermore, the profound kinship among these terms will become one of the pillar notions of Leibniz's own cosmology, metaphysics and aesthetics.

Perfection in early modern philosophy becomes a significant concept, especially for philosophers attempting to rationally explain the divine nature of God, yet the term had been philosophically relevant since the times of classical Greece. The Latin term *perfectio* is equivalent to the term 'complete' and it was clearly defined by Aristotle in the *Metaphysics*. There, Aristotle establishes three acceptations of the term: firstly, when none of the parts of a thing could ever be found outside itself; secondly, as something that cannot be excelled in its kind; and thirdly, as a thing that attained its own teleological end (Aristotle, 1984, v.2, p.1613). All these meanings are more or less contained in Leibniz's uses of the word. In particular, a version of the first and second one are the most interesting for us here. As will be explained in the first chapter, Leibniz claims that God is perfect because he possesses all perfections (A VI 4, p.1531/AG, p.35). Or, using Aristotle's terms; God cannot be excelled, since he possesses all his 'parts' and each of these 'parts' are properties that cannot be excelled. This formula is modified in Leibniz's philosophy, since God is not a composite being, so he does not have parts. Instead, God does possess several properties, attributes or qualities that substitute for the Aristotelian idea of parts. These attributes are called by Leibniz perfections (in plural), as they are valuable properties, whose nature allows them to be possessed first and foremost by God in an infinite and greatest degree (A VI 4, p.1531/AG, p.35). Beauty is one of these perfections, which entails that:

1- It is a valuable property per se.
2- It is possessed firstly and mostly by God.
3- Therefore, it is a supreme metaphysical value, ontologically grounded, and not a common phenomenal qualia, such as colour, nor a mere feeling or passion, such as joy.

These traits of beauty are shared –not without contrasts– by many of the exponents of the previously considered philosophical tradition.[4] These philosophers also tend to converge with Leibniz towards a cosmology that implies that God's beauty –or any of its variants:

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[3] Although it is evident that Leibniz read the Pythagoreans, Plato, the Stoics and other philosophers that adhered to the mentioned tradition, here we are not making the case that Leibniz's views are the direct result of any particular influence, even though that would be a plausible thesis. Accordingly, our intention here is merely to show the clear resemblances between Leibniz's ideas and the ones shared among previous philosophers.

[4] For example, regarding the first implication, Marcus Aurelius claimed that whatever is beautiful is valuable in itself (2008, p.96-97). Plato sometimes considered beauty as one of the privileged ideas or forms related to the Good, the highest value in his philosophical system (See *Hippias Major*, 296d or *Philebus*, 65a-65a in Plato, 1961, v.1 & v.3). The second implication echoes Plato and the Stoics that attributed to God the most beautiful form –i.e. a spherical form– (Kleve, 1978, p.72), as well as in the neo-Pythagoreans, for which beauty comes from God's perfection (Navon, 1986, pp.116-118).

transcendental beauty, infinite beauty, or supreme beauty– is one of the perfections that guided the creation of the universe. This argument explains how something mainly in God is also found in nature.[5] The inevitable consequence of this line of thought is what Umberto Eco (1959) has called 'pancalism'; the belief that the cosmos is inherently beautiful.[6]

Here, there is an implicit fourth implication for beauty as a perfection:

4- For the cosmos to be perfect it must be harmonic, therefore beautiful.

The Pythagoreans, Plato and Leibniz also coincide in the depiction of a harmonic universe, which grounds beauty.[7] According to the popularised story, Pythagoras discovered a mathematical ratio in the harmony of musical sounds, which pertains to the order of the universe, so he concludes that the beauty of musical harmony is a sensible expression of the proportion that configures the harmony of the cosmos (Levin, 2009, p.6). The notion of harmony, based on a mathematical ratio, explains the beauty of the cosmos and also of music, because when music is composed according to this ratio it is a reproduction of the harmonic sound emitted by the movement of the planets: the so called 'music of the spheres' or 'harmony of the spheres' (Levin, 2009, p.13). Yet, harmony was not just a physical or a musical property, it was firstly and most significantly a metaphysical force that rules the universe. As the Pythagorean Philolaus reportedly described it; '[t]he harmony is generally the result of contraries; for it is the unity of multiplicity, and the agreement of discordances' and dissimilar things 'must be organized by the harmony, if they are to take their place in the connected totality of the world' (Navon, 1986, pp.131-2). 'Unity in multiplicity' is also Leibniz's definition of harmony and just like Philolaus, Leibniz thought that harmony is the metaphysical principle that rules the universe. This view was shared by other Greek thinkers, such as Plato, who agreed that the universe is based on harmony thanks to the ruling presence of measure or number, which ordered the cosmos. This ordering or harmony is not just what causally produces beauty, but it is beauty in itself, as Plato claims in his *Symposium* (206c-e) that beauty and harmony are identical (Grube, 1927, p.274).[8]

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[5] For example, as it was said some Pythagoreans believed that God created a perfect and beautiful universe by following mathematical proportions which resulted in harmony (Navon, pp.116-118). Also Plato stated, in the *Timaeus* (20c-31b)., that '[f]or the deity, intending to make this world like the fairest and most perfect of intelligible beings' (1961, v.3, p.1163)

[6] This term was coined first by J. Mark Baldwin in his book *Thoughts and Things* (1906–11). Yet, here it expresses the use adopted by Umberto Eco in *Art and Beauty in the middle Ages* (1986, p.17).

[7] According to Tatarkiewicz this was a common relation, as he claims that, since classic Greece, the term beauty had integrated the ideas of symmetry and harmony in the background, at least until the 18th century (1980, p.122).

[8] In Plato's dialogues is harder to find a direct definition of harmony as unity in multiplicity –although there are some passages that might allude to this idea, for example see *Timaeus* 69b-70b (1961, v.3, p.756)–, since it seems that he preferred a slightly different notion of harmony more related with measure and moderation as limits to the infinite and excess. See *Philebus* 26a-26c (1961, v.3, pp.578-79).

The first chapter will explain Leibniz's version of perfection, harmony and beauty, by defining each term and its mutual relation that, notwithstanding its ample agreement with the Greek philosophers, shows very specific features. In comparison with Plato's claim, it will be argued that the Leibnizian view accepts that beauty is the same as harmony, yet harmony is not exclusively beauty, for there are other positive qualities or perfections that agree with –or can be explicable through– the formula of unity in variety, such as power and existence. It will be considered that analytically speaking beauty is a 'moment' or an instance of this formula. Something is beautiful when it complies with certain rules. The most fundamental one is that something beautiful must conform to the structure of unity in variety, which is intelligible in its disposition. For Leibniz, beauty requires a harmonic order determined by coherence more than just a mathematical ratio. Furthermore, there are other rules for enhancing beauty that have nothing to do with mathematical or logical structures such as the unity of a large amount of elements and the degree of contrast among them. As we will see the requirements or rules that enhance beauty can be summarised as follows:

1- Unity in variety or harmony.
2- Wholeness.
3- An intelligible order.
4- The potential to give pleasure.
5- Plenitude and contrasts in and between its diverse elements.
6- Consonance in and between its diverse elements.

In this way, Leibniz's notion of beauty differs from the classical one at least in the sense that Leibniz's version is not only defined by proportions and measures, although it does not exclude them, on the contrary, they are required. It is also important to consider that, in contrast to the Platonic tradition, Leibniz's beauty is not a universal. It will be argued that for Leibniz beauty is a property of possible and actual things, but beauty in itself does not possess being. Therefore, beauty is achieved when something exhibits specific formal characteristics such as unity in variety and the described rules. These rules are formal in the sense that there is no prescribed content that determines the way to achieve them. In other words, while the rules are necessary to achieve beauty, the way to comply with these rules is contingent. Following a nominalist view, the rules by themselves are neither beauty nor beautiful, only an entity that complies with them should be called beautiful. This formula entails a formalist notion of beauty that, although it allows us to present beauty as formal

requirements to be prescribed before engaging with a particular, it does so in a strictly nominalist way, hence avoiding universals.

The second chapter deals with one the two key aspects of harmony: variety. The aesthetic tradition inherited by Leibniz shows one of its most interesting internal divergences in Plotinus' rejection or revaluation of the notion of harmony as beauty.[9] This issue is directly related to the role of variety in harmony and beauty. In the sixth tractate of his first *Ennead*, Plotinus begins his reflection by doubting the Pythagorean understanding of beauty as the harmonic relation of parts towards each other and towards a whole, since if this is the case, then only compounded things could be beautiful and things devoid of parts –sunlight, colour and gold according to Plotinus– couldn't be considered as such (1917, p.78). Plotinus' conclusion is that beauty in things comes from the communion with an Ideal-Form, a 'Principle of Reason and Idea' that endows shapeless matter with pattern (1917, pp.79-80). Thus, it is not just the unity of a multiplicity –or harmony– that produces beauty, but first and foremost Form; a principle derived from 'divine thought', which possesses the power to mould matter (1917, p.80). Plotinus' reasoning allows us to dispense with the necessity of multiplicity for the constitution of something beautiful, relying on the simplicity and indivisibility of a Platonic form.[10] Leibniz sides with the Pythagoreans against Plotinus, since, as we will show in chapter II, his notion of beauty is inseparable from harmony and therefore, multiplicity. However, Leibniz does try to conciliate beauty and simplicity, allowing that simple things can be beautiful, since their multiplicity resides in the diversity of their properties and not always in the multiplicity of their parts.

Although there is an undeniable agreement between Leibniz and the Pythagorean notions of harmony and beauty, there are significant differences that make Leibniz's version diverge from the Pythagoreans. These differences do not merely involve notions about aesthetics, but are also related to metaphysics and theology. It is quite common to find some Pythagoreans expressing a kind of Manicheism in their cosmology; for example, Archytas reportedly said that there are two principles of Being, the first contains all that is ordered and finished in the cosmos, while the second one comprises things that are unordered, irrational,

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[9] Tatarkiewicz claims that Plotinus made a significant reformation to this notion, yet he did not reject 'The great theory' completely, he just attempted to supplement it by integrating to its frame the beauty of not compounded things (1980, pp.126-127). On the other hand, Gilbert and Kuhn state that Plotinus completely rejects the notion of harmony (1953, p.111). For a different view regarding this discussion see Ota Gál's paper 'Unitas multiplex, as the basis of Plotinus' Conception of Beauty' (2011).

[10] This posture finds certain radicalisation in some Neoplatonists such as Proclus, who rejected aesthetic expressions that involve multiplicity since it can lead into confusion, as was the case of the music performed by the flute. On the contrary, Proclus advocated only for simple music as an aid for education for it promotes tranquillity and moderation (Proclus, 1965, p.131).

evil and dissonant (Navon, 1986, p.142). In this vision of the universe, harmony sided with the first principle, while dissonances sided with the second, effectively conceiving harmony as something free from dissonances. Accordingly, harmony is a force that unites things, making them agree with each other in consonance, while outside this force there is no harmony nor agreement, but dissonance, evil, chaos, etc. On the contrary, Leibniz argues for a universe that includes an infinite number of things, among which a small amount of them seem evil or dissonant. However, these negative elements are beneficial parts of the harmonic whole, since they enlarge the goodness and beauty of the universe (GP VI, p.384/H, p.385). Consequently, while the Pythagoreans put harmony on one side and dissonance in the other, Leibniz includes dissonance as an integral part of harmony.

Leibniz's inclusion of dissonance in the metaphysical dimension of harmony, strictly correlates with the advances of music theory and practice in the 17th century. During this period the contrapuntal techniques started using a vigilant control of dissonances that brought a new order in musical harmony (Carter, 2005, p.7). For example, the music theorist Marin Mersenne stated in his treaty *Harmonie Universelle* (1636) that dissonances enter into harmony as accidents, since music is mostly constituted by consonances, yet the former make the latter more pleasant and agreeable (Mersenne,1965, p.121).[11] Mersenne himself established a connection between the legitimacy of musical dissonance and theological ideas, suggesting that in the same way that God draws good from evil and order from disorder, composers mimic the divine order and dexterously use dissonances that make great ornaments to music (1965, p.131).[12] This remark possesses a significant resemblance with Leibniz's thought, since both seem to embrace a theological view of harmony that agrees impeccably with the Baroque innovations in music.[13] If we are allowed to speculate into the reason of this concurrence, it is not inconceivable that harmony is sometimes conceptually determined by its musical application first and then exported to metaphysics, therefore

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[11] In the original French: '*[I]l faut seulement remarquer que les Dissonances n'entrent dans les Compositions que par accident; car la Musique est principalement composée des Consonances, et les Dissonances ne seruent que pour leur donner de la grace, et pour les faire paroistre meilleures et plus agreables*'. (Mersenne, 1965, p.121)

[12] In the original French: '*Mais si nous considerons l'ordre diuin dont Dieu dispose toutes choses selon sa volonté, il est sans doute plus puissant que le desordre des creatures, dont il tire des auantages pour faire paroistre sa sagesse et sa puissance, en tirant le bien du mal, et en conduisant à l'ordre ce que nous mettons en desordre. En quoy il semble que les Compositeurs imitent la Sagesse diuine, lors qu'ils se seruent si dextrement des Dissonances, qu'elles apportent de grands ornemens à la Musique*' (Mersenne, 1965, p.131). Furthermore, Descartes (with whom Mersenne had a well-known correspondence exchange) claimed, from a physical and mathematical argumentation, that there are certain dissonances that are essential to the tonal musical system (See Descartes' *Compendium Musicae*, in GOC, pp.X128-X129).

[13] Compare with the following passage of Leibniz's *Theodicy*, written a few decades later: 'So the limitation or original imperfection of creatures brings it about that even the best plan of the universe cannot admit more good, and cannot be exempted from certain evils, these, however, being only of such a kind as may tend towards a greater good. There are some disorders in the parts which wonderfully enhance the beauty of the whole, just as certain dissonances, appropriately used, render harmony more beautiful'. (GP, p.384/H, p.385)

dragging with it the predominant musical tendency to the philosophical terrain.[14] If this is so, it should be considered that the whole musical system of the 17th century was characterised by its paradigmatic shift from modality –which avoids tension by using only consonances and excluding dissonances– to tonality –grounded on relaxation and tension, provided by consonances mixed with a few dissonances (Cope, 1997, p.12).[15] Since the Pythagoreans experienced only modal music (since all music was modal during their time), which by Leibniz's time was already falling in disuse, it would be only natural that their ideas of harmony differ in a musical and metaphysical dimension. Following this line of argumentation Gabriel Menendez (1999) objects to Dietrich Mahnke's (1964) Pythagorean view of Leibniz and observes that Leibniz must not be aligned with the old notion of harmony, as he is much closer to music theorists of his own time such as Kircher, Mersenne or Printz. These music theorists, although still holding certain tenets of Pythagoreanism, disregarded several Greek and medieval theoretical aspects that the new notions of tonal music had rendered useless (1999, pp.35-36).[16]

In agreement with this view, in the second chapter we will argue that the inclusion of dissonance in the principle of harmony calls for a different way to understand multiplicity. Leibniz's multiplicity or variety does not indicate just a large quantity of things, but also a qualitative difference between them or, as mentioned earlier, contrast. Hence there is an increase in the variety of harmony when the difference between two or more things is significant, such as the difference between consonance and dissonance –or between good and evil– coexisting in one unity. This does not mean that dissonances are valuable in themselves;

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[14] Although Leibniz makes the inverse reasoning, subordinating music to the metaphysical notion of nature's harmony and its understanding: 'In the same way as almost nothing is more pleasant for the human senses than the consonance of music, so nothing is more pleasant for the understanding than the wonderful consonance of nature, of which music is just a foretaste and a small sample'. Author's translation from the original German: '*Und gleichwie fast nichts den Menschlichen Sinnen angenehmer als die Einstimmung der Musick, so ist nichts dem verstand angenehmer als die wunderbare einstimmung der Natur, davon die Musick nur ein vorschmack und eine kleine Probe.*' (GP VII, p.122).

[15] The use of dissonances was by no means limited only to music. During the baroque dissonance, tension or any equivalent term was extended from music to other arts (although it could be argued that only metaphorically). Heinrich Wölfflin describes the difference between Renaissance and Baroque art, especially architecture, in very similar manner as Baroque music is described by Cope: 'In contrast to Renaissance art, which sought permanence and repose in everything, the baroque had from the first a definite sense of direction' (1964, p.58) This sense of direction is achieved by an 'intension to create intentional dissonance', for example '[t]he baroque flaunts cramped niches, windows disproportionate to their allotted space, and paintings much large for the surfaces they fill; they are transposed from a different key, tuned to a different scale of proportions. The aesthetic charm of this approach is the resolution of the discords.' (1964, p.68)

[16] Another example of this is found in Kepler, who had already debunked the Pythagorean idea that the planets make actual audible music and that their movement express harmony based on pure consonances (Pesic, 2005, pa. 3.19). In fact, Kepler stated that the planets considered in musical combination, would match modern tonal music, which included dissonances (Kepler, 1997, p.430). It is in this context that he made his famous ode to modern musicians, since their music is a more definite reproduction of celestial and divine harmony: 'Now there is need, Urania, of a grander sound, while I ascend by the harmonic stair of the celestial motions to higher things, where the true archetype of the fabric of the world is laid up and preserved. Follow me, modern musicians, and attribute it to your arts, unknown to antiquity: in these last centuries, Nature, always prodigal of herself, has at last brought forth, after an incubation of twice a thousand years, you, the first true offprints of the universal whole. By your harmonizing of various voices, and through your ears, she has whispered of herself, as she is in her innermost bosom, to the human mind, most beloved daughter of God the Creator' (Kepler, 1997, p.441)

they are still considered as negative elements that standing alone are neither harmonious nor beautiful –just as evil is different in kind from good and by itself is always a negative value. Thus dissonance only enhances harmony and beauty in combination with elements and values that together result in the resolution of dissonance. It will be argued that beauty for Leibniz includes this resolution of tensions.[17] In this sense, Leibniz's position differs from the Manicheism that excludes dissonances from harmony, yet also differs from a conception of harmony as an equal distribution of opposites that grounds balance by perpetuating tension.[18]

The necessity of resolution stresses a notion of beauty that manifests itself when something is considered as a whole. This points to another important idea: the beauty of the parts is subordinated to the whole, which is the expression of their unity.[19] The third chapter focuses on this second key aspect of harmony: unity. It will be argued that a coherent interpretation of Leibniz's concept of unity cannot be limited to oneness or union, but it should also include identity and agreement. In order to embrace all the significations that unity involves in reference to harmony and beauty a more general concept is required. Here we argue that unity in Leibniz's formula of unity in variety (and all its equivalent phrasing manners) is a principle of order.

This concept is more apt to describe the complexities of Leibniz's notion of unity in the context of beauty, which cannot be understood just as a 'union' or a 'One' without multiplicity. Just to consider one example, for Thomas Aquinas the role of harmony in beauty is to unite things that are not in principle an inherent unity; many ones that are not one. Yet this does not apply when ascending the divine scale towards transcendental beauty, since at this point these values are a union of transcendentals. In other words, they are one. Hence for Aquinas, harmony does not constitute the most significant requirement for beauty (Rubin, 2016, pp.304-5). In contrast, for Leibniz, unity in the context of beauty is always a sort of coordination between multiplicities. The oneness of an entity, although an important

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[17] This was a common feature of the baroque. In architecture Wölfflin considers this resolution of tensions a significant feature that distinguishes the baroque from the gothic. For example regarding the vertical dimensions of buildings he states that 'in gothic the vertical movement streams upwards without check and dissolves playfully at the top, while in baroque it encounters the resistance of a heavy cornice, though –and this is what matters– a harmonious solution is always found in the end' (1964, p.60). For German Bazin, baroque paintings replicate this process through their contrasting iconography, since '[c]onfronted by a multiplicity of symbols, the mind leaps from form to form, from subject to subject, in an intoxication of ideas. Glad in the end to find beauty of an overriding order in so much complexity' (1968, p.43). Furthermore, in literature Panofsky relates the resolution of tensions with 'happy endings' that, in his view, 'is a typical Baroque feature (in Monteverdi's opera even Orpheus remains in possession of his wife): a painful conflict resolved in a pleasurable issue' (1995, p.68).

[18] This conception of harmony as balance grounded on constant tension between opposites can be associated with Heraclitus, especially with his fragment 51 and the metaphor of the bow and the lyre.

[19] Once again Wölfflin's words illustrate this point through baroque architecture: 'Architecture had become dramatic; the work of art was no longer composed by a series of independently beautiful and self-contained parts. Only through the whole could the individual part gain value and meaning, or a satisfying conclusion and a termination to be brought about.' (1964, p.70)

ingredient in Leibniz's ontology, is neither a source of beauty nor the only aspect to which the term 'unity' refers. Is for this reason that unity cannot be equated to oneness and thus we turn towards the notion of a 'principle of order'.

In the context of art, Rudolf Arnheim defines order as 'the degree and kind of lawfulness governing the relations among the parts of an entity' (1966, p.123). Ruth Lorand breaks down this definition in four essential traits of order:

1- It requires distinct parts.
2- It manifests in degrees.
3- It consists in the relations among parts.
4- It involves something that governs the relations among parts, such as a law or a principle (2003, p.9)

Leibniz complies to all four of these requirements in his concept of harmony: the first – something that contains distinct parts– and third –relations among parts– are obvious from the ground definition that harmony is unity in variety. The second requirement –order has degrees– is more controversial, as Lorand herself states that Leibniz's philosophy does not accept different degrees of order (2003, p.91). However, it will be shown that she is partially wrong, since Leibniz considers degrees of order regarding certain entities. The fourth one – the consideration of laws or principles that govern the relations between parts– seems less clear considering what we have said until now, yet it will be argued that unity for Leibniz consists exactly in principles and laws. Indeed, by principle of order we mean something that introduces order to a multiplicity, such as principles and laws. This is a wide notion that also includes rules, designs, programmes, or any other principle that induces order such as organisation, coordination, inclusion, exclusion, direction, resolution, intelligibility or compossibility. Here we have maintained the broad meaning of 'principle of order' on purpose in order to do justice to the complexity of Leibniz's notion of unity.[20] Yet, we hope that through its use, while examining Leibniz's text, it will become much clearer and will justify our decision of abstaining from give it a more specific meaning.

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[20] Another significant aspect of this concept is that extends further than the Pythagorean and medieval idea of beauty as an order given by number and its derivate terms (symmetry, proportion, measure, etc.), yet at the same time the idea of principle of order does not exclude them.

Chapter I: Perfection, harmony and beauty

The present chapter will argue that, for Leibniz, beauty is a perfection and, more specifically, that it is one of the instances of unity in variety or harmony, which in turn is the formal structure of perfection. We will also introduce certain features of unity in variety that characterise beauty. In the first section, we explain what the term 'perfection' and 'perfections' mean in Leibniz's metaphysics and their relation with the notion of beauty. It will be shown that perfection –in singular– is unity in variety. Afterwards, we will define harmony as the 'formal structure of unity in variety' and explain the meaning of 'formal structure'. With this definition at hand, it will be argued that not only perfection –in its singular form– is harmony, but also some perfections –in plural– can be expressed through the notion of unity in variety, as aspect or 'moment' of this formula. In the second section, beauty is analysed as a perfection and accordingly as an aspect or 'moment' of unity in variety. After comparing beauty with other perfections, we will establish the particular features that characterise beauty in a different light from other aspects of unity in variety.

1. Perfection

1.1 Perfections and perfection

In *On Wisdom* (1693-1700?), Leibniz refers to the relation between pleasure and perfection, stating that the latter is the source of the former. In this context he enumerates different perfections in things, including beauty as one of them

> Pleasure is the feeling of a perfection or an excellence, whether in ourselves or in something else. For the perfection of other beings also is agreeable, such as understanding, courage, and especially beauty in another human being, or in an animal or even in a lifeless creation, a painting or a work of craftsmanship, as well. (GP VII, p.86/L, p.425).

To my knowledge this passage contains the only explicit statement where Leibniz clearly establishes that beauty is a perfection. Nevertheless, throughout Leibniz's writings, many statements point to this conclusion. For example, he often depicts a causal relation between beauty and pleasure as well as one between perfection and pleasure. Elsewhere, he also defines both perfection and beauty as harmony –unity in plurality– and a harmony as a cause of pleasure.[1] This conceptual equivalence seems to suggest that beauty and perfection are

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[1] For example, in an early work called *Elements of natural law* (1670-71), Leibniz refers to the mentioned relation between beauty and pleasure, by defining beautiful things as those things that are pleasant or 'the contemplation of which is pleasant' (A VI 1, p.464/L, p.137), while later, in the *New Essays*, he describes pleasure in relation to perfection in a remarkably

very closely related terms for Leibniz.[2] According to some of this textual evidence, Gregory Brown argues that it wouldn't be completely wrong to assume that harmony, beauty and perfection are the same thing (1988, p.577). However, in other writings, beauty and perfection are mentioned in conjunction while enumerating attributes of the same thing.[3] Although, this use of the terms reinforces the idea that there is a strong relation between them, it might also suggest that they could differ in meaning.

It seems reasonable to assume that perfection, as a concept, is broader than beauty, since perfection in Leibniz's writings also refers to other attributes, such as power, knowledge, goodness and existence. He also highlights the heterogeneity of perfections in §1 of the *Discourse on Metaphysics* (1686), where he says that 'there are several entirely different perfections in nature' (A VI 4, p.1531/AG, p.35). In an early work entitled *Ens Perfectissimum Existit* (1676), Leibniz explains his use of this word: 'I term a perfection every simple quality which is positive and absolute, or, which expresses without any limits whatever it does express' (A VI 3, p.578/ PDSR, p.101). According to Lloyd Strickland's analysis of this phrase the expressions 'absolute', 'positive' and 'without any limits' are interchangeable between each other, since all of them mean 'a complete absence of limits' (2006, p.14). Hence a perfection is a quality that can be expressed without limits. However, in the *Discourse* Leibniz adds that a perfection must allow a highest degree of a form or nature, excluding from the former definition things such as numbers or figures (A VI 4, p.1531/AG, p.35). Consequently, a quality is *a perfection* if it can be manifested without limits and can be expressed in a greatest or ultimate degree.

The lack of limits and the idea of an ultimate degree might appear contradictory, although it can be clarified by illustrating it with the example of a specific perfection. Power without limits is omnipotence and, at the same time, omnipotence is power in its greatest degree, since there cannot be anything with more power than omnipotence. Therefore, omnipotence is a conceivable way to understand an unlimited power that is also the highest

similar manner, defining pleasure as 'a sense of perfection' (A VI 6, p.194/RB, p.194). In his letters to Wolff, he repeats this association by relating pleasure to agreement in variety, which is not only another definition of perfection (GW, p.171/AG, p.233) but also the definition of harmony and beauty as it appears in *On Wisdom* (GP VII, p.88/ L, p.426).

[2] Another sign that suggests the proximity of these terms is found in the *Discourse on Metaphysics* (1686), where Leibniz substitutes the word 'beauty', used in the title of the second paragraph, for the word 'perfection', when he paraphrases that same title in the first sentence of the paragraph. The title of the second paragraph reads: 'Against those who claim that there is no goodness in God's works; or that the rules of goodness and *beauty* are arbitrary'. And the first sentence: 'Thus I am far from holding to the opinion of those who maintain that there are no rules of goodness and perfection in the nature of things' (A VI 4, p.1532/L, p.304).

[3] For example in *De rerum originatione radicali* (1697)**,** Leibniz refers to 'the universal beauty and perfection of the works of God' (GP VII, p.308/L, p.490) [Although throughout this work for this text we use Ariew's and Garber's translation (AG), here we preferred Loemker's translation instead, since AG seems less accurate] and in *Résumé of Meaphysics* (1697) he states that 'An intelligent being's pleasure is simply the perception of *beauty*, order and *perfection*' (GP VII, p.290/MP, p.146)

possible power. On the contrary, there is no such thing as an infinite number which is the highest number of all, because it is always possible to conceive a higher number. It is also important to clarify that this does not mean that an attribute has to be in its highest degree to classify as a perfection. It only has to allow this as a possibility. In other words, if it is possible for power to be expressed in its ultimate degree, such as omnipotence, any manifestation of power (in any degree) is a perfection and not only omnipotence. As Strickland states '[w]e should thus understand, as indeed Leibniz's contemporaries would, that for a creature to have a perfection is for it to have some measure or value of an attribute which is found in its fullest extent in God', therefore ''perfection' refers to these attributes themselves, rather than only the highest degree of them' (2006, pp.20-21).

Accordingly, if the greatest beauty is conceivable and without limits, beauty would be a perfection, among several other qualities that qualify as such. This seems to be the case for Leibniz as he refers to God as 'the most beautiful being of all' (A VI 1, p.461/L, p.134), which can be paraphrased as 'God possesses the greatest beauty'. Leibniz also makes references to unlimited beauty, especially regarding the infinite beauty of God's work, plans and actions (GP III, p.341/D, p.161 & GP VI, p.238-9/H, p.255). Thus we can affirm that beauty is a perfection.

In the quoted passage from *Ens Perfectissimum existit* Leibniz also states that a perfection is simple. By 'simple' he means that a perfection is not composed of other qualities that could limit it (A VI, 3, p.577). However, for reasons that we will discuss later on this chapter, we do not think that 'simple' as thus defined is a consistent trait of perfections.

The given definition of perfections does not exhaust Leibniz's use of the term. He also utilises 'perfection' in its singular noun form –as well as a more colloquial and less relevant adjectival and adverbial form, i.e. 'perfect' and 'perfectly'. Perfection, as a singular noun, can be understood in relation to perfections in plural, as defined in *Ens Perfectissimum existit*. For Leibniz, God's perfection, in singular, means that all possible perfections, in plural, belong to God, whose essence is, in fact, all perfections (A VI 3, p.519/ PDSR, p.79), and he possesses each different perfection in the highest degree (A VI 4, p.1531/AG, p.35). Because God possesses all perfections –i.e. 'perfections' in plural as positive qualities–, God is perfect –i.e. 'perfect' as a singular noun.

This singular use applies also to the idea that there is overall singular perfection. In Leibniz's writings after *Ens Perfectissimum existit,* singular perfection refers often to 'amount of essence' of things or equivalent notions that indicate a relation between perfection and existence. This requires some explanation. For Leibniz there is a potentially infinite quantity of possible things in God's ideas, yet only some of them have been actualised by God. In simpler words, only some of them exist in the universe. The criterion for the selection of these things is based on their degree of perfection or essence, as Leibniz states in *On Freedom and Possibility* (1680-82?): 'Perfection, or essence, is an urge for existence [*exigentia existentiae*] from which existence indeed follows *per se,* not necessarily, but from the denial that another thing more perfect prevents it from existing' (Grua, p.288/AG, p.20). This applies more accurately to possible universes, as Leibniz states that each possible universe has 'the right to aspire to existence in proportion to the amount of perfection it contains in germ' (GP VI, p.616/Latta, p.247).[4] Therefore, from all possibles only the ones with the highest amount of essence or degree of perfection are not denied existence.

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[4] As we will see in chapter 2, what becomes actual because of its perfection is the whole universe rather than individual things. Indeed the most perfect universe can include some individual elements that are less perfect than other elements that were not actualised. What matters is the overall perfection of a universe given by the combination of its elements. This will be clarify further later on this thesis. [Through this thesis we use the translation of the *Monadology* given by Ariew and Garber (AG). However, for this particular passage, we think that Latta's translation includes an interesting translation of *qu'il enveloppe*, as 'contains in germ', which we want to maintain. For other translations, see L, p.648, AG, p.220, as well as LM, p.25 (also for commentary about this passage, see LM, pp.117-8).]

1.2 Perfection, degree of essence and unity in variety

But what exactly is this perfection or degree of essence? Before answering this question we should look further into what does entail degree of perfection or amount of essence. In *De rerum originatione radicali* (1697), Leibniz states that 'just as possibility is the foundation [*principium*] of essence, so perfection or degree of essence (through which the greatest number of things are compossible) is the foundation of existence' (GP VII, p.304/AG, p.151).[5] Essence is determined by or founded in what is possible. For Leibniz a possible thing is something that has no contradictions as an idea in the mind of God, yet does not necessarily exist. As said, only certain things with the highest degrees of essence or perfection reach existence. According to the quoted passage, the degree of perfection or amount of essence determines the number of compossible things in existence, which in this case is a reference to the perfection of the whole universe. Consequently, if a universe has a higher degree of essence, or perfection, it has a higher claim for existence and allows more compossible things in it.

With this in mind we are in a better position to answer the question about what defines or determines the degree of perfection, as well as what is perfection in individual things. In his letters to Christian Wolff (1715), Leibniz presents the following definition of perfection:

> *Perfection* is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement [*consensus*] or identity in variety; you can even say that it is the degree of contemplatibility [*considerabilitas*]. Indeed, order, regularity, and harmony come to the same thing. You can even say that it is the degree of essence, if essence is calculated from harmonizing properties, which give essence weight and momentum, so to speak' (GW, p.172/AG, p.233).

The first and last sentences of this paragraph share a similar idea with the previously quoted fragment of *De rerum originatione radicali*. Yet, while in that passage Leibniz refers to degree of essence as a determinant factor of the number of things that are compossible, in the letter to Wolff he defines perfection as 'the harmony of things', and 'degree of essence' as something calculated from 'harmonising properties'. If we consider that, as said before, perfection is degree of essence, we have now three notions that explain perfection. So perfection or degree of essence is:

1)   That which determines the quantity of compossible things.

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[5] Alternatively, Loemker's translation goes as follows: 'just as possibility is the principle of essence, so perfection or degree of essence is the principle of existence (since the degree of perfection determines the largest number of things that are compossible)' (L, p.488). And in its originial version in Latin: '*Et ut possibilitas est principium Essentiae, ita perfectio seu Essentiae gradus (per quem plurima sunt compossibilia) principium existentiae*' (GP VII, p.304).

2)   The harmony of things.

3)   Something calculated from harmonising properties.

In this context, the word 'things' from 1) and 2) seems to be not just individual objects, but a more general term that might include related concepts such as 'properties' or 'qualities'. If we accept this, the phrases 'the harmony of things' and 'harmonising properties' do not differ much in meaning.[6] Consequently, the singular use of perfection (overall perfection) or degree of essence would indicate quantity of compossible or harmonising things or properties. To be more precise, we should notice that 1) is less a definition and more like an effect of perfection. Under this consideration, it seems prudent to prioritise 2) and 3) as constitutive traits of perfection, which means to opt for the term 'harmony' instead of 'compossibility'.[7] Hence perfection is given by degree of essence, as well as by the harmony of things or harmonising properties.

      With this interpretation it is possible to determine the degree of perfection of a simple thing –e.g. God– based on the harmony of its properties, as well as the degree of perfection of an aggregate –e.g. the universe– based on the harmony of the things (objects) that compose it. We can also say that some of these properties or qualities –if they are without limits and allow a greatest expression– are perfections in the previously designated plural denotation. Also, the more of these perfections a thing has and the higher these perfections are expressed in that thing, the greater degree of singular overall perfection that thing has. This seems to be the case in Leibniz's description of God's perfection mentioned above; God is perfect –he has overall perfection or degree of essence– because he possesses all perfections –or properties that are positive– in their highest degree (A VI 4, p.1531/AG, p.35).

      According to what has been said here, there is a subtle difference between perfection and perfections. The latter term refers to several different qualities that are positive, and the former term is the harmonious coexistence of properties and things together in one entity – this entity is either a simple one (e.g. God) or an aggregate (e.g. the universe). Therefore,

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[6] This might be what Leibniz means when he states that 'it is the same to look for perfection in an essence and in the properties that flow from the essence' (GW, p.170/AG, p.233). Furthermore, this equivalence between the term 'things' and 'properties' is not necessarily dismissed in the quoted sentence from the *De rerum originatione radicali*, where the word 'things' is only implied in the original Latin with the word *plurima* and only made explicit in the translation. Loemker's English translation says in the parenthesis 'since the degree of perfection determines the largest number of things that are compossible' (L, p.488) and, similarly, Ariew's and Garber's version goes 'perfection or degree of essence (through which the greatest number of things are compossible)' (AG, p.151). Yet the original version is '*per quem plurima sunt compossibilia*' (GP VII, p.304), which literally means 'through which many (or most) are compossible'. In this cases, the word *res* (things), in Latin, is normally presupposed in the adjective (*plurima*), but it doesn't have the same determination in the meaning as its explicit form. Therefore, it wouldn't be wrong to assume that *plurima* implies 'things' in a more general manner that wouldn't necessarily dismiss a related notion such as property.

[7] The contrast between the terms 'compossibility' and 'harmony' will be explained further in chapters II and III. Yet for now it suffices to say that 1), 2) and 3) point to very similar ideas, even though we deem 2) and 3) more adequate for the present task of defining 'perfection' in singular.

overall perfection in singular is the unity of a plurality of things or properties, among which some these properties can be perfections. Furthermore, the more perfections an entity possesses, the more perfect it is. Regarding this interpretation, a fundamental difference between these two meanings seems to be that overall perfection involves a united variety of properties and/or things, whereas perfections (in plural) do not relate to unity in multiplicity. However, here it will be argued that perfections also share the structure unity in plurality, which emerges when some of the main properties considered perfections by Leibniz are closely examined and unity in variety is understood as a formal structure. But before pursuing this idea any further, it is important to clarify exactly what is meant here by formal structure of unity in variety, beginning with the terminological use of that phrase.

1.3 The formal structure of unity in variety

One of the earliest versions of this expression in Leibniz's writings, appears in a letter to Antoine Arnauld on November of 1671, using the terms *diversitas identitate compensate*. The context is the definition of harmony in relation to pleasure: 'I define […] happiness as pleasure without pain; pleasure as the sense of harmony […]; harmony as diversity compensated by identity [*diversitas identitate compensate*]. For variety always delights us if it is reduced to unity' (GP I, p.73/L, p.150). The phrase 'diversity compensated by identity' is perfectly equivalent with other expressions in later works, even in other languages, such as *Einigkeit in der Vielheit* used also to define harmony in *On Wisdom* (1690?): 'Now, unity in plurality [*einigkeit in der vielheit*] is nothing but harmony' (GP VII, p.87/L, p.426). In the quoted letters to Wolff (1715) harmony is similarly defined as *consensus vel identitas in varietate*: 'Perfection is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement or identity in variety [*consensus vel identitas in varietate*]' (GW, p.172/AG, p.233). In the same text Leibniz reiterates the relation between agreement in variety, harmony and pleasure: 'the sense of harmony, that is, the observation of agreements [*consensus*] might bring forth pleasure […] Agreement is sought in variety, and the more easily it is observed there, the more it pleases' (GW, p.171/AG, p.233). Yet in the same letter Leibniz also mentions an epistemological definition of harmony. As he explains *agreement in variety* is also a 'degree of contemplatibility [*considerabilitas*]' (GW, p.171/AG, p.233). This meaning links harmony to intelligibility and thereby connects unity in variety with another similar phrase previously written in §6 of the *Discourse of Metaphysics* (1686): 'God has chosen the most perfect world, that is, the one which is at the same time the

simplest in hypotheses and the richest in phenomena' (A VI 4, p.1538/AG, p.39). This link suggests that there is certain kind of equivalence between hypothesis and unity. Indeed some commentators consider that the way in which the term 'hypothesis' is used in the quoted paragraph expresses a state where a plurality of things can be made intelligible by its reduction to simple laws, since these laws give 'contemplatibility' to things.[8]

Although all these different phrasing manners have different contexts and slightly varied connotations, It would be safe to assume that they all sum up to the formal structure of unity in plurality, which is harmony, gives pleasure and entails perfection.

A second clarification regards the idea hitherto articulated of 'formal structure.' The notion of formality establishes that there is no univocal content fixed in either of the two terms involved in the formula; neither unity nor variety entail a determinate content. In other words, what is the thing that unites and what are the things that are varied is left undetermined. Accordingly, not one kind of entity, but several can occupy the role of unity or the role of variety. This laxity permits a diversity of elements to be considered for those roles. An example of this can be observed in Leibniz's quoted passages from his letters to Wolff, when he uses the term 'things' and 'properties' as elements for the role of variety. It can also be stretched to include phenomena as variety and simple hypotheses as unity, as it seems to be the case in the quoted passage from the *Discourse*.[9] As open and undetermined as it seems, Leibniz did mention only a limited set of entities that can play the role of variety and unity. What entities can or cannot be considered as unities or varieties will be examined later in this and the next chapter. For now it suffices to establish that unity in variety is an abstract idea of a relation of functional terms that have no univocal content, which is what is meant with the notion of a 'formal structure'. Therefore, from here on our treatment of perfections and other qualities, including beauty, will be, most of the time, following the model of an analytic abstraction. However, it must be said that this is done just for the sake of clarity, since we are not committing to the idea that for Leibniz beauty exists abstracted from all things.

1.4 Perfections as unity in variety

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[8] This view follows the lines of Nicholas Rescher's (1979) and George Gale's (1976) accounts of Leibniz's mathematical version of perfection –simplicity of laws to abundance and variety of phenomena–, as well as Gregory Brown's similar interpretation that perfection is harmony, which in turn, is a specific kind of order defined as 'a set of phenomena whose richness greatly exceeds the complexity of the set of laws required to describe it' (1988, p.577). We will examine this specific relation between harmony, hypothesis and intelligibility in the chapter VI.
[9] We will develop further this idea in chapter VI.

With this in mind it is possible to repeat and confirm that unity in variety is the formal structure of perfection (in singular), as Leibniz states that 'the perfection a thing has is greater, to the extent that there is more agreement in greater variety, whether we observe it or not' (GW, p.171/AG, p.233). In this way he depicts singular perfection as agreement in variety, not only as a complemental or metaphorical relation, but as a formal structure that determines perfection. Consequently, the degree of perfection depends on these two aspects; agreement/identity/unity and variety/plurality/multiplicity, with no necessary mention of any specific content.[10]

Yet, it is also possible to apply this dual formal principle of singular perfection to most perfections (in plural). For example, power, which according to Leibniz is a perfection (A VI 4, p.1531/AG, p.35), is defined as when 'one rules many outside of itself and represents them in itself' (GP VII, p.87/L, p.426). This is clearly illustrated in the relation between monads; when one monad dominates another monad or several others, it is in virtue of the possession of more 'degrees of perfection' (GP II, p.451/L, pp.604-5). Degrees of perfection in this case are further explained by Leibniz in §50 of the *Monadology*: 'one creature is more perfect than another insofar as one finds in it that which provides an *a priori* reason for what happens in the other; and this is why we say that it acts on the other' (GP VI, p.615/AG, p.219). Brandon Look calls this relation 'causal containment model', which refers to a dominant monad that has different kinds of perceptions of the functioning of its subordinate monads, as well as the capacity to give them orders (2002, p.391). In other words, 'one rules many outside of itself and represents them in itself' is an expression of the relation of one with a manifold evidently equivalent to unity in plurality. The same is valid for the mentioned case of existence, which is characterised by Leibniz as a perfection (C, p.9/MP, p.134)[11] and as something whose foundation is singular perfection understood as the degree of essence, which in turn is 'through which the greatest number of things are compossible' (GP VII, p.304/AG, p.151) or a degree 'calculated from harmonizing properties, which give essence weight and momentum' (GW, p.172/AG, p.233). Both propositions –the greatest number of compossible things and harmonising properties– express or involve concurrence of many things together in one entity that possesses the property of existence, in other words; identity in variety. Something similar appears to be the case with

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[10] This formality of beauty finds a strong opposition in Kant. See §15 of his *Critique of the Powers of Judgement*. Unfortunately, a comparison between Leibniz's and Kant's notion of beauty falls out of the scope of this work.

[11] It is worth mentioning that there is one passage where Leibniz contradicts the quoted one and states that existence is not a perfection but a comparative relation among perfections (A VI 4, p1346). Unfortunately, this is not the place to solve this controversy, thus we adhere here to the idea that existence is a perfection.

knowledge understood as the representations of the whole in one mind, 'which contains the diversity of ideas' (GP VI, p.615/AG, p. 219).[12]

Although, it would be out of the range of this research to argue that all perfections can be reduced just to unity in plurality, it is possible to say that at least some of the most recurrent ones in Leibniz's writings (power, existence and knowledge), as well as beauty, can be characterised as an expression[13] of this formal structure. Furthermore, unity in plurality can helps us explain perfections, if these are understood as stressing different aspects of unity in plurality. For example, power stresses the unifying force of the one that acts over many or represents them, whereas existence highlights the harmonic cohabitation of different attributes in one entity. Furthermore, the relation among perfections can be described as if each perfection is situated on a different 'moment' of the process of uniting a variety. This is the case with power, existence, beauty and other properties, which according to Leibniz are sequentially linked together:

> I call any elevation of being a perfection [*Vollkommenheit*] […] Just so perfection shows itself in great freedom and power of action, since all being consists in a kind of power; and, the greater the power, the higher and freer the being. The greater any power is, moreover, the more there is found in it the many revealed through the one and in the one, in that the one rules many outside of itself and represents them in itself. Now, unity in plurality [*Einigkeit in der Vielheit*] is nothing but harmony [*Übereinstimmung*] and, since any particular being agrees with one rather than another being, there flows from this harmony the order from which beauty arises, and beauty awakens love. (GP VII, p.87/L, p.426).

Power allows that many are revealed and rule by the one; beings consist in this power; the greatest the power –i.e. more of the many are revealed through the one and in the one– the more elevated or perfect the being –i.e. more agreement in greater variety (GW, p.171/AG, p.233). Finally, since perfection is an urge for existence, more perfection entails existence (Grua, p.288/AG, p.20).[14] In this sense, it is possible to analytically depict power and existence as different 'moments' or 'instances' that seem to manifest themselves sequentially

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[12] It even seems possible to explain goodness through unity and variety, if goodness is understood as the plurality of individual good and/or evil events that, taken in its final totality or unity, turn out for the best possible result. This idea seems to be implicit in §147 of the *Theodicy*: 'Thus the apparent deformities of our little worlds combine to become beauties in the great world, and have nothing in them which is opposed to the *oneness* of an infinitely perfect universal principle: on the contrary, they increase our wonder at the wisdom of him who makes evil serve the greater good'. (GP VI, p.198/H, p.216). Nevertheless, admittedly a proper explanation of goodness through unity in variety would require further detail, which unfortunately escapes the scope of this thesis.

[13] Here we should remind the reader that we are using the term 'expression' as it is commonly used and not to mean the specific definition that Leibniz gives to the term in some of his texts.

[14] To be clear, for Leibniz perfection entails existence in the case of possible worlds rather than individual things. See section 1.1 of this chapter. As will be explained later, in order to be actualised individual things need to be compossible with every other thing that reaches existence. See chapter III.

through a process. Power would be the causal moment of unity in variety that composes beings, while existence would be the consequence of this power, since the higher the power is in a being, the more perfect it is, and hence the more chances the being has to exist. Nevertheless, it must be clarified that the term 'moments' does not pretend to denote a concrete temporal difference between perfections, yet it is used here as an analytical conceptualisation that helps to abstractedly characterise the elusive particularities that differentiate perfections in Leibniz's work. Therefore, a specific characterisation of beauty will be sought in a similar manner. In this sense, although beauty is unity in variety, it can also be analytically conceived as a moment of unity and variety, or as an instance of harmony.[15]

There is, however, one problem with explaining perfections as instances of unity in variety. At the beginning of this chapter we showed than in *Ens Perfectissimum existit*, Leibniz defines perfections as simple. In that text Leibniz writes that a simple quality is 'indefinable or unanalysable', which entails that it is neither composed by other qualities nor defined by its negation (A VI 3, p.577). This suggests that if perfections are simple qualities, they cannot be reduced to other terms, such as order or harmony. Yet, in *On Wisdom*, power is explained through unity in variety and beauty is said to arise from the order provided by harmony (GP VII, p.87/L, p.426). Furthermore, as shown, existence and knowledge are also understood in reference to unity in variety. If perfections are necessarily simple none of these concepts would be perfections. But Leibniz does say that these notions are perfections. Hence it must be the case that either perfections are not required to be simple (at least as in the sense that simplicity is here defined) or that they cannot be explained through harmony. Since we have shown that these notions can be reduced to or at least explained through harmony, we must reject that this definition of simplicity applies to perfections. Indeed, this definition of simplicity applied to perfections is not very recurrent in Leibniz's work, so it does not seem to be a problem to understand perfections free from the limitation imposed by this definition of simplicity. Indeed, in this and other chapters, we defend the idea that beauty is complex and formal, hence not simple in the sense defined in *Ens Perfectissimum*.[16]

2. Features of Harmony as Beauty

2.1 Completeness and pleasure

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[15] We must insist here that characterising beauty or any other perfection as a 'moment' or an 'instance' of unity in variety is just an analytic distinction made here for practical purposes. We think that it is not wrong to say that for Leibniz beauty simply is unity in variety.
[16] For more about the simplicity of beauty, see Portales, 2016.

In the quoted paragraph of *On Wisdom*, after defining power, Leibniz goes to mention unity in variety as harmony. He does so in a way that seems as if power –as 'the one rules many outside of itself and represents them in itself'– creates unity in variety. Then he states that unity in variety is harmony. And harmony, in turn, is an order from which beauty arises. The fact that beauty is at the end of this sequence –just before love– suggests that it is one of the 'final moments' of unity in variety. Indeed, beauty is the 'moment' that gives pleasure and pleasure comes only with the completed composition of things.

The relation of pleasure and beauty appears in Leibniz since his earliest texts, for example, in the *Elements of Natural Law* (1670), he gives one of his first definitions of beauty: 'We seek beautiful things because they are pleasant, for I define beauty as that, the contemplation of which is pleasant' (A VI 1, p.464/L, p.137). Years later, in a text titled *Résumé of Metaphysics* (1697), Leibniz inverses the formula to define pleasure: 'An intelligent being's *pleasure* is simply the perception of beauty, order and perfection' (GP VII, p.290/MP, p.146). In the following sentence of the same text, Leibniz draws a relation between pleasure, completeness and order. He explains that pain, contrary to pleasure, contains something disordered and fragmented. Notwithstanding, in an absolute sense, all things are ordered, therefore disorder is 'only relative to the percipient' (GP VII, p.290/MP, p.146):

> So when something in the series of things displeases us, that arises from a defect of our understanding. For it is not possible that every mind should understand everything distinctly; and to those who observe only some parts rather than others, the harmony of the whole cannot appear.
> (GP VII, p.290/MP, p.147)

There are two ideas in place here; first, that displeasure comes from a failure in our cognition to understand things distinctly.[17] And second, that displeasure is caused by a certain subjective partial appreciation, which does not capture the whole. Regarding the second idea, it is worth noticing that the view that displeasure is caused by partiality is a recurrent theme in Leibniz's writings, used often to describe the problem of evil and its parallel in aesthetic phenomena. For example in *De rerum origination radicali*, Leibniz states the following: 'Look at a very beautiful picture, and cover it up except for some small part. What will it look like but some confused combination of colors, without delight, without art' (GP VII, p.306/AG, p.153). And again in §134 of the *Theodicy*:

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[17] The notion of distinctness will be explained in detail in the last chapter.

> [W]e acknowledge, […] that God does all the best possible, […] when we see something entire, some whole complete in itself, and isolated, so to speak, among the works of God. Such a whole, shaped as it were by the hand of God, is a plant, an animal, a man. We cannot wonder enough at the beauty and the contrivance of its structure. But when we see some broken bone, some piece of animal's flesh, some sprig of a plant, there appears to be nothing but confusion. (GP VI, p.188/H, p.207)

The optimal way to appreciate the objective beauty of a natural thing is to contemplate it as a whole, since a partial observation might prevent us from grasping things without confusion.[18] By the same token, beauty arises from unity in variety or harmony at that 'moment' where things are complete, i.e. when things are whole unities, in the sense of one complete thing or as a complete harmonious aggregate of things.[19]

2.2 Contemplatibility

In the quoted passages from the *Theodicy* and the *Résumé*, Leibniz suggests that order is opposed by confused or non-distinct understanding. This suggests a link with another important element of pleasure; namely, 'contemplatibility'. Both, contemplatibility and beauty, are indicated as the source of pleasure in harmony. This idea is explicit in the cited fragments of the letters to Christian Wolff:

> You also see from this how the sense of harmony, that is, the observation of agreements [*consensus*] might bring forth pleasure, since it delights perception, makes it easier, and extricates it from confusion. Hence, you know that consonances please, since agreement is easily observable in them […] *Perfection* is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement [*consensus*] or identity in variety; you can even say that it is the degree of contemplatibility [*considerabilitas*]. Indeed, order, regularity, and harmony come to the same thing. (GW, pp.171-2/AG, p.233)

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[18] In the quoted passage Leibniz refers to individual things as wholes that we should observe as such in order to grasp their beauty. It is worth mentioning that for Leibniz, these individual wholes subsume into a truly complete whole, which is the universe itself. This latter is greater in beauty, yet hidden from us, since it 'embraces too much for us to understand in our present state' (K IX, p.117/ LGR, p.163).

[19] Here it must be warned again about the analytical use of the word 'moment', since a temporal interpretation of the term would not work at a metaphysical level. For example, if we picture a process where a thing is becoming complete, yet still is not, we might perceive it as not beautiful. However, in itself, the germ of its wholeness has perfection and beauty, as is suggested in the previous quote of §54 of the *Monadology*, where Leibniz states that each possible thing in the universe has 'the right to aspire to existence in proportion to the amount of perfection it contains in germ [or 'which it enfolds' in L, p.648]. In the original French: '*qui'il envelope*']' (GP VI, p.616/Latta, p.247). Furthermore, we can surpass the apparent fragmentation or partiality of things with the help of knowledge, as Leibniz seems to be advocating in the continuation of the quoted §134 of his *Theodicy*: 'But when we see some broken bone, some piece of animal's flesh, some sprig of a plant, there appears to be nothing but confusion, unless an excellent anatomist observe it: and even he would recognize nothing therein if he had not before seen like pieces attached to their whole'. (GP VI, p.188/H, p.207). The idea of wholeness or completeness will be examined with more detail in chapter III.

Hence, contemplatibility is a state of agreement or harmony that allows us to perceive free from confusion and brings forth pleasure in the process. Contemplatibility is an order of things disposed in such a way that it is cognitively intelligible. Yet, the value of contemplatibility resides in its disposition or availability to be observed and not in the fact that it is being observed. For Leibniz it does not matter if we fail to grasp it: 'For it is not possible that every mind should understand everything distinctly' (GP VII, p.290/MP, p.147), therefore, there is perfection, harmony and unity in variety 'whether we observe it or not' (GW, p.171/AG, p.233).[20] Both beauty and contemplatibility are objective values of things, posited in the 'final moment' of unity and variety and both give pleasure. Thus defined, contemplatibility, as an aspect of unity in variety, seems to coincide point by point in its characterisation with beauty. This raises the question about the particularity of beauty: is there a specificity in beauty as harmony? Or is contemplatibility the same as beauty? To be sure, a first difference is that contemplatibility suggests a cognitive value rather than an aesthetic one: it refers mainly to what is 'worthy of being observed', when what gives to the observation are 'general properties' (GW, p.170/AG, p.232), which also relates to 'the degrees of affirmative intelligibility' (GW, p.161/AG, p.230). For Leibniz there is no contradiction or exclusion between aesthetic and cognitive values. Indeed, simultaneous references to both values can be found in some of his statements, for example: 'Distinct cogitability gives order to a thing and beauty to a thinker' (GP VII, p.290/MP, p.146) or 'the more a mind desires to know order, reason, the beauty of things which God has produced […] the happier he will be' (Grua, p.581/R, p.84). Because beauty arises from harmony, and harmony is order, it is not, in principle, confused, therefore what is beautiful is intelligible in its disposition. However, while the disposition of intelligibility does not guarantee that we, finite minds, are able to have always distinct perceptions and therefore pleasure, beauty seems available for us even with confused perceptions or if we are unaware of the intelligible structure of harmony underlying certain phenomenon.[21] Leibniz exemplifies this with the case of music

> Music charms us, even though its beauty consists only in the harmonies of numbers and in a calculation that we are not aware of, but which the soul nevertheless carries out, a calculation concerning the beats or vibrations of sounding bodies, which are encountered at certain intervals. The pleasures that sight finds in proportions are of the same nature, and those caused by the other

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[20] The objectivity of beauty is further explained in the second part of this research.

[21] The subjective experience of beauty and the relation between beauty and confused perceptions will be explained in detail in chapter VI.

senses amount to something similar, even though we might not be able to explain it so distinctly (GP VI, pp.605-6/AG, p.212).

In this sense, beauty can be said to differ from a cognitive value. Even if we sometimes cannot get pleasure from the intelligibility of harmony, we might still be able to get pleasure from its beauty. That said, the structure of beauty is always potentially intelligible for us, independently of the fact that we might fail to notice it.

2.3 Plenitude, contrast and consonance

Hitherto contemplatibility and beauty have been only distinguished from each other by their manner of producing pleasure. Yet still their defining traits seem to be almost identical. Furthermore, in the cited passage about music, beauty seems inseparable from mathematical arrangements, which are closely linked with contemplatibility.[22] Nevertheless, beauty does involve other not necessarily mathematical or cognitive features, such as plenitude and contrast. The first notion is mention as correlative to perfection in quoted passages of *De rerum originatione radicali*: perfection or degree of essence is 'through which the greatest number of things are compossible' (GP VII, p.304/AG, p.151). Hence, greater perfection or degree of essence entails larger quantity, and because greater perfection brings forth existence, therefore 'it is obvious that of the infinite combinations of possibilities and possible series, the one that exists is the one through which the most essence or possibility is brought into existence' (GP VII, p.303/AG, p.150). In simpler words, there exists as many things as it is possible, because a high quantity of things is related to perfection and what exists is the most perfect. This is why, in §3 of the *Principles of Nature and Grace, Based on Reason* (1714), Leibniz states that '[e]verything is a plenum in nature' (GP VI, p.598/L, p.636). Largest quantities of things are also an expression of beauty. As Leibniz suggests in a letter to Arnauld (1687): 'it is in keeping with the greatness and beauty of the workmanship of God (since these substances don't get in one another's way) to make in this universe as many of them [substances] as there can be, and as many as higher reasons allow' (A II 2, pp.187-8/LAV, p.203). An even much more aesthetic example of plenitude is given in §17 of the *Résumé*, where Leibniz said that 'the world is a cosmos, full of ornament; that is, that is made in such way that it gives the greatest satisfaction' (GP VII, p.290/MP, p.146). Hence higher quantities of things entail more beauty.

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[22] The relation between mathematics and intelligibility will be explained in detail in chapter VI.

As some of the contexts of these passages suggests 'plenitude' is a notion related to the concept 'variety'. Indeed, plenitude is specific kind of variety that occurs when there is a large number of different things. Here onwards this aspect of variety will be called 'quantitative variety'. However, there is another aspect of variety suggested before with the term 'contrast'. This dimension of variety has a specific significance in Leibniz's harmony, which is made present mainly with the term 'dissonance'. If quantitative variety means large numbers of different things, this other aspect of variety expresses the degree of difference between two or more things. In other words, how different one thing is from another. Here, this dimension of variety will be called *qualitative variety* and it will be discussed in detail in the next chapter. As we will see, a higher degree of contrast between things, or qualitative variety, entails a higher degrees of beauty.

It is also possible to find another aspect of beauty that is not necessarily related to intelligibility or mathematics. As said, wholeness and large quantities of different things contribute to greater beauty. However, it is not enough to include absolutely all compossible qualities in a unity or bring together a set of randomly united things. What is required is a selection of elements that results in a greater harmony, which implies the exclusion of other elements. Power unites variety, yet this concept, as is colloquially used, does not imply any kind of specific agreement between its components previous to its unification. In other words, if power is what unites variety, then variety is united just by merit of power and not by any other feature, such as the consonance of its elements. Yet as was remarked on the cited passage of *On Wisdom*, 'any particular being agrees with one rather than another being there flows from this harmony the order from which beauty arises' (GP VII, p.87/L, p.426).This suggests that a univocal unifying power is not enough for beauty, but a certain kind of agreement or consonance between united things is needed, as will be explained further in the chapter III.

Therefore, we have at least four particularities of harmony as beauty. First, harmony requires to be an intelligible ordered structure (sometimes even a mathematical one) in its disposition, in other words, contemplatibility. Second, a beautiful harmony has a specific effect on finite beings, which is beauty's potential to give pleasure to minds, even when they do not reach distinct understanding.[23] Third, the contribution of plenitude and contrast in the harmonic order from which beauty arises. And fourth, the requirement of a specific order or consonance among the variety of united elements.

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[23] It is important to insist that this is only a relational property of beauty, in other words just an effect, because beauty, in itself, is objective, so it does not need perceivers. This is further explained in the second part of this thesis.

2.4 Nominalism

Finally, we must add that for Leibniz beauty is always a property or a quality in/of something. Accordingly, beauty is not a pure idea that has being by itself alone. Despite the fact that our treatment of beauty has been hitherto fairly analytic and abstract, this has been done only for practical purposes. We did not intend to postulate that for Leibniz beauty is in any way an entity that can be separated from things. In fact, the case is rather the opposite, since for Leibniz qualities are not beings. As he comments in *Dissertation on the Art of Combinations* (1666): 'it is obvious that neither quality nor quantity nor relation is a being' (GP IV, p.35/L, p.76). Hence beauty –or any other quality– has no being by itself alone. By this he means to reject universals and abstract terms.[24] In the *Preface to an Edition of Nizolius* (1670), Leibniz explicitly adheres to the opposite view; the nominalists. He defines them as 'those who believe that all things except individual substances are mere names; they therefore deny the reality of abstract terms and universals forthright' (GP IV, pp.157/L, p.128), then he adds that 'the nominalists have deduced the rule that everything in the world can be explained without any reference to universals and real forms' and '[n]othing is truer than this opinion' (GP IV, p.158/L, p.128).[25] Leibniz supports his view by arguing that two equal entities that define or contain each other is illogical. He briefly explains that 'if 'being-ness' [*entitas*] were a being [*ens*], 'real-ness' were real and 'something-ness' [*aliquiditas*] were something, the thing would be the form of itself, or a part of its own concept, which implies a contradiction' (GP IV, p.147/L, p.126).[26] The same argument could be extended to beauty by stating that if the pure idea of beauty were defined by the proposition 'Beauty is beautiful', it would be a contradiction, since the entity 'Beauty' would contain only itself.[27]

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[24] Leibniz often mentions universals in conjunction with concepts such as 'abstract terms' and 'real forms'. Both terms refer practically to the same idea of universals, but accentuate different aspects of that notion. For example, 'abstract terms' makes a clear allusion to its linguistic nature –namely, terms of the F-ness form-, while 'real forms' refer to an ontological entity, more related with a neo-platonic tradition.

[25] Although Leibniz sides with the nominalist, he also diverges from some of the more radical positions, such as the one presented by Hobbes, whom Leibniz calls a 'super-nominalist'. According to the German philosopher, his English colleague argues that 'the truth of things itself consists in names and what is more, that it depends on the human will, because truth allegedly depends on definitions of terms, and definitions depend on the human will' (GP IV, p.158/L, p.128). In a later text, entitled *Dialogue* (1677), Leibniz develops his counterargument stating that although we use arbitrary names or characters to express truths, there is permanent, non-arbitrary, element in the relation or analogy between characters and things which remains the same even if we express it with other characters (GP VI, pp.192-3/L, pp.184-185). For a more detailed analysis of Leibniz relation with nominalism and Hobbes, see Di Bella (2005).

[26] Here Leibniz probably had in mind the third man argument. See Plato's *Parmenides* 132a-b (vol.2, 1961, p.675) and, more specifically, Aristotle's *Metaphysics* 990b15-996a26 (vol.2, 1984, pp.1566-69).

[27] We can complement this brief argument with the mentioned notion that being is given by a degree of essence as harmonising properties or qualities (GW, p.172/AG, p.233). Accordingly, it could be said that the abstract entity 'Beauty', having only one quality represented in itself –i.e. beautiful-, would lack any other property to constitute harmony and therefore being. Since universals do not have multiplicity and a degree of perfection or essence requires a multiplicity,

Furthermore, multiplying entities with abstract terms such as being-ness, something-ness and Beauty goes against parsimony. Although, Leibniz's argument here is mainly practical, since he is defending parsimony as a virtue of good philosophical writing, it is nonetheless based on metaphysical grounds. He thinks that a plurality of different things is a more perfect trait of the universe than many identical things and, therefore, God creates a universe where 'entities must not be multiplied beyond necessity' (GP IV, p.158/L, p.128). It must be noticed that this argument does not undermine the aforementioned notion that the existence of more things indicates more perfection, because that argument points to perfection as a multitude of diverse things, while 'the multiplication of entities' that Leibniz rejects refers to a plurality of similar or even equal entities. This last idea would also violate the principle of identity of indiscernibles that states that no two things resemble each other completely and differ only in number (A VI 4, p.1541/AG, p.41). In this way, Leibniz considers beauty, as well as other perfections, as attributes of something, even if that something is as intangible as God or God's rays (GP VI, p.27/H, p.51). The same applies to unity in variety or harmony: there must always be a united variety of something. Another logical conclusion from this premise is that no attribute or quality can be beautiful by itself, because they do not have being by themselves. For example, power is not beautiful, as there is no such thing as power, just powerful things. Thus, when we say that unity in variety is beautiful or that beauty is a 'moment' of unity in variety we imply that there is a thing or an aggregate of things that comply with the characteristic of having unity in variety and having it entails that that thing possesses beauty, since there cannot be unity in variety, or beauty, without things.[28]

3. Conclusions

To summarise, it has been said here that beauty is a perfection, which means first that it is a quality that can be expressed in an ultimate degree and at the same time without limits. Consequently, beauty is in God in its highest degree, yet also in the world and in individual things in different degrees. Unity in variety is harmony, which is the formal structure of perfection and perfections. Because beauty is a perfection it can also be posited as one of the 'moments' or 'instances' of harmony. Beauty arises from harmony in its 'final moment', i.e. when it is completed as a whole. Harmony is an intelligible ordered structure that gives

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universals do not have perfection or degree of essence. For Leibniz whatever is possible must have a degree of perfection or essence, hence universals are not possible.

[28] Nonetheless, variety does not require a multitude of things, it can also be a variety of properties that the thing has, see chapter II. In a similar manner, unity does not need to be represented in just one thing, but it can arise from multiple things as a principle of order, see chapter III.

pleasure. Hence beauty is also intelligible in its disposition and has the potential to give pleasure. Something is more beautiful when it has more elements with more diversity and, at the same time, these elements possess more consonance among each other. This formal description of beauty constitutes 'the rules of beauty', with which every beautiful thing or aggregate complies.

Although Leibniz seem to not have explicitly listed any rule of beauty, it seems safe to assume that beautiful things or beautiful aggregates comply with certain formal rules. Conversely, we could say that for something to be beautiful it must comply with certain traits. According to what we have said here beauty consists in the possession of the following features:

1. To be a united variety.
2. Completeness.
3. Intelligible order.
4. The potential to give pleasure.
5. Plenitude (quantitative variety) and contrasts (qualitative variety) in and among its diverse elements.
6. Consonance (order) in and among its diverse elements.

If something observes these rules it is beautiful, it does not matter if it is an individual thing or an aggregate. This allows us to formally conceptualise beauty, yet not as a pure idea or a universal, but as a convergence of traits that, even though they are available to be defined abstractedly or formally –and therefore define beauty abstractedly–, they must always be in/of something.

Chapter II: Variety[1]

Variety is one of the two concepts that defines the formal structure of harmony. In other words, there cannot be harmony without variety. Since beauty is harmony, variety is also a necessary component of beauty. In the first section of this chapter, we introduce the significance of variety in Leibniz's metaphysics and establish the connection between this notion and beauty. As we show, these two concepts are linked in Leibniz's philosophy from the deepest ontological dimensions of substances to the most basic expressions of the arts. In the second section, we explore the issue of how simple things can be beautiful if they lack variety of parts. The solution here postulated is that, although simple things cannot have variety of parts, they can express a variety of properties and/or of representations and, therefore, be considered harmonious and beautiful. The third section of this chapter, tackles the more fundamental question about the nature of variety. Here we postulate that Leibniz's view on variety must be understood in two different analytical aspects; one quantitative and another qualitative. Following the characterisation of the latter in Leibniz's texts, we encounter the notion of 'dissonance', as a radical example of qualitative variety. The issue with dissonance is that it is a value that clashes with harmony, yet, at the same time, Leibniz insists that dissonance enhance harmony and beauty. We explain how for Leibniz beauty benefits from the heterogeneity offered by dissonance and how its inclusion achieves a better order than its exclusion. Finally, we conclude that beauty is achieved when dissonances are harmonically resolved in the unity of a whole. This means that beauty is the result of a variety, where dissonances have a certain order that offers complexity, yet, at the same time, harmonic resolution.

1. Variety and Beauty

1.1 The metaphysics of variety

As Christia Mercer (2001) shows, the metaphysical question about the origins of variety is answered by Leibniz in accordance with the standard neo-platonic view. The One –a supreme principle or being– is the emanative source of the variety that is the created cosmos. The argument goes as follows: the One possesses an unbounded perfection that overflows with

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[1] Some of the ideas and passages expressed in this section are contained in the following published articles: Portales, Carlos (2016) Variety and simplicity in Leibniz's aesthetics. In *Vorträge des X. Internationalen Leibniz-Kongresses, Band V*. Hildesheim: Georg Olms Verlag and Portales, Carlos (2018) Objective beauty and subjective dissent in Leibniz's aesthetics. *Estetika: The Central European Journal of Aesthetics,* 55(1), 67–88.

being. The result of this ontological surplus is that when the One actualises itself it does so as the multiplicity of things in the universe. In this sense, the resulting plurality is part of the indivisible One and the One is part of the effected variety. Hence, the One is the unity and the multiplicity (Mercer, 2001, pp. 180, 190, 209 & 248). In Book II, §45 of *Summa Contra Gentiles*, Aquinas offers a clear version of the same idea:

> God is the most perfect agent. Therefore it belonged to God to induce His likeness into created things most perfectly, as far as is befitting to a created nature. But created things cannot come by a perfect likeness to God, with respect to only one species of the creature: because, since the cause surpasses its effect, that which in the cause is simply and unitedly, is found in the effect to have a composite and multiple nature […] Therefore there was need for multiplicity and variety in things created, in order that we might find in them a perfect likeness to God according to their mode. (1934, p.106)

Mercer states that Leibniz's earlier philosophy is in agreement with Aquinas' view as for him 'God is immanent in creatures and distinct from them so that their diversity (or variety) is the divine essence variously manifested and their unity (or identity) follows from the fact that they are all acts or emanations of the same thing' (2001, p.212). Consequently, all variety found in the universe sparks from one simple thing and finds its ultimate unity in its original source. Mercer points out that Leibniz claims that it is in this divine origin where we should look for the source of harmony and beauty (2001, p.213). Leibniz states in *Demonstrationum Catholicarum Conspectus* (1668-1669?): 'the beatific vision or [*seu*] the intuition of God, face to face, is the contemplation of the universal Harmony of things because GOD or [*seu*] the Mind of the Universe is nothing other than the harmony of things, or [*seu*] the principle of beauty in them'. (AVI i, p.499/ trans. in Mercer, 2001, p.213) .[2]

This is not to say that variety has no substantial existence, as if the constituents of variety were just different modes of the one thing. As Mercer notices, even though Leibniz is clear about God being the unity in the world, he is less categorical about God being the multiplicity in things (2001, p.216). Although all variety may have originated from one, the whole realm of reality is populated by an ontologically real multiplicity of things. As Leibniz wrote to Arnauld 'it is in keeping with the greatness and beauty of the workmanship of God […] to make in this universe as many of them [substances] as there can be' (A II 2, pp.187-8/LAV, p.203). [3] In other words, the beauty of the universe is given by a multiplicity of not

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[2] In the original Latin: '*Visio beatifica seu intuitio DEI de facie in faciem est contemplatio universalis Harmonise rerum qvia DEUS seu Mens Universi nihil aliud est qvàm rer. harmonía, seu principium pulchritudinis in ipsis.*' (AVI 1, p.499)
[3] The relation of variety and existence is established also through another reasoning in *A Résumé of Metaphysics* (1697). In this text Leibniz repeats his known idea that perfection entails existence. Afterwards, he depicts the relation between

just of any kind of element, but of substances.[4] In the same manner, Leibniz uses beauty as a criterion to justify the existence of a multiplicity of soul-like entities:

> I believe on the contrary that it is consistent neither with order nor with the beauty or the reason of things that there should be something vital or immanently active only in a small part of matter, when it would imply a greater perfection if it were in all. […] there should be souls, or at least things analogous to souls [everywhere] (GP IV, p.512/L, p.504).

The idea that there is an aesthetic dimension of variety at the most profound ontological level of reality suggests that for Leibniz the relation between these notions is not superficial.

1.2 Beauty as ordered variety

Nevertheless, the relation between variety and aesthetics is not limited just to substances. The aesthetic significance of variety is extended to the whole world and even to the invisible worlds within our world. As Leibniz assures Johann Bernoulli, 'there could be, indeed, there have to be, worlds not inferior in beauty and variety to ours in the smallest motes of dust, indeed, in tiny atoms' (GM III, p.553/AG, p.169). Harmony and beauty can be found wherever there is a variety of elements. As Donald Rutherford states for Leibniz 'harmony is always the property of a 'system' of things: a plurality of distinct entities whose mutual order bestows on them a type of collective unity' (1998, p.31). In a similar fashion, Strickland depicts beauty as a property of sets or wholes, not individuals:

> Consequently beauty is to be found in systems or wholes, not individual things (unless these are themselves systems or comprised of parts). Single sounds or sense impressions can be said to be devoid of beauty, for if they have no relation to any other sounds or sense impressions they cannot be in agreement with anything outside themselves. This follows from Leibniz's assertion that beauty arises from order, as order is a property of multiple things rather than individuals considered by themselves. (2006, pp.104-105)

Indeed, we can find beauty in any group of elements put together in certain orderly manner, such as it happens in nature. According to Leibniz, nature is composed of the greatest variety of individual things that relate with each other in the best possible order (GP VI, p.603/AG,

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perfection and reality by stating that perfection is quantity of reality and quantity of reality 'is not to be located in matter alone', since its quantity 'would in any way have been the same; rather it is to be located in form or variety' (GP VII, p.290/MP, p.146). Accordingly, variety is the principle of quantity of reality that is perfection, which in turn entails existence. In other words, there is no existence without variety. In this way, variety is not only ontologically significant because it is composed of a multiplicity of individual substances, but also because variety is a constitutive principle of reality, perfection and existence.

[4] The reason for the specific requirement of a variety of substances will be explained in chapter V. For now we can anticipate that, according to Leibniz, monads or mind like substances serve as an echo that reflects the harmony of God's world as a multiplication of its beauty (A VI 1, p.438).

p.210). Yet this definition extends beyond nature, even to the arts. For Leibniz music, poetry or dance please us for the same reason:

> Everything that emits a sound contains a vibration or a transverse motion such as we see in strings; thus everything that emits sounds gives off invisible impulses. When these are not confused, but proceed together in order but with a certain vibration, they are pleasing; in the same way, we also notice certain changes from long to short syllables, and a coincidence of rhymes in poetry […] Drum beats, the beat and cadence of the dance, and other motions of this kind in measure and rule derive their pleasurableness from their order, for all order is an aid to the emotions. (GP VII, pp.86-7/L, pp.425-26).

Therefore, any variety of individual things, such as planets, sounds, syllables or body movements, put together in certain order is harmonic or beautiful and pleases us.[5] In this sense, Leibniz differs from Plotinus, for whom beauty is not determined by harmony and indeed can be instantiated by a single isolated sound (1917, p.78).[6] Furthermore, for Leibniz this harmonic order is more important than the particular beauty of any individual thing. He states that under certain circumstances 'it may happen that for a construction or a decoration one will not select the most beautiful or the most precious stone, but the one which fits best into the empty space' (GP VI, p.459/S, p.143). He also commented elsewhere that 'the part of a beautiful thing is not always beautiful, since it can be extracted from the whole, or marked out within the whole, in an irregular manner' (GP VI, p.245/H, p.261). In this sense, beauty is in the ordered relation of a variety of elements that compose a whole, more than in the particular beauty of a constitutive part of the whole. In other words, the beauty of the whole takes precedence over the beauty of the part. This statement reveals another level of beauty that we have not yet considered, i.e. the beauty of the individual parts that compose the ordered system.

It seems reasonable to extend Leibniz's view to individual parts that are composed of other individual parts. We can assume that parts possess variety in the same way that systems do, since they themselves are wholes composed of a variety of other smaller parts. For Leibniz this is the case for almost everything, as his ontology is based on a model of things

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[5] Laurence Carlin suggests that for Leibniz harmony is a certain kind of order, therefore not any order is harmony (2000, p.103). Although it is an interesting conjecture and a possible interpretation of the issue, I do not think that the author offers enough convincing textual evidence to discard the alternative view, namely that any ordered multiplicity is harmony. Indeed, I think that it is safer to assume that for Leibniz every ordered multiplicity is harmony. This does not exclude the fact there could be different degrees of order, and therefore different degrees of harmony, or different types of unity, as we will see in the next chapter.

[6] In his first Ennead Plotinus wrote that if harmony were the only source of beauty, '[i]n sounds also the simple must be proscribed, though often in a whole noble composition each several tone is delicious in itself' (1917, p.78).

constituted by sets of other things, which in turn, are constituted by others and so on. For example in §66 & §67 of the *Monadology* (1714) Leibniz writes:

> From this we see that there is a world of creatures, of living beings, of animals, of entelechies, of souls in the least part of matter. […] Each portion of matter can be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humors, is still another such garden or pond. (GP VI, p.618/AG, p.222)

Hence, the beauty of any particular being, human, animal, tree, sculpture or building –or any of their parts– depends on the united variety of their elements. Although, this account can accommodate plurality and beauty in composed things, a more problematic idea is the question about variety and beauty in individual simple things, i.e.; things that are neither composed by other things nor have parts.

2. Variety in simples

2.1 Variety of properties

The suggested idea that beauty is a property that requires a multiplicity of things or parts, seems to exclude the possibility that there are beautiful partless things. Yet, for Leibniz there are simple entities that are indeed beautiful. The clearest example being God, since, as said in chapter I, Leibniz refers to God as 'the most beautiful being of all' (A VI, 1, p.461/L, p.134). If a simple being such as God has no parts, how could it be beautiful?

One approach to answer this question is to ground a simple thing's beauty in its variety of properties. As has been already explained, Leibniz states that perfection could be understood as 'the degree of essence, if essence is calculated from harmonizing properties, which give essence weight and momentum, so to speak' (GW, p.172/AG, p.233). Here, perfection is not characterised as a variety of individual things, but as harmonising properties. Therefore, an individual thing may lack a variety of parts, yet it could possess a variety of properties. For Leibniz, everything that is possible has degree of essence or perfection, those things that have more essence are the ones that gain existence and, as it was said, degree of essence is 'calculated' from harmonising properties. This means that every possible thing must have a multiplicity of properties with some degree of harmony. For Leibniz this is the case for God, who possesses all perfections –or positive properties– in its highest degree (GP IV, p.427). In this sense, a plurality of harmonising properties complies with the formula of unity in variety in the case of partless things. Accordingly, simple things are harmonious and beautiful without the requirement of parts.

But what are properties and how could they be harmonic? For one, it is possible to state that for Leibniz properties are in substances, thus they do not exist independently of things.[7] In this aspect his well-known idea of complete notions is categorical, since for Leibniz complete notions contain all predicable properties of a thing, properties that are not individual things by themselves:

> [T]he nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed. Thus, taken in abstraction from the subject, the quality of being a king which belongs to Alexander the Great is not determinate enough to constitute an individual (A VI 4, p.1540/AG, p.41).

Some commentators have understood this as if individual natures are an exhaustively enumerated set of predicable properties and qualities.[8] For example, the individual substance of a particular football consists in being white, round, made of leather, being able to bounce in certain degree, etc.[9] All of these predicates and much more refer to a list of the variety of properties and qualities possess by the complete concept of something. In this scenario the beauty of the ball would be constituted by all these coexisting properties united in the identity or complete notion of the ball. However, under this model a sort of strange occurrence takes place: if we said that the ball is beautiful, because the ball has a variety of properties united in harmony, then the beauty of the ball would be just another property of the ball to add to the list. Thus the addition of the property 'beauty' increases the variety of the ball's properties, hence making it more beautiful –since more variety is more beauty. The issue here is not just the clumsy idea that the mere possession of beauty increases beauty, but also that all properties and qualities are at the same level, with no other relation than pertaining to the same complete notion. Therefore, this model does not explain the harmonising aspect of 'harmonising properties'.

A way out of these problems can be found in James Mann's criticism of the idea that substances are a list of its predicable properties and qualities. He highlights that Leibniz does not only say that individual concepts 'contain' all their predicable properties, but also uses the word 'deduce' and 'derive' (1987, pp.116-7).[10] In this view the individual concept of the

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[7] See the discussion about Leibniz's nominalism in chapter I.

[8] James Manns refers to this view as 'mirror theory' and attributes it to Rescher, Sellars and Woolhouse (Manns, 1987, p.174).

[9] Of course a complete notion also includes predicates related to events and relational properties, but for the sake of simplicity I will not include these kind of predicates here, although I don't think that the presented view excludes them.

[10] For example in a letter to Arnauld, Leibniz claims that 'we must not conceive a vague Adam, that is to say a person to whom certain attributes of Adam belong, when the issue is to determine whether all human occurrences follow from

ball would be constituted by predicable properties that can be deduced or derived from more fundamental ones, rather than just a list of all them. For example, the ball's ability to bounce in a specific way is deduced from the degree of elasticity of its material, its colour from the way in which its materials reflect the light, etc. Accordingly, we could keep finding even more fundamental predicable properties that explain elasticity or the power of certain material to reflect light and then repeat the process again and again. The result is a formulaic principle that establishes that the relations among properties are given by a deductive structure. In other words, this formulaic principle dictates the order among the properties of a thing. Since we said that harmony and beauty are variety united in certain order, it follows that this deductive structure is a perfect candidate for being the harmonic character of 'harmonising properties'. Thus, since 'harmonising properties' is what grants beauty to something, we can state that beauty is found in this deductive structure.

Hence, beauty is not just another addable property at the same level as the other mentioned ones, but the aesthetic value of this deducible order of predicable properties. This idea can be grounded on Leibniz's claim that '[t]he more there is worthy of observation in a thing, the more general properties, the more harmony it contains' (GW, p.170/AG, p.232). Rutherford states that 'general properties' that are 'worthy of observation' refer to properties that conform to general rules or 'lawlike properties', which constitute an instance of unity of variety and therefore harmony (1995, pp.34-35). In the same way, we can say that, because beauty is an aspect of harmony, what is beautiful in something is the lawlike form of its properties and qualities.[11] Therefore, things are beautiful when a variety of their properties engage in an intelligible-lawlike formal structure, which can be referred to as 'harmonising properties', and this could be the case for every individual thing, simple or composed, including God.

2.2 Variety of representations

Another approach to explain beauty and variety in simple things is through Leibniz's later notion of substance: the monad. For Leibniz monads are what is truly without parts. Hence, besides God, they are the best example of simple things. But, are they beautiful? This question seems to be left unanswered by Leibniz, at least explicitly, yet there is some reason to believe that they are. Monads are indivisible metaphysical points that have no shape, parts,

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supposing him; instead, we must attribute to him a concept so complete that everything that can be attributed to him can be deduced from it' (A II, 2b, pp.48-9/LAV, p.67).

[11] It is important to highlight that this lawlike conceptual deductive order is only one instance of unity in variety and it is not sufficient to define all dimensions of harmony or beauty in Leibniz's philosophy. This issue is treated in detail in chapter III.

or direct relations with their exterior. Although all monads pertain to the same kind of entity, they all differ from each other in virtue of their internal qualities, which are their perceptions and appetitions. As he explains in §2 of his *Principles of Nature and Grace*:

> For the simplicity of substance does not prevent a multiplicity of modifications, which must be found together in this same simple substance, and which must consist in the variety of its relations to external things. (GP VI, p.598/AG, p.207)

At a fundamental level, monad's qualities are perceptions or representations of the manifold of the external world from a specific perspective. Each monad is a 'living mirror' that represents the variety of the whole universe from its own point of view. Furthermore, monads are not just 'static' mirrors, but they change according to their appetitions, which determine the tendencies to change through time from one perception to another (GP VI, p.598/AG, p.207). Thus monads represent the whole as variety in at least two ways: 1) simultaneously or synchronically, as the variety of the parts of the world, and 2) successively or diachronically, as a variety of representations which is a set of representations that changes through time.[12] Dietrich Mahnke (1925) picks up from Leibniz that, despite the characterisation of monads as simple, they are in fact 'little universes'[13], where their unity has the character of a law that extends over an infinite variety and unfolds a continuous succession of orders of representation to all other monads. Regarding 1), i.e. simultaneous variety, Mahnke compares the represented variety in the monad with knowledge. More specifically, with a kind of knowledge that is combinatorial (*kombinatorisch*) or synthetic. Combinatorial knowledge 'creates unity from a variety and at the same time comprehends all sides at once' (1925, p.312). In other words, unity does not eliminate, overcome, or undermine the represented variety, but intensively concentrates it in order.[14] This coincides with Leibniz's statement that 'cognition is a certain active representation of the many at the same time, made in a single

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[12] In a letter to Samuel Mason (1716), Leibniz states the following: 'However, the simplicity of a substance does not prevent several modes from being in it all at once. There are successive perceptions, but there are also simultaneous ones, for, when there is a perception of the whole, at the same time there are perceptions of its actual parts, and it is even the case that each part has more than one modification. There is a perception all at once, not only of each modification, but also of each part. These perceptions, however much they are multiplied, are different from one another, even though our attention cannot always distinguish them, and that is what makes confused perceptions, each distinct one of which contains an infinity because of its relation to everything external. Finally, that which is composition of parts outside is represented only by the composition of modifications in the monad; without this, simple beings could not be distinguished internally from one another, and they would have no relation to external things. And finally, since everywhere there are only simple substances whose composites are only aggregates, there would be no variation or differentiation among things if simple substances did not have any internal variation.' (GP VI, p.628/AG, p.228).

[13] In §16 of the *Discourse on Metaphysics* (1686), Leibniz had expressed a similar idea even before he arrived to his concept of monads, as he says that every person or substance is like a 'small world' (A VI 4, p.1554/AG, p.48).

[14] Mahnke distinguishes Leibniz's synthesis from Hegel's, as the latter strives for a model similar to melody, where different things oppose and overcome each other through time, whereas Leibniz's model is similar to harmony, as he postulates the subordination of differences to connections that do not negate each other (1925, p.308)

thing by itself' (A VI, 4, p.2848).[15] Accordingly, there is united variety in the monad, thus monads can be harmonious and beautiful.

Yet, this raises a question about the originality of monadic beauty: if each monad represents the whole of the cosmos, then its variety seems to be nothing else than a reflection of the harmonic multiplicity of external things. If all monads represent the same universe, are monads a unique source of beauty or just a reflection of an external source? As noted, what makes each monad unique is the degree of distinctness with which a monad perceives the whole –i.e. perspective– and the way in which its perceptions unfold through time following its appetites. Accordingly, the question would be if a particular monad, with a particular perspective, at a particular time can be called beautiful in its own right? For a monad to be a source of beauty, and not just a mirror-like reflexion of external beauty, its representations must be expressed in a modified manner uniquely pertaining to that monad and nothing else. This is equivalent to the way in which a painting of a certain view of a mountain is beautiful in itself and not just as a mirror of the real mountain. In a footnote Mahnke warns us that although Leibniz uses the example of monads as different perspectives of the same town,[16] this is only an image to illustrate a point. We should not, however, take it literally and assume that monads are only points of view of each point in the spatial quantitative continuity or just different 'mirror-like' perspectives of the same thing.[17] For Mahnke each monad possesses something qualitatively particular that makes it different from the others (1925, p.538). To support his position, Mahnke refers to Leibniz's idea that two things cannot differ just regarding time or space, but there is always a need for some other internal difference (C, p.8).[18] What Mahnke has in mind here is expressed in his view about combinatorial knowledge. He explains that the many-sidedness (*vielseitigkeit*) of Leibniz's combinatorial model is not merely receptive, but mostly productive. Just like a work of art is something else than just the sum of its lines and colours, as it is an organic whole, each unity of a particular representation of the variety of things is the production of something new (Mahnke, 1925, p.311). Following this intuition, it could be said that when a monad represents in its own

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[15] Author's translation. In the original Latin: '*cogitatio est activa quaedam repraesentatio multorum simul facta in re per se una*' (A VI 4, p.2848)

[16] See §57 of *The Monadology* (GP VI, p.616/AG, p.220).

[17] A similar idea is also found in Ernst Cassirer's interpretation of Leibniz, who says that a monad described as a mirror of the universe is a useful metaphor, but it would be a mistake to interpret it as an exact definition. In his words*: 'Die populärste Bestimmung der Monade ist ihre Bezeichnung als „lebendiger Spiegel des Universums". Dieser Ausdruck, der, als Gleichnis aufgefasst, seinen Wert als anschauliche Belebung und Verdeutlichung des Gedankens hat, wird missverstanden, sobald man ihn, wie es häufig geschieht, als exakte Begriffsbestimmung annimmt und ausdeutet'* (Cassirer, 1902, p.467).

[18] In the original Latin: '*Et non posse duas res inter se differre solo loco et tempore, sed semper opus esse, ut aliqua alla differentia interna intercédât.*' (C, p.8)

manner the variety of the world, it constitutes something qualitatively new. A qualitatively new thing is not just a mirror that reflects the qualities of an original object from a determinate perspective, but is a source of qualities in itself. Therefore, the beauty of the variety represented by a specific monad is this monad's own beauty.[19]

Hitherto we have just considered the variety of the representation in a monad. Yet, as noted before, a monad does not only have one point of view, but a variety of them that unfold through time. Indeed, from a diachronic approach, each monad has a variety of different representations through time, just as a melody is composed by different notes varying through time. Accordingly, Hide Ishiguro states that for Leibniz the notion of any individual substance is far from simple, as this tendency to change implicates that monads are susceptible to an enormous, or maybe infinite, multiplicity of true predicates (1998, p.539). Furthermore, Leibniz says that in order to change, the simple substance must have variety:

> But, besides the principle of change, there must be *diversity* [*un détail*] *in that which changes,* which produces, so to speak, the specification and variety of simple substances. […] This diversity must involve a multitude in the unity or in the simple. For, since all natural change is produced by degrees, something changes and something remains. As a result, there must be a plurality of properties [*affections*] and relations in the simple substance, although it has no parts. (GP VI, p.608/AG, pp.213-214)

Change by degrees is only possible when not everything changes at the same time, which means that some properties in the substance change, while others do not. For this to be the case it follows that there must be more than one property. Since the simple substance changes, it must possess variety.

We will further explain the relation of monads and harmony in next chapter. For now, is enough to have pointed out that Leibniz manages to include variety even in simple things, through two approaches. Regarding the idea of complete notions, beauty is the result of complying with a structure of a variety of predicable properties ordered in a derivative or deductive relation. In this case, harmony is an intelligible organisation of the manifold properties and qualities that constitute the essence of an individual being. In a similar manner, even though monads are indivisible units, they also present a type of plurality. The beauty of the monad is the result of the simultaneous expression of all the variety of the universe represented in a unique manner, without cancelling or negating its diversity and, hence becoming productive.

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[19] The idea of an individual identity of each monad is further developed in chapter III.

2. What is variety?

2.1 Quantitative and qualitative variety

Until now it has been suggested what kind of elements can conform a variety in Leibniz's aesthetics. Hence it is possible to state that harmony can be constituted by a variety of substances, natural physical things –from microscopic organisms to planets-, elements of artistic expressions –from verses in poetry to sounds in music-, properties, qualities and representations or perceptions. However, there is a much more fundamental question still pending: what is variety in the context of Leibniz's notion of beauty?

I claim that in Leibniz's writings it is possible to distinguish between two aspects or dimensions of variety, even though Leibniz himself does not make this distinction. In the previous chapter we called 'quantitative variety' an aspect of variety that can be found in definitions of beauty such as the one Leibniz offers in *On Wisdom*, where he states that beauty comes from unity in variety, which is when 'the one rules many outside of itself and represent them in itself' (GP VII, p.87/L, p.426). In this sentence, 'many' is an expression of quantitative variety, since variety in this context is understood just as a quantity of things or a quantity of properties. This dimension of variety complies with one of beauty's features named in chapter I, namely 'plenitude'.

On the other hand, there is other dimension of variety, which is expressed, for example, in what Leibniz calls the 'law of delight' (*laetitiae lex*):

> On that same principle it is insipid to always eat sweet things; sharp, acidic, and even bitter tastes should be mixed in to stimulate the palate. He who hasn't tasted bitter things hasn't earned sweet things, nor, indeed, will he appreciate them. Pleasure does not derive from uniformity, for uniformity brings forth disgust and makes us dull, not happy: this very principle is a law of delight (GP VII, 307/AG, p.153)

In this case, variety is not just a quantitative denomination, but also involves a notion of diversity that is qualitative. In other words, variety is a significant difference between two or more qualities, such as bitter and sweet. For lack of a better word, I will call this 'qualitative variety'. Qualitative variety corresponds to what we called 'contrast' and constitutes one of the features of beauty considered in chapter I.

The use of the term 'qualitative' here merits a short explanation. In Leibniz's metaphysics the difference between any two things is their different degrees of perfection (GP III, p.343/LTS, p.311). Therefore, at a metaphysical level, one thing is qualitatively

differentiated from another by a quantitative measure, namely degrees. In this sense, the term 'qualitative variety' is not the most adequate to express the metaphysically deep Leibnizian distinction between two things. Nevertheless, here I use 'qualitative variety' to denote a more colloquial meaning, which is the magnitude of the difference between two things, in contraposition to 'quantitative variety', as many things. In this sense, more qualitative variety means more difference or contrast between two or more things. It must also be added that here both terms 'quantitative' and 'qualitative' are expressions of different aspects of the term 'variety' and not mutually exclusive types of variety. In fact, for Leibniz, any quantitative variety implies qualitative variety. This is the case because any quantitative multiplicity is composed of things that are qualitatively different from each other. Otherwise quantitative multiplicity would be many of the same thing and this goes against Leibniz's principle of identity of indiscernibles.[20]

2.2 Dissonance

Leibniz often exemplifies through music the positive effect of qualitative variety in harmony, more specifically with the figure of dissonance. For example in *De rerum originatione radicali*, he writes 'the most distinguished masters of composition quite often mix dissonances with consonances in order to arouse the listener, […] so […] the listener might feel all the more pleasure when order is soon restored' (GP VII, p.306/AG, p.153). As said, qualitative variety involves contrast between things and in music dissonances and consonances are defined by their mutual contrast. As explained in the introduction of the first part, the notion of harmony containing dissonances was common in metaphysics and music – especially in tonal music– during the baroque and diverged from the classical and medieval Pythagorean view. The latter located dissonance outside harmony, whereas Leibniz, as well as other baroque thinkers and musicians, included dissonance as a beneficial element of harmony. But dissonances are indeed not harmonious, in fact they are the opposite. So what is interesting about dissonances being a beneficial part of harmony is that dissonance is a value that is opposed to the very thing that it improves: harmony. The same thing is said about evil, as for Leibniz lower quantities of evil enhance the goodness of the world (G VI, p.384/H, p.385). Another equivalent relation is the one between order and disorder. For example, in the *Theodicy* (1710), Leibniz writes '[t]here are some disorders in the parts which wonderfully enhance the beauty of the whole, just as certain dissonances, appropriately used,

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[20] I would like to thank Edward Glowienka for pointing this out.

render harmony more beautiful' (GP VI, p.384/H, p.385). If beauty is an ordered multiplicity how can some disorders in the parts enhance it? In this sense, evil, disorder and dissonance play a similar role in enhancing harmony and beauty, even though they are opposed values. As we will explain, it is indeed by virtue of being opposed values that they introduce more contrast or qualitative variety, which according to Leibniz is what helps to enhance beauty and harmony.

Before we continue with this explanation, we should ask now what dissonance is for Leibniz. Although he does not explicitly define dissonance, he does say that consonances are expressed by a variety in which agreement or order is easily observable (GW, p.171/AG, p.233). It would be safe to assume that, conversely, dissonances occur when that agreement or order is not easily observable. Drawing from passage §134 of the *Theodicy* quoted in the chapter I, we could say that order is not easily observed when some parts do not appear immediately connected to a whole, like 'some piece of animal's flesh' or 'some sprig of a plant'. Leibniz points out that 'there appears to be nothing but confusion, unless an excellent anatomist observe it' (GP VI, p.188/ H, p.207). In this case, the knowledge of the anatomist makes it possible to relate the dissonant piece of flesh to an ordered whole, i.e. the animal. The anatomist can observe that the piece of flesh in fact complies with a broader order that was not so easily found in the piece by itself. Likewise, in the above example of a musical composition, Leibniz seems to suggest that dissonance is a momentary disorder, but further events in time provide the right context to incorporate it in a larger order. For example, at some point in a musical piece a certain interval might cause tension, sounding unrelated or inadequate in relation to the previous intervals, but as the piece progresses it can resolve the tension of that dissonant interval into a further consonant one. In this case the dissonant element is eventually integrated within the harmonic pattern of the piece, justifying that moment of tension and inadequateness as an acceptable part of a whole. Therefore, dissonances are a relative disorder or less immediate order in some parts of an overall ordered whole.[21]

As these examples show, dissonances are produced by elements that introduce certain disorder by contrasting with their immediate context. Hence, dissonance entails a significant degree of difference between things. This difference is expressed in the relations those things establish with each other. Accordingly, there is a difference between the sort of relations that

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[21] It is important to notice that dissonance is not the same as incompossibility. While the latter refers to the impossibility of incorporating two or more things under the same general rule (see chapter III), the former expresses a local or momentary mismatch between two or more closely related things, yet from a wider perspective those things do conform to the same general rule.

a dissonant thing establishes with its immediate context (relative disorder) and the relations that consonant things establish with each other (easily observed order). As we explain in the next chapter, the relations between things that determine their order or relative disorder are objective. Therefore, dissonances and the relative disorder among some elements are not determined by a perceiver, but by the objective relations among things. These relations can be objectively ordered or disordered (or some degree between these terms) with their immediate context. Hence things can be objectively consonant or dissonant (or some degree between these terms).[22] In other words, dissonance and consonance are real properties of the universe.[23]

As said, in Leibniz's metaphysics, dissonance and evil share the same function; both are negative values that work against the main features of the world, i.e. order/harmony and goodness, while at the same time introducing variety (GP VI, p.384/H, p.385). But how could dissonance contribute to harmony or be considered beautiful at all? An immediate answer can be drawn from Leibniz's law of delight, since it seems that he takes at face value the idea that qualitative variety pleases[24] and, within a set of consonant elements, dissonances introduce diversity. In this sense, heterogeneity is a key element of pleasure, embodied by a certain kind of multiplicity that, if it is truly heterogeneous, must include contrasting elements such as dissonance, even if in itself dissonance opposes harmony or beauty. In fact, dissonances are not pleasing by themselves, as Leibniz states that 'certain dissonances would offend the ear by their harshness if they were heard quite alone, and yet in combination they render the harmony more pleasing' (GP VI, p.434/H, p.440). To become a contribution to the aesthetic value of a set of consonant things, dissonances must be in certain orderly combination, which needs to be observed to be appreciated. In a letter to the musicologist and mathematician Conrad Henfling, Leibniz wrote that beauty, or what is pleasing, 'consists in the observability of multiplicity to such an extent that deformity itself would immediately please, when it

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[22] I do not think that Leibniz would deny that there can be degrees of consonance and dissonance, in the same way that there are degrees of good and evil (even though there are things in the world that are clearly good and others clearly evil). If this is the case the difference between consonance and dissonance could be considered quantitative (i.e. degrees). Yet for the sake of simplicity, I will not consider here in detail the consequences of this variance of degrees.

[23] When Leibniz defines consonance as a variety in which agreement or order is easily observable, I do not think that he means that the difference between consonance and dissonance is determined by a subjective observer. I think that 'easily observable' is a nominal definition and not a definition of the nature of consonance in itself. This means that it is not that consonances appear when an observer easily observes the order of some parts, but when some parts objectively have a significant degree of order the observer can easily observe that order. In the case of dissonance, order is not so easily observed because there is a momentary disorder among parts.

[24] A similar idea was expressed before by Descartes: 'Variety in all things must be noticed to be pleasing' (Author's translation. In the original Latin: '*Denique notandum est varietatem omnibus in rebus esse gratissimam*' (See *Compendium Musicae*, in GOC, p. X, 92).

renders itself observable' (Hasse, p.140).[25] This notion can be contextualised with the emphasis that Leibniz puts in the relation between observability and pleasure, as he wrote to Wolff that 'consonances please, since agreement is easily observable in them' (GW, p.171/AG, p.233). In light of the passage directed to Henfling, it seems appropriate to add certain modifications to the latter quote: if consonances please because their agreement is easily observable, then harmony with dissonances requires a greater effort to be observed and become pleasing. With effort, nonetheless, it is possible to find agreements with the inclusion of dissonances and become observable.[26] Furthermore, according to Leibniz's statements about the use of dissonance in music, this greater effort has the potential to result in even more pleasure or beauty. Leibniz's idea here seems to comply with the principle of completeness commented in chapter I, since it states that our partial perspective of the totality, limited only to perceiving some parts, encounters some dissonant aspects of the whole, which by themselves could be wrongly conceived as undesirable, yet when the whole is observed, these dissonances find their place in agreement and contribute to enhance harmony and beauty.

2.3 Dissonance and the beautiful

This explanation still raises the metaphysical question if dissonances are inherent elements of beauty? Which is related to a second question; why are there dissonances in the best –most beautiful– possible world? In the *Theodicy*, Leibniz states that 'the limitation or original imperfection of creatures brings it about that even the best plan of the universe cannot admit more good, and cannot be exempted from certain evils, these, however, being only of such a kind as may tend towards a greater good' (GP VI, p.384/H, p.385). The way in which Leibniz phrases this statement, seems to indicate that the imperfection of creatures is a given condition that forces the existence of evil elements in the universe.[27] Yet, luckily, these elements can be used to enlarge the goodness of the universe and make the best of it in its aim towards perfection. Equally, it could be said that because of creatures' imperfection the

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[25] Author's translation. In the original Latin: '*Nam revera pulchritudo, vel (si hoc generalius accipias), quod gratum est, in multiplici observabilitate consistit; usque adeo, ut ipsa subinde deformitas placeat, cum se observabilem reddit…*' (Hasse, p.140).

[26] Heinrich Wölfflin makes a very similar comment regarding baroque architecture that might help to illustrate this point: 'for the baroque is bold enough to turn the harmony into a dissonance by using imperfect proportions. As long as the work have any aesthetic meaning at all, its proportions cannot of course be governed entirely by such a dissonance. But harmoniously related proportions became fewer and less conspicuous. The simple harmony of Bramante's style suddenly seemed trivial and made way for more far-fetched relationships, more unnatural transitions that the untrained eye could easily mistake for complete absence of form.' (1964, pp.67-68)

[27] Indeed, for Leibniz, all things are created by God with limitations or, what is the same, with some degree of metaphysical evil. It is because of these limitations that created things cannot know everything and are susceptible to err in their actions, i.e. commit sins. And this is how moral evil arises from metaphysical evil.

beauty of this world must include dissonances (as equivalent to evil). Following this assumption, it could be thought that, although the imperfection of this world mandates the inclusion of dissonance, there is such thing as pure beauty without dissonance in an ideal realm or in God. Hence, in this scenario, dissonances are not inherent enhancers of beauty, but by-products of creaturely imperfection. Accordingly, a world with no dissonances would be better (more beautiful or more perfect), if such thing were possible.

However, in other paragraphs Leibniz suggests that the inclusion of dissonance is in fact better than its exclusion, for example in a documented dialogue with Baron Dobrzensky (1695) Leibniz states the following:

> I believe that God did create things in ultimate perfection, though it does not seem so to us considering the parts of the universe. It's a bit like what happens in music and painting, for shadows and dissonances truly enhance the other parts, and the wise author of such works derives such a great benefit for the total perfection of the work from these particular imperfections that it is much better to make a place for them than to attempt to do without them. (Grua, p.365-6/AG, pp.154-5)

Also in the *Theodicy*, Leibniz explains that 'he [God] can banish evil, but that he does not wish to do so absolutely, and rightly so, because he would then banish good at the same time, and he would banish more good than evil' (GP VI, p.435/H, p.441). In the same text he also states that '[i]t is true that one may imagine possible worlds without sin and without unhappiness, and one could make some like Utopian or Sevarambian romances: but these same worlds again would be very inferior to ours in goodness' (GP VI, p.108/H, p.129). In this sense, good and evil or consonance and dissonance seem to be inextricably interrelated to the point that a greater positive value is not without the diversity introduced by a negative one.

There seem to be at least two reasons why Leibniz thinks this. The first reason is the same as in the 'law of delight': qualitatively different things grouped together result in a positive value (be it good, beauty or pleasure). Although we already mention this idea, let's expand a bit more. As said, the inclusion of opposites in a certain order increases variety and in a group of mostly good and consonant things, evil and dissonance are the best diversifiers. For example, in his *Confessio philosophi* (1672-1673), Leibniz justifies sins as contributions to the superior aesthetic value of harmony: '[God] would not be more pleased by the universal series were sins absent –in fact less, because this very harmony of the whole is rendered delightful by the dissonances which are interposed and compensated for in marvellous manner' (A VI 3, p.124/CP, p.49). If even for God harmony is more delightful

when it contains diversity, then it can be said that qualitative variety is objectively valuable.[28] If this is the case, negative elements in a certain order do inherently enhance beauty, since the best and most beautiful harmony requires in its constitution negative elements such as dissonance, evil or sins. Yet again, this does not mean that qualitative variety is an unconditional positive value or that any kind of diversity enhances beauty. In his letters to Wolff, Leibniz is rather clear about the superior amount of good needed for this to be so:

> I don't know whether it can be said more absolutely that the unlimited is more perfect than the limited. The unlimited is a certain sort of chaos, but its observation brings on discomfort [*molestia*], not pleasure. If the divine intellect were to produce good things and bad in equal measure, it would remain unlimited, but it would not remain perfect. It is more perfect for the better things among the possibles alone to exist than for good and bad things to exist equally and indiscriminately. But [God's] intellect is also unlimited in its kind with respect to the best, since it produces infinite harmonies. (GW, p.171/AG, p.233)

In this sense, for qualitative variety to be a contribution to harmony and beauty, it must be a certain ratio between a greater quantity of positive elements and a lesser amount of negative ones. As said, negative elements must be also precisely located in specific relation with good ones.[29]

A second reason for the inclusion of negative elements is that it achieves a better order. As was shown in the passage quoted at the beginning, beauty arises from the order that flows from harmony, in other words; order is a fundamental feature of beauty.[30] Hence the question is if the inclusion of negative elements could bring a better order than their exclusion. For example, in baroque music, the integration of dissonance was far from an attempt to bring confusion into harmony, on the contrary as Tim Carter states 'the careful control of dissonance brought a new order to musical harmony that might be termed classical, at least in the sense of balance' (2005, p.7). The suggestion that musical dissonances are associated with control, order and even 'classical balance', can be also applied to Leibniz's

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[28] This is also confirmed in *Confessio philosophi*, as Leibniz suggests that the fact that diversity –introduced by discord and apparent disorder– contributes to harmony is not a fact in virtue of God's will, but in virtue of God's understanding. Hence the fact that diversity contributes to harmony is a fact in the same way that three times three is nine, i.e. not because God wants to, but because it is in the nature of numbers themselves, which are, however, in God's intellect (See A VI 3, pp.121-122/CP, pp.43-45). As Frédéric De Buzon explains, for Leibniz 'the proportions, relationships, or reasons which constitute universal harmony depend not on the will of God, but on his very existence, since the divine understanding is the place in which the ideas of things reside' (1995, p.102).

[29] The notion of 'negative elements' raises the question whether the particular imperfections are themselves 'things' or not. If they are, they would be ultimately perfect in some significant degree, otherwise they would not have qualified for existence. Here we should remember that Leibniz subordinates the value of the part to the whole, so the low degree of perfection (or imperfection) of an isolated thing could be perfect in its contribution to the whole. We will return to this topic in chapter V. Yet for now we should think of negative elements along the lines of our definition of dissonance, i.e. elements that exhibit a relative disorder within their immediate context.

[30] In chapter 3 we will see that unity (one of the two fundamental notions of harmony) is a principle of order.

harmony. In fact, Gilles Deleuze sees Leibniz's thought –in analogy with baroque harmony– as the ultimate attempt to reconstitute classical reason:

> Classical reason toppled under the force of divergences, incompossibilities, discords, dissonances. But the Baroque represents the ultimate attempt to reconstitute a classical reason by dividing divergences into as many worlds as possible, and by making from incompossibilities as many possible borders between worlds. Discords that spring up in a same world can be violent. They are resolved in accords because the only irreducible dissonances are between different worlds […] Confronted by the power of dissonance, it discovers a florescence of extraordinary accords, at a distance, that are resolved in a chosen world, even at the cost of damnation. (1993, pp.81-82)

Before commenting on Deleuze's passage, we need to briefly review some basic notions of Leibniz's metaphysics. Leibniz does not draw a fundamental division between good and evil or consonance and dissonance.[31] For him, there are at least three orders of being:

- An order of God's intellect or 'Region of Verities': an infinite set of all possible things and eternal truths. Here all things that are conceivable without internal contradiction are included. Hence this order only excludes impossible things, such as a square circle. Yet, some of these possible things, although consistent by themselves, are fundamentally incompatible with other possible things.

- An order inter possible worlds: within God's intellect these possible yet incompatible things are separated from each other and assigned to different possible worlds with closed borders, making each possible world internally consistent, but inconsistent with other possible worlds. Accordingly, some possible worlds contain possible things that are inconsistent with other possible things in other possible worlds.

- An order intra possible worlds: although everything within a possible world is consistent with each other, there are things that are not in immediate agreement among each other. Thus each possible world contains certain degrees of evil and dissonant things i.e. certain things that have a low degree of perfection or that exhibit a relative disorder with their immediate context. However, these things are ordered in a way that brings more goodness and beauty. Among these worlds the actualised world is the one that achieves these last attributes in a greater degree.

What Deleuze points out is that this distribution of beings attains a greater order including those negative elements (evil or dissonance) –that classical thought unsuccessfully tried to

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[31] This differs with certain kinds of Manicheism in classical thought, such as the case of Pythagoreans like Achytas, whose cosmology was explained in the introduction of the first part.

purge– by locating them in separated worlds.[32] In Leibniz's metaphysics only things that are fundamentally inconsistent between each other are in different world, but things that establish relations that are dissonant between each other are tolerated within the same world. Indeed, they are not only tolerable, but desirable, as for Deleuze the inclusion of dissonance and evil in the third described order is crucial for harmony, since it avoids the eternal dissonant resonances or 'the eternal resentment of the damned':

> [I]ntegration can be made in pain. That is the specific character of dissonant accords, the accord here consisting in preparing and resolving dissonance, as in the double operation of Baroque music. The preparation of dissonance means integrating the half-pains that have been accompanying pleasure, in such ways that the next pain will not occur 'contrary to all expectations.' […] The resolution of dissonance is tantamount to displacing pain, to searching for the major accord with which it is consonant, just as the martyr knows how to do it at the highest point and, in that way, not suppress pain itself, but suppress resonance or resentment […] A counterexample would be furnished by the damned, whose souls produce a dissonance on a unique note, a breath of vengeance or resentment, a hate of God that goes to infinity. (1993, pp.131-132)

This amounts to the neutralisation of radical evil –or pure dissonance– by perfectly placing negative elements in an order that finds harmonic resolution. Since every possible thing has being in God's intellect, there must be some things or relation between things that happen to be evil or dissonant, which must be located within some possible world. Confronted with this problem, the hypothetical solution of Manicheism would be to put all these negative elements into one world apart from all other non-dissonant and non-evil things, resulting in a world of pure dissonance or radical evil and other world(s) without dissonance or evil. On the contrary, the order that Deleuze sees in the Baroque and in Leibniz's philosophy is that these evil and dissonant elements are distributed among all possible worlds in a perfect measure in order to serve the mentioned purpose of enhancing harmony within these worlds. As Leibniz states: 'And as this vast Region of Verities contains all possibilities it is necessary that there be an infinitude of possible worlds, that evil enter into divers of them, and that even the best of all contain a measure thereof. Thus has God been induced to permit evil' (GP VI, p.115/H, p.136). This inclusive operation contributes to gain in beauty, as it establishes a more efficient overall order of beings, despite the fact that it might appear not to be the case if we do not see the whole. As Deleuze puts it: 'the Baroque universe witnesses the blurring of its melodic lines, but what it appears to lose it also regains in and through harmony' (1993,

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[32] Although Deleuze does not mention the Pythagoreans here, we could once again consider Achytas as an example of a classical thinker that excludes dissonances from the harmoniously ordered universe.

p.82). This is the case because dissonances and evil become productive in their worlds as they help to achieve a positive result. Otherwise, if they were be excluded and isolated they would be always in a state of pure evil or dissonance with no chance of redemption or resolution. In this sense, Leibniz proposes a more successful order through the integration and distribution of negative elements, which result in a harmonic unity composed of qualitative variety or diversity that enhances beauty.

2.4 Resolution

As said, for qualitative variety to be a positive contribution to harmony, it must entail a certain order. The fundamental trait of this order is that it must be able to achieve the harmonic resolution of dissonances within the unity of a whole. In *Confessio philosophi*, Leibniz explains that beauty is achieved with the reduction of the apparent and temporal disorder between things (that is dissonance):

> [F]or harmony is unity in multiplicity, and it is greatest in the case where a unity of the greatest
> number of things disordered in appearance and reduced, unexpectedly, by some wonderful ratio to
> the greatest elegance [*concinnitatem*]. (A VI 3, pp.122-123/ CP, 43-44)

In this sense, harmony –and hence beauty– reaches its peak at the moment when the dissonances are harmonically reduced. Later in the same text, Leibniz repeats this idea by stating that in 'the more exquisite harmony the most turbulent discord is unexpectedly reduced to order' (A VI, 3, p.126/CP, p.53). And again, a third time, he applies this same principle to art, calling it 'the rule of art': 'it is with the essence of harmony that the discordant diversity is redeemed wonderfully by seemingly unexpected unity. This is taken as a rule of art, not only by those who write songs but also by those who write stories concocted to delight, which are called novels' (A VI, 3, p.147/ CP, p.103).

The moment when dissonances are suddenly redeemed and order is restored relates to the aesthetical supremacy of the whole in Leibniz's philosophy. As he states:

> [E]ven if harmony is pleasing, nevertheless it does not immediately follow that whatever arises
> from this harmony is pleasing. Because the whole is pleasing it does not follow that each part is
> pleasing [...] But the unpleasantness that exists in these things considered in themselves is
> dispelled by the departure or, rather, actually the increase from the source of the pleasantness of
> the whole. Hence because of this compensation, the dissonant in this mixture is made indifferent
> from what was displeasing, the permitted from what was rejected. Only the whole is pleasing,
> only the whole is harmonious, only the configuration, as it were, of the whole is harmony. (A VI,
> 3, p.131/CP, p.63)

Thus, only a whole exhibits the true beauty of something, since a whole is associated with the moment of the redemption of dissonance and the highest peak of harmony, that is, when elements in relative disorder within their immediate context are shown to be in fact an ordered part of a bigger whole. Accordingly, beauty is not merely quantitative multiplicity or qualitative diversity, but also the resolution of dissonances in certain complete final unity. Beauty is therefore realised in the culmination of the formal structure of unity in variety or, as said in the previous chapter, beauty is the 'final moment' of harmony.

3. Conclusions

As we have explained here variety not only possesses a significant ontological status in Leibniz's metaphysics, but also in his views about aesthetics. To this extent variety is one of the two conditions that cannot be found lacking in any consideration of the notion of beauty. As an instance of harmony, beauty is, at its most basic, an ordered variety.

Even simple entities in Leibniz' universe are not without variety. Indeed, simple things can be beautiful by being harmonious, that is when variety is not only a plurality of things, but also a variety of properties and representations contained in a partless entity. Regarding the idea of complete notions, beauty is the result of complying with a structure of a variety of predicable properties ordered in a derivative or deductive relation. In this case, harmony is an intelligible organisation of the manifold properties and qualities that constitute the essence of an individual being. In a similar manner, even though monads are indivisible units, they also present a type of plurality. The beauty of the monad is the result of the simultaneous expression of all the variety of the universe represented in a unique manner, without cancelling or negating its diversity and, hence becoming something new. The monad also expresses a diachronic variety as a series of representations succeeding each other in time.

Consequently, simple things can be beautiful either by possessing a multiplicity of properties harmonised by a deductive law-like form or by intensively representing the external variety in a unique manner.

In the second section, we explained that variety is not only a quantitative plurality of elements, but also the qualitative diversity between these elements. Furthermore, more diversity entails more beauty, therefore dissonances and negative values increase beauty. Indeed beauty is enhanced by a union of contrasting elements that produces dissonance. We postulated two reasons to justify the value of dissonances: first, dissonances are examples of

diversity and diversity rightly ordered always render a positive outcome. And second, the right distribution of dissonance through all possible worlds generates an optimal order avoiding possible worlds of pure dissonance.

Lastly, we said that for Leibniz the tension introduced by dissonances in the universe is harmonically resolved in the order of the whole, resulting in an objectively beautiful universe. In the following chapter we will examine how this order is expressed as the unity of the formula unity in variety that is beauty.

Chapter III: Unity[1]

Harmony has been here defined as unity in variety, which is a formula that combines two terms; 'unity' and 'variety'. Unity in variety has been deemed equivalent to several other expressions coined by Leibniz, such as 'diversity compensated by identity' [*diversitas identitate compensate*], 'variety reduced to unity' [*varietas reducta in unitatem*] (GP I, p.73/ L, p.150), 'unity in plurality' [*einigkeit in der vielheit*] (GP VII, p.87/L, p.426), 'agreement or identity in variety' [*consensus vel identitas in varietate*] (GW, p.172/AG, p.233) and even as 'the simplest in hypotheses and the richest in phenomena' (A VI 4, p.1538/AG, p.39). However, the careful comparison of these phrases highlights the following issue: although the terms 'variety', 'plurality' and 'diversity' refer more or less to the same idea, the terms at the other side of the formula, i.e. 'unity', 'identity' or 'agreement', are at odds with each other. These terms are not evidently equivalent to each other in the same way that 'multiplicity' and 'variety' are to each other. Indeed, there are several meanings conveyed by different expressions at the side of the formula opposed to variety: on one hand 'unity' could be understood as numerical unity and/or as many things put together (united); 'identity' refers to individuality or, in logical terms, something that is equal to itself; and, 'agreement' indicates a relation that coordinates two or more elements.

Here we will assume that this terminological ambivalence in Leibniz's work is, nonetheless, deliberated. Furthermore, we think that the fact that these terms fulfil the same role in the formula of harmony points to a key aspect of his metaphysics: numerical units, the unity of many things, identity and agreement are all traits that are co-dependent on each other, and cannot be found apart in any entity. In other words, in Leibniz's universe everything that could be referred as 'one' or any individual thing with a unique identity is an ordered multiplicity in some sense. Moreover, in any united group of things there must be agreement among those things, as we will argue there is no forced convergence of the manifold into one.

Nevertheless, even if unity, identity and agreement cannot be found apart in the universe, they still have different meanings that refer to different traits. Hence, in a sense, it

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[1] Some of the ideas expressed in this section are contained in the following published articles: Portales, Carlos (2016) Variety and simplicity in Leibniz's aesthetics. In *Vorträge des X. Internationalen Leibniz-Kongresses, Band V*. Hildesheim: Georg Olms Verlag and Portales, Carlos (2018) Objective beauty and subjective dissent in Leibniz's aesthetics. *Estetika: The Central European Journal of Aesthetics,* 55(1), 67–88.

could be said that *unity* in variety does not refer to harmony in the same way that *agreement* in variety does. In order to establish a univocal formula of harmony that works as a single ground for beauty it is important to surpass this semantic divergence. Fortunately, all these notions converge when noticed that, at an ontological level, numerical units, identities and agreement of multiplicities are all dependent on something more fundamental: a principle of order. It will be argued that for Leibniz there is a principle of order that not only produces unities, constitutes identities and the agreement of their internal multiplicities, but also *is* the unity that the postulated formula of harmony/beauty expresses. Unifying principles of order, such as laws or rules, can be found at any level where it is possible to designate unities; from the set of all possible worlds, through each one of these possible worlds, to any of the individuals that inhabit those worlds. Therefore, harmony's unity interpreted as a principle of order opens the possibility to extend beauty to every ontological level.

The main purpose of this chapter is to show how the notion of 'principle of order' articulates different aspects of the notion of unity that is required for the formula of beauty in Leibniz's aesthetics. For this reason we focus largely on metaphysical issues that might seem distanced from aesthetics. Yet, even though beauty is not explicitly discussed as often in this chapter as in the previous ones, this is so with the purpose in mind of explaining significant aspects of the formal structure of unity in variety, especially unity, which indeed grounds the metaphysics of beauty.

Since individual substances display the most peculiar and complex examples of the rule-based ontology that we propose here, it seems appropriate to start from this level. In section 1, we will firstly explain how a principle of order can be unity as individuality and identity in substances. Afterwards, we will tackle unity as agreement and power understood as a principle of order. The second section is about the unity of the world and possible worlds, particularly about how a principle of order constitutes this unity and relates with the members of the world as well as its identity. We also explain the divine nature of this principle, its relation with beauty and how it differs from logical compossibility. In the third section, we briefly examine other principles of order or unities found in Leibniz's philosophy. We especially focus on the notion of aggregates. Finally, in the conclusions, we offer a summary of the different types of unities, such as the unity of a substance, the unity of the world, the unity of aggregates and the unity of God. We also describe how these different types of unities affect the degree of beauty.

1. **Unity and individual substance**

1.1 The unity of complete concepts and monads as a principle of order

As has been said, for Leibniz the possibility and the existence of individuals depends on their degree of essence or perfection which is determined by harmonising properties. For any entity to have some degree of reality, it must unite many properties in harmony. Thus the formula of unity in variety, harmony and, hence, beauty are realised at an ontological level in the structure of individuals. In the previous chapter we stated that in the case of complete concepts 'harmonising properties' refers to a logically deductive order of predicable properties. In this sense, some commentators have noticed that according to Leibniz's theory of complete concepts an individual is not determined by its form and matter, as scholastic philosophy established, but by a complete concept, which expresses individuation in terms of logical combinations.[2] Indeed, at a conceptual level all possible individuals are constituted by logical combinations of predicable properties, therefore they all comply with a general principle of logical compossibility, i.e. all individuals are self-consistent.

Yet individual entities must be different from each other and, since we stated that unity is a principle, there must be different principles for each individual. Hence, a universal law of logical compossibility is not enough to determine unique individualities, but a more specific principle of individuation is needed. Such principle, however, cannot replace or violate logical compossibility. Indeed, it derives from it and points towards a more specific order, which suits the requirements of individuation. Ohad Nachtomy calls this individuation principle a 'rule of production' –or in slightly different contexts 'programme of action'– and identifies it as the defining unity of possible and actual individuals in Leibniz's ontology. In his words; 'the unity in question is not that of material parts which are held together by some physical force rather, it is a unity deriving from a dominating program of action' (Nachtomy, 2007, p.246). This rule or programme consists in a method of producing unique combinations of mutually consistent predicates, where every predicate has a particular order. Furthermore, as a programme of action this structure determines the potential and actual agency of the individual (2007, pp.2, 3, 8 & 53).

Nachtomy argues that this rule or programme is also the identity of the individual. His argument proceeds as follow: for Leibniz the definition of a complete concept seems to be the

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[2] See for example Mugnai (2001, p.43) and Nachtomy (2007, p.50). This holds specifically for Leibniz's view on individuation according to his theory of complete concepts, which might differ from some of his later views on the same issue that is explained through the theory of monads and the law of the series. Later on this chapter we will we focus on the latter. However, we do not have enough space here to discuss in detail the differences between the two theories or the transition from one model to the other.

sum and order of its predicates. However, since a complete concept entails infinitely many predicates, it is impossible to define one individual whole by identifying a set of infinitely many predicates. Therefore the task of characterising the identity of the concept falls upon something more definitive. A rule achieves this role, if it is understood as a particular algorithm-like formula that constitutes a 'law of the series'. This law can be identified and defined even if the infinitely many predicates of an individual are not considered in its totality, since this law can be presented as a formula that indicates the rationale for including and ordering all the predicates of a complete concept.[3] This law is a pre-established rule of organisation that combines, includes and excludes particular properties and also determines and explains the order of succession of particular actions and events of one individual (2007, p.70). In this sense, the unity of complete concepts is neither the complete concept as a subject that is all its predicates (as numerical unit or identity) nor just the logical order of compossible predicable properties (as a type of agreement). Unity is the specific and individual rule that determines what predicable properties the concept possesses (had, has and will have) and the order of their manifestation (as relational properties such as events and actions). Thus unity as an individual rule creates and regulates numerical unit, identity and agreement.

The same principle applies to later notions of Leibniz's substances, such as monads. As he states in the *Theodicy*: 'by nature every simple substance has perception, and that its individuality consists in the perpetual law which brings about the sequence of perceptions that are assigned to it' (GP VI, p.289/H, p.304). John Whipple presents a clear exposition of this understanding of substances that he calls 'Substance/Primitive Force/Law of the Series Identity Thesis' (2010, p.393). This thesis states that primitive force and the law of the series are not only responsible for the production of substance, but are the substance (2010, p.401). It is worth noticing that in the case of Leibniz's later theory of substances there is a new element at play, namely primitive force. Although, 'law of the series' coincides with the idea conveyed by 'rule of production' or 'program of action', the notion of 'primitive force' seems to be a different component. In fact, Nachtomy makes a clear distinction between rule of production and force (2007, p.119). In contrast, Whipple provides convincing textual evidence to support the view that for Leibniz's mature philosophy the law of the series and primitive force refer to similar if not to the same thing (2010, pp.391, 392 & 393). For

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[3] This is another way in which 'the simplest in hypotheses and the richest in phenomena' (A VI 4, p.1538/AG, p.39), can be considered as another version of unity in variety: in the mentioned model the law of the series, which individuates and unites infinitely many predicates, acts as singular entity that explains and justifies its predicates, just like a scientific hypothesis does with natural phenomena.

example, in his correspondence with De Volder (14/07/1686), Leibniz states that 'that which persists, insofar as it involves all cases, contains primitive force, so that primitive force is the law of the series' (GP II, p.262/L, p.533). Also in *On Nature Itself* (1698), he states that 'we must add a soul or a form analogous to a soul, or a first entelechy, that is, a certain urge [nisus] or primitive force of acting, which itself is an inherent law, impressed by divine decree' (GP IV, p.512/AG, p.162).

In Leibniz's mature philosophy, primitive force and law of the series seem to play an equivalent role in the process of individuation. Both primitive force and law/rule are used in different contexts by Leibniz as the ground of individuality in things. Regarding the former, he states that 'dissimilarity or qualitative difference, and also alloiosis or alteration, which Aristotle explained insufficiently, derive from different degrees and directions of nisus, and thus derive from modifications of the monads existing in things' (GP IV, p.514/AG, p.163). For something to be a unique individual it must possesses a monad with a unique combination of 'different degrees and directions of nisus'. Primitive force is here expressed as a monad's nisus or as a striving[4] towards certain direction. This striving is unique in each monad and autonomously fuelled from its own depths.[5] However, when Leibniz explains how individuals relate harmonically with the world he defines individuality as something constituted by a law of order

> But in my opinion it is in nature of created substance to change continually following certain order which leads it spontaneously […] through all the states that it encounters […] And this law of order, which constitutes the individuality of each particular substance, is in exact agreement with what occurs to every other substance and throughout the whole universe. (G IV, p.518/L, p.493)

According to this passage, a law of order determines the changes in a substance in a similar manner as direction of nisus leads the modifications of a substance. More importantly, here Leibniz explicitly states that individuality is constituted by a 'law of order'. In this fragment individuality is said to be the product of a principle of order just as in the previous quote it was said to be the result of primitive force. We take from this that, regarding individuation, both terms fulfil the same role, making it plausible to assume that Leibniz identifies the particular direction of nisus or primitive force that provides individuality with a law of order

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[4] In Latin Leibniz uses the word *nisus* or *conatus* (although *conatus* is used sometimes to refer to a derivative purely physical force). In English this has been translated as 'strive', 'effort' or 'endeavour'.

[5] In this sense, striving is related with the idea of appetites in a monad, which dictates the changes in the monads states from within the monad itself. A monad moves from one represented set of the manifold to another following its appetites (GP VI, p.598/AG, p. 207).

(or law of the series).[6] Hence we conclude that when unity refers to the individuality of substances, it can be understood as a principle of order, hence confirming so far the present thesis that unity (as individuality in this case) can be reduced to a principle of order.

1.2 Power and agreement

A more complicated conceptual issue in Leibniz's philosophy is found when force is used as the power of a unit to unite the manifold. As we have seen in *On Wisdom*, Leibniz states that beauty arises from harmony that is unity in plurality and it is suggested that this latter formula is the result of power. In that text, power [*kraft*] is defined as 'many revealed through the one [*Einem*] and in the one [*Einem*], in that the one [*Eines*] rules many outside of itself and represent them in itself'. After this definition, he introduce the notion of 'unity in plurality' [*einigkeit in der vielheit*] (GP VII, p.87/L, p.426). The text implies that unity is dependent on a numerical unit, since this 'One' has the power to 'rule' many outside itself, which results in unity in plurality. In this context Frederick Beiser makes an interesting statement about Leibniz's philosophy that relates aesthetics with ontology:

> Leibniz defines substance in terms of living force (*Vis viva*, *Kraft*), which he identifies with the power to unify a manifold, to create unity amid variety. Unity amid variety is order or harmony, which is the structure of beauty itself. Hence living force manifests itself as beauty, so that beauty is the measure of the power of a substance. (Beiser, 2009, p.32)

Despite certain imprecisions in the use of the terms,[7] Beiser's statement delivers a valuable attempt to frame the rather abstract depiction of beauty given in *On Wisdom* within the core

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[6] For Nachtomy the difference is conceptually significant and it is established based on the actual meaning of the terms: 'Although Leibniz's notion of a source of action often confuses the notion of primitive force with that of an internal law of changes, the two are conceptually distinct and each constitutes a distinct requirement for the self-sufficiency of substances. While the law prescribes a course or program of action, primitive force is required to enable the execution of the program' (2007, p.119). Even though this argument makes sense from a semantic perspective, the presented textual evidence suggests that in Leibniz's mature philosophy active force and the internal law of the monad can be taken as equivalent notions. So here we will not argue that they are significantly different aspects of the substance. Nevertheless, it must be said that the idea of primitive force is rather significant by itself for some contexts. It is particularly useful for understanding individuality and form in bodies or matter, as Leibniz states 'It is also useless to turn to shape over and above motion. For in a mass that is perfectly homogeneous, undivided, and full, no shape, that is, no boundary or distinction between its different parts arises, unless through motion itself. But if motion contains no mark for distinguishing things from one another, then it likewise bestows no mark with respect to shape' (GP VI, p.513/AG, p.163). For Leibniz movement is the principle of individuality in matter and body, yet most physical movements are just the result of derivative forces whose original source is primitive force: '*Active force* (which might not inappropriately be called *power* [*virtus*], as some do) is twofold, that is, either *primitive,* which is inherent in every corporeal substance *per se* [...]), or *derivative,* which, resulting from a limitation of primitive force through the collision of bodies with one another, for example, is found in different degrees' (GM VI, p.236/AG, p.119). Primitive forces are the same as entelechies or substances, 'which contain not only *act* or the completion of possibility, but also an original *activity*' (GP IV, p.479/AG, p.139) and derivative forces are its physical counterpart or result. Thus, substance depicted as primitive force is not only the striving but also the original force that provided movement to matter and hence also its individuality. The development of Leibniz's late theory of substance –including the relation of the notions of 'force', 'law of the series' and 'appetite'– involves a complicated and rather controversial topic in the specialised literature, which unfortunately we cannot examine here at length. It should suffice to say that here we agree with Whipple's interpretation that affirms the equivalence of force and law of the series. For a more detailed chronological account of the progression of Leibniz's theory of substance and the concept of force see Garber, 2009.

of Leibniz's ontology. What is distinctive of a substantial individual unit is the power or force to unite a manifold constituting harmony and therefore beauty. Thus harmony is the result of an ontological operation of substances that starts with power and ends with beauty.

However, sheer power alone can achieve neither harmony nor beauty. In the next line of the quoted paragraph from *On Wisdom*, Leibniz introduces the other requirement for beauty, namely that 'unity in plurality [*einigkeit in der vielheit*] is nothing but harmony [*übereinstimmung*]' and 'since any particular being agrees [*stimmet*] with one rather than another being, there flows from this harmony the order from which beauty arises' (GP VII, p.87/L, p.426). Agreement between those beings composing the united manifold is an integral part of harmony. In the original text in German, Leibniz phrases the sentence in a way that seems to indicate that order flows mainly from the fact that there is agreement between certain things.[8] Hence order, as a property of harmony, is not given by the power of the one to unite the many (or at least not entirely), but by the agreement between the many. This happens to be the case also for the relation between Leibniz's substances

> [T]he *interaction* between *substances* or monads arises not from an influx, but through an agreement [*consensum*] derived from divine preformation, accommodating each thing to things outside of itself while each follows the inherent force and laws of its own nature (GP IV, p.510/AG, p.160)

Substances do not exert direct power over each other, since they are already in agreement from their origin. This model could be compared to contrapuntal movement in music that consists in two or more independent melodic lines harmonising each other, but with no necessary subordination of one to the other.[9] In this sense, harmony and beauty, as described in *On Wisdom*, are perfectly germane to individual substances. Yet not exactly as Beiser depicts it, since he stressed the role of power and overlooked the prominence of agreement in the ontological operation of substances.

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[7] Beiser uses here the notion of 'living force' [*vis viva*] in the same way that Leibniz uses 'power' [*Kraft*] in the mentioned paragraph of *On Wisdom*. This requires some comments. Although, in his text called *On the Correction of Metaphysics and Concept of Substance* (1694) Leibniz explicitly states that his substantial concept of 'force' [*vis*] is the same as *Kraft* in German (GP IV, p.469/L, p.433), he is referring to *vis* as primitive force [*vis primitiva*] and not living force [*vis viva*], since the latter is conceived in his *Specimen Dynamicus* (1695) as a derivative force corresponding to physics and not to substances (see GM VI, pp.238-9/L, pp.438-9/AG, pp.121-2). Furthermore, even if Beiser were referring to primitive force, Leibniz uses this notion mostly to indicate the substance's original activity and not so much in reference to the power to unify a manifold. Nonetheless, Leibniz does not explicitly distinguish primitive force from power [*Kraft*] in this context, so they seem to be related. Thus, although there might be certain similarities between *vis primitiva* and *Kraft* as used in *On Wisdom*, there is hardly any between *vis viva* and *Kraft*.

[8] In the original German: '*Nun die einigkeit in der vielheit ist nichts anders als die übereinstimmung, und weil eines zu diesem näher stimmet als zu jenem, so fließet daraus die ordnung, von welcher alle schöhnheit hehrkomt*' (GP VII, p.87).

[9] Indeed, Arthur Dony claims that Leibniz's metaphysical model of harmony could be considered as isomorphic with Bach's use of the imitative counterpoint, since the latter consists in superimposing different autonomic voices of equal importance in a way that results in harmony (1996, p.320).

Does this mean that power has no involvement in the harmony and beauty of substances? And if this is so, what is the role of the 'One' [*Einem*] that Leibniz mentioned in *On Wisdom*? Furthermore, what is then agreement? For Leibniz, power as the faculty to act upon other things is still relevant, yet it must be understood in a different manner. For example, as is described in *A New System of the Nature and the Communication of substances* (1695):

> For one may say that when the particular disposition of one substance provides a reason for a change occurring in an intelligible manner, in such a way that we can conclude that the other substances have been adapted to it on this point from the beginning according to the order of the divine decree, then that substance should be thought of as *acting* upon the others in this sense. (GP IV, p.486/L, p.459)

Substances still act on each other, yet within a pre-established order, where their acting and its consequences are already determinate, much more like a choreography. However, this is not all. As early as in the *Discourse* (1686), Leibniz gives a complete depiction of power in substances. Here power is measured in the extension of their expressions or representations:

> Thus a substance, which is of infinite extension insofar as it expresses everything, becomes limited in proportion to its more or less perfect manner of expression. This, then, is how one can conceive that substances impede or limit each other, and consequently one can say that, in this sense, they act upon one another and are required, so to speak, to accommodate themselves to one another. For it can happen that a change that increases the expression of one diminishes that of another. […] And whenever something exercises its efficacy or power, that is, when it acts, it improves and extends itself insofar as it acts. Therefore, when a change takes place by which several substances are affected (in fact every change affects all of them), I believe one may say that the substance which immediately passes to a greater degree of perfection or to a more perfect expression exercises its power and *acts,* and the substance which passes to a lesser degree shows its weakness and is *acted upon* [*pâtit*]. I also hold that every action of a substance which has perfection involves some *pleasure,* and every passion some *pain* and vice versa. (A VI 4, pp.1553-4/AG, p.48)

Leibniz understands substances' power not as a ruling physical force, but as privileged representation or expression of one substance over another. This idea remained almost unmodified in Leibniz's mature though, as he reiterates it years later in the *Monadology* (1714):

> The creature is said to *act* externally insofar as it is perfect, and *to be acted upon* [*patir*] by another, insofar as it is imperfect. Thus we attribute *action* to a monad insofar as it has distinct perceptions, and *passion,* insofar as it has confused perceptions […] And one creature is more

perfect than another insofar as one finds in it that which provides an *a priori* reason for what happens in the other; and this is why we say that it acts on the other. […] For, since a created monad cannot have an internal physical influence upon another, this is the only way in which one can depend on another. […] [A]ctive insofar as what is known distinctly in one serves to explain what happens in another; and *passive* insofar as the reason for what happens in one is found in what is known distinctly in another. (GP VI, p.615/AG, p.219).

A substance's distinct and clear perceptions are correlative with a greater degree of perfection. In other words, a monad is more perfect than another monad if the former has a more distinct representation of an aspect of the world, including aspects of other monads, than the latter monad. When a monad distinctly perceives part of other monads' qualities or actions, the former represents in itself part of what the latter ones are/do or will be/do (their perceptions and appetites). Thus the active monad contains the explanation of some aspect of the passive ones. Only in this sense the former can be said to act upon or have power over the latter ones. Hence, in the paragraph of *On Wisdom*, the 'One', which 'rules many outside of itself and represent them in itself', is equivalent to an active monad and as such it unites a variety, not by imposing sheer power, but through representing and explaining in itself some of the qualities of the many. Therefore, harmony and beauty are not grounded on a forceful imposition of order dictated by one over many.

Moreover, it is important to notice that according to Leibniz active and passive relations between monads are a matter of perspective. One monad is active and other passive only according to a specific relation that they establish in a particular moment, from a particular point of view. Hence the active or passive nature of a relation is not absolute, since '[f]or God, comparing two simple substances, finds in each reasons that require him to adjust the other to it; and consequently, what is active in some respects is passive from another point of view' (GP VI, p.615/AG, p.219).[10]

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[10] In contrast, there are also dominant monads. A dominant monad occurs when there is a substantialisation of the relation between an active monad and its subordinated monads. Thus, the active power of a dominant monad is substantial over its subordinated monads and not just a matter of perspective. This is how Leibniz describes complex living beings to Des Bosses: 'Moreover, God not only considers single monads and the modifications of any monad whatsoever, but he also sees their relations, and the reality of relations and truths consists in this. [e.g. duration, situation, intercourse, presence and connection] […] Through these [relations], things seem to us to form a unity […] But over and above these real relations, a more perfect relation can be conceived through which a single new substance arises from many substances. And this will not be a simple result, that is, it will not consist in true or real relation alone; but, moreover, it will add some new substantiality, or substantial bond […] [I]t suffices that it unites those monads that are under the domination of one monad, that is, that make one organic body or one machine of nature. And in this consists the metaphysical bond of soul and body, which constitute one complete substance' (GP II, pp.438-9/LDB, p.233). A dominant monad is what makes several monads one composed substance, by representing/acting over the others in a way that is not just relative to a certain perspective, but substantial, even to God. Living creatures are the paradigmatic case of dominant monads, where the dominant monad is the soul and the subordinated ones are the body. The distinction between dominant monads and just active monads is given by the substantialisation of the power relation: dominant monads' active power over its subordinates is substantial, while non-dominant active monads refers to the same relation but relative to a perspective. All dominant monads are active over its

1.3 Principle of order, power and agreement

As said, each monad is individualised by a particular law, rule or programme that determines its representations and the order in which they change. If we apply this model to understand what we have said about active/passive relations, we have that the acting monad's particular law, rule or programme includes some of the laws, rules or programmes that correspond to its passive counterparts. The agreement of two or more substances is not achieved by an imposition from a third monad, but a convergence of those monads' rules within the rule of an acting monad. This convergence takes place when the rule or programme of the acting monad, expresses the rules of the passive ones. Thus the active monad provides the unity, identity and individuality for the rest of the passive monads, since the former's programme expresses the latter's in a way that also explains them.

Is in this sense that not only power, but also agreement between substances should be understood. Since for Leibniz monads are closed entities that 'have no windows through which something can enter or leave' (GP VI, p.607/AG, p.213), the only way for them to relate to each other is by including in their own closed constitutions a rule that coordinates the programmes of the others in order to produce a relation from the beginning. Monads include their relations with others into their own individual programmes with more or less distinctness. In this way monadic relations work like a software programme that do not 'recognise' other pieces of software unless they are pre-programmed to do so (although, in fact, monads do 'recognise' all others). Accordingly, agreement takes place when two or more monads share aspects of their programming or when there is a coordination between their independent constitutive rules.[11]

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subordinated monads, but not all active monads are dominant over the ones that they are being active. That said, all monads are dominant over some set of other monads, yet they can be active, passive or neutral over other set of monads besides the ones that conform the set of their subordinated monads. The relation between a dominant monad and its subordinated monads is a substantial unity, thus the degree of unity of the manifold is qualitatively different than in the case of other non-substantial unities. Here we will not give further consideration to the notion of dominant monads, since we lack enough space to discuss the topic at length.

[11] In a letter to Arnauld (April 30, 1687), Leibniz gives the following example: 'To use a comparison I will say that this concomitance I maintain is like several different bands of musicians or choirs separately playing their parts, and placed in such a way that they do not see and do not even hear each other, though they nevertheless can agree perfectly, each following his own notes, so that someone hearing all of them would find a marvelous harmony there, one more surprising than if there were a connection among them. It is quite possible that someone next to one of two such choirs could judge from the one what the other was doing (particularly if we supposed that he could hear his choir without seeing it and see the other without hearing it), he would, as a result, form such a habit that, with the help of his imagination, he would no longer think of the choir where he was, but of the other, and he would mistake his own choir for an echo of the other, attributing to his own only certain interludes in which some rules of composition [*symphonie*], by which he distinguished the other, were not satisfied. Or, attributing to his own choir a certain beating of the tempo, performed on his side according to certain plans, he might think, because of the agreement on this he finds as the melody continues, that the beating of the tempo is being imitated by the others, since he doesn't know that those on the other side are also acting in accordance with their own plans,

But what makes 'any particular being [substance or monad in our case] agrees [*stimmet*] with one rather than another being'? For a monad to agree more with one than with another, there must be a way to show 'preferences'. In a text, entitled *The source of contingent Truths* (1685-89?), Leibniz states that each substance 'agrees with the other as exactly as they would if there were a true influx' and this is the case for every substance 'even those the most distant from one another, although in them the agreement does not appear so distinctly' (Grua, p.325/AG, p.100). It is important to notice that all substances in the universe are in agreement among each other. Nevertheless, there is a difference in the degrees of distinctions in which this agreement is perceived by each substance. This idea is again presented later in *The Monadology*, where Leibniz says that 'each simple substance has relations that express all the others', yet within certain restrictions, since '[m]onads are limited, not as to their objects, but with respect to the modifications of their knowledge of them' (GP VI, p.617/AG, p.220). What Leibniz means is that monads know or perceive the whole universe, hence they represent every object in it. However, the limitation of the monad is their degree of knowledge of those objects. Accordingly, it could be said that 'monadic preference' is a matter of the degree of knowledge, since from an absolute view point everything is in agreement.

An analogy could be established with the phenomenon of sympathetic resonance, where if a single body (e.g. a string) starts vibrating, it makes other bodies passively vibrate as well. In the case of a piano, for example, each fundamental note emitted by one string initiates a passive vibration on other strings or parts of them. The notes of these passive vibrations correspond to specific series of notes known as the harmonic series. The harmonic series includes different notes in the intervals of octaves that are higher from the fundamental (the eighth note in the first higher interval of octave, eighth and fifth note in the third interval, then third, etc.). Interestingly, in tonal western music, the first three resonating –and more easily perceived– notes of the harmonic series (eighth, fifth and third) together compose the major chord of the fundamental, since they agree more 'clearly' with each other. Yet the sympathetic resonance continuous further than these three notes, including more and more notes –known as tensions– in the higher octaves further from the fundamental note, until at some point the series becomes chromatic and all notes resonate together as a cluster. Analogously, a substance agrees more clearly or shows preferences with some rather than

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though in agreement with his' (A II 2, pp.182-3/AG, p.84). [Here we use the translation given by Ariew and Garber (AG), since we think it is the clearest one of this passage. For other translation, see LAV, p.197-8.]

others, but from an absolute point of view each monad agrees also with the ones that are further away, yet this agreement is not so distinctly perceived.[12]

An interesting aspect of this example is that although the degree of clearness of the agreement between certain intervals is understood as a matter of perception, the order in which the intervals can be ranked from more to less clearly noticeable is given by an objective fact of physics: the order of intensity in which certain intervals vibrate with more or less strength by sympathetic resonance is not dependant on the perceiver, but on a law of nature. In other words, the quality of our perception of the agreements among intervals is founded on an objective reality. Here we should remember what was said in the previous chapter about consonances and dissonances. Consonances are found when agreement or order is easily observable among a variety of elements and dissonance when this agreement is not so easily observable. The equivalence with our definition of monadic preference is clear; they are both defined according to perception or knowledge. But as said in chapter II, the criterion 'easily observable' is a nominal definition, since it is a result of an objective state of affairs. What determines if this agreement is easily observable or not is the objective degree of order between two or more things. The degree of order is objective, yet relative. It is objective in the sense that the relation between two or more things is a property of the universe, not constructed by a finite perceiver external to the relation.[13] But, it is relative because the specific degree of order –or lack thereof– in that relation can be varied if considered from another perspective in a wider context with other relations. As said in the previous chapter, a dissonance is a manifestation of a contrasting element that seems unrelated to its context, yet from a wider perspective its conformity to order becomes clear. In the same way, a low degree or lack of monadic preference occurs when a common principle of order between two substances is objectively not so easily perceived from a narrow perspective in the proximity of those substances. However, since everything is related, that common principle does exist.

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[12] This would also explain why for Leibniz, although consonances easily please, so do dissonances if we make a greater effort to notice their place in the whole, i.e.; their harmonic relation with the rest (see chapter II). As the history of music progressed composers have gradually expanded the use of notes in intervals further away from the fundamental, including dissonant notes, thus 'discovering' harmonic relations that were not considered as such before. As Arnold Schoenberg said 'the expressions 'consonance' and 'dissonance', which signify an antithesis, are false. It all simply depends on the growing ability of the analyzing ear to familiarize itself with the remote overtones, thereby expanding the conception of what is euphonious, suitable for art, so that it embraces the whole natural phenomenon'. (Schoenberg, 1983, p.21). Although, it is unlikely that Leibniz would completely agree with Schoenberg regarding dissonance – since, as we said in the past chapter, for the baroque philosopher dissonances are different in kind from consonances and the former must be resolved (or absolved) in the latter, hence it is not a matter of 'familiarising' with dissonance (or with evil for that matter) – he does show essentially a similar position in the idea of the harmonic relation of substances: every substance has an harmonic relation with the other even though sometimes that relation is harder to notice.

[13] Leibniz's views about the objectivity of relations will be explained with more detail further on this chapter when we examine the notion of aggregates.

Accordingly, we can say that monadic preferences are indeed objective even though they are the product of a representation relative to a particular perspective of the universe.

Under the given interpretation agreement and power are not opposing notions. The only difference is that power can be characterised by a relative, and even temporal, asymmetry in the degrees of distinctness in which one substance relates with and represents the other, while agreement is the more general type of relation between substances representing each other. Hence, power should be understood as a modality of agreement, since there is no power without agreement. Correspondingly, power is necessary neither for agreement nor harmony, because it could be the case that harmony is only grounded on a basal agreement of the monads with no real active monad ('One') providing the ground for unity.[14] Moreover, power is also not necessary for unity, since even if there is no clear active monad there could still be unity. If this latter term is understood as a principle of order (law, rule or programme), there is unity as long as substances' laws or rules share or include their relations and therefore coordinate accordingly as one unit.[15]

2. **Unity and the world**

2.1 The cause of worlds

As mentioned, objectively, every monad agrees with all the others. Therefore their collective unity would be the whole actual universe. For Leibniz this is the case. If unity is given by a law or a rule, there is a more general unity than individual substances, which in fact determines them. As Leibniz states in a letter to Arnauld (14/07/1686):

> I will add that I think there is an infinity of possible ways in which to create the world, according to the different designs which God could form, and that each possible world depends on certain principal designs or purposes of God (*desseins principaux ou fins de Dieu*) which are distinctive of it, that is, certain primary free decrees (conceived *sub ratione possibilitatis*) or certain laws of the general order of this possible universe with which they are in accord and whose concept they determine, as they do also the concepts of all individual substances which must enter into this same universe. Everything belongs to an order, even miracles, though they may be contrary to certain subordinate maxims or laws of nature. Hence, assuming the choice of Adam as made, all human events must have happened as they have happened in fact, but not so much because of the

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[14] See the example given in a letter to Arnauld (A II 2, pp.182-3/AG, p.84), quoted in this chapter, in footnote 11.

[15] Furthermore, in some cases for Leibniz, there is no necessity of adding the idea of union as something different and above things that are in agreement. For example regarding the issue of body and soul Leibniz comments: 'After he [French Jesuit Tournemine] had offered some praise of my pre-established harmony –which seemed to provide an explanation of the agreement that we perceive between soul and body– he said that he still desired one thing, namely, an explanation of the *union*, which assuredly differs from the agreement. I responded that whatever that metaphysical union is that the schools add over and above agreement, it is not a phenomenon and there is no notion of, or acquaintance with it. Thus I could not have intended to explain it'. (GP II, p.281/LDV, p.331)

individual concept of Adam, though this encloses them, as because the designs of God which also enter into this individual concept of Adam as well as those of all other individual substances in this universe. (A II 2, p.73/L, p.333).[16]

Each world has a particular and unique principle of order framed within a more general structure of possible logical combinations. This principle or design defines the particularity of a possible world, as a particular law of order for each world that determines the inclusion of certain individuals and bring them into accord. Therefore, any world should be also understood as a unity, with identity and agreement, by merit of its principle or design.

There is one issue exposed in the quoted paragraph that can be summarised in the following question: is this principle a divine creation or just the logical result of possible combinations?[17] As said, for Leibniz, God's intellect contains all infinitely many possible things distributed into an infinite number of possible worlds (A II 2, pp.46-7/LAV, p.65). If this is the case, it could be said that each unique principle of order of each possible world is just one possible logical combination among infinitely many possible ones that are contained in God's intellect. Thus, principles of order as a design of these possible worlds, would not require the intervention of the divine will, since they are just the result of a logical operation consisting in grouping things that are compossible with each other into worlds, therefore distributing all infinitely many possible things into infinitely many possible sets, each one conformed by *all* those individuals that fit together.[18] This is a logical operation that does not involve any criterion other than logical compossibility.[19] Logical compossibility, in this case, is the absence of contradiction between the content of two or more complete concepts in a determinate possible world. Under this interpretation a principle of order, as a principal

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[16] Although through this thesis we use Voss' translation of Leibniz-Arnauld correspondence (LAV), here we prefer to illustrate this passage with Loemker's version. The reason is that the latter is more faithful than the former to the variety of concepts that Leibniz uses in the original passage in French. For example, we value Loemker's translation of *desseins* to 'designs', instead of 'plans' as it appears in Voss' version. For Voss's translation, see LAV, pp.101-3.

[17] This issue is within the context of a major topic of discussion among Leibniz's scholars: Leibniz's notion of compossibility of possible worlds. The main two opposing views regarding this issue respond to what Margaret Wilson (1993) called the 'lawful' and the 'logical' approach. The 'logical approach is exemplified by accounts such as the ones offered by Benson Mates (1972) and Nicholas Rescher (1979). This view suggests that the compossibility of a world is based only on the logical compatibility among individuals, thus each world includes all possible individuals that do not contradict each other. For example, Rescher postulates that logical compossibility is the only criterion for grouping elements in possible worlds, hence each world is composed by absolutely everything that is logically possible to cohabitate it in it: 'The possible world of any substance is the totality of all substances compossible with it' (1979, p.17) and '[t]here is never any addable possible substance –one that is not already a member of a given possible world and yet is compossible with the substance of this world' (1979, p.49). On the other hand the 'lawful' approach states that possible individuals are compossible into a possible world when they conform to the same law, rule or principle of order in general. As Russell puts it: 'possibles cease to be compossible only when there is no general law whatever to which we both conform (1937, p.37). This issue has sparked a considerable debate in the secondary literature. Unfortunately, we do not have enough space here to explore every argument in detail, but we will show some of the positions in the coming footnotes. We can advance that here we agree with the 'lawful' approach. For recent works about this topic see Gregory Brown and Yual Chiek, 2016.

[18] In her paper 'Plenitude and compossibility in Leibniz' (2000), Catherine Wilson critically explains and evaluates this interpretation of Leibniz's worlds in more detail.

[19] Hence this view can be understood as compatible or even equivalent to the interpretation offered by the 'logical' approach.

design, seems superfluous and secondary, since the unity of the world is produced almost automatically by the inherent compossibility of certain individual things.

However, the quoted paragraph from Leibniz's correspondence with Arnauld conveys a different view. He explicitly states that God forms these principles of order as 'general designs' and that they are free decrees that determine 'the concepts of all individual substances which must enter into this same universe'. In a previous paragraph of the same letter he defends the significance of these divine decrees in the following way

> I agree with you, against the Cartesians, that the possibles are possibles before the actual Decrees of God, but not without sometimes presupposing the same decrees taken as possible: for the possibilities of individuals and of contingent truths contain in their concept the possibility of their causes, namely the free decrees of God: in which they differ from the eternal truths or possibilities of species that depend only the understanding of God, without presupposing his will, as I have already explained above. (A II 2, pp.72-3/LAV, p.101)

In order to understand this idea we need to distinguish between the ontological status of necessary or eternal truths and contingent beings (here we can also include contingent truths like the laws of nature). All necessary truths and all possible contingent beings *are* in God's intellect or understanding, yet not in the same way. The difference between the two is that the former does not need a cause for being –hence the name eternal truth–, while the latter does. For example, 2+2=4 does not need a cause to be so, since, as an eternal truth, it would be as it is even if (in the hypothetical case that) God had not decided so or even 'before' God took any decision.[20] Yet this is not the case for possible things and possible worlds, since they are contingent and as such they require a possible cause in their individual concepts. For example, let's say that God decides to create a contingent thing A. If A is possible –i.e. A is not self-contradictory– A has being in God's understanding, so God only has to actualise possible A. However, because A is contingent it must have a cause C, therefore the actualisation of A entails (retrospectively) the actualisation of C. In the quoted passage Leibniz is arguing that the fact that A depends on C is also valid for the possibility of A, thus C must be possible in order for A to be a possibility. Or as Leibniz would put it; the complete concept of possible A contains possible C. Now if C is God's decision to put some elements together to constitute a possible world A, the possibility of A depends on the possibility of God's decision.

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[20] This distinguishes Leibniz's God from Descartes' version. See chapter IV.

Now, God's free decrees conform a plan or aim for the world, which is also the cause of the world: 'the idea of a building results from the ends or plans of the one who undertakes it, and the idea or concept of this world is a result of these plans of God considered as possible' (A II 2, p.47/LAV, p.65). Leibniz also states that 'everything [contingent] must be explained by its cause, and that of the universe is the ends of God' (A II 2, p.47/LAV, p.65). In this sense, a world, as a concept or contingent entity, must contain its cause, which is God's free decree or divine plan. Yet, according to what has been said, this is valid not only for an actual world but also for a possible one. Therefore, any possible world requires its possible cause, which for Leibniz is a voluntary design produced by God's will. Since the possibility of God's will is in fact constitutive of possible worlds, they are not just a logical composition of compossible things in God's intellect; possible worlds are not like eternal or necessary truths.[21]

2.2 The world and its content: laws of nature and individuals

The idea of a general law of a world must be understood as a plan or design of a world, which means the most general and complete vision of a world that, as said, is also its cause, just as an architectural plan conceives, regulates and is the cause of all the aspects of its projected building. The general law also mandates what elements the world contains –that is individuals and natural laws– and how it regulates its members and their relations.[22] This general law also includes more specific laws or sub-laws that are also free decrees from God, such as natural or physical laws (e.g. gravity, motion, etc.).[23]

Laws of nature are principles of order for the variety of phenomena. Laws of nature and the general design of the world work in a similar way; both allow things or phenomena to be compossible by conforming to a common principle of order. In other words, natural laws are specific principles of order or unities subordinated to the general principle of order of the

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[21] This view, however, raises the question if this possible divine will, applies also to independent possible individuals. If possible beings are contingent beings as a set of harmonising properties, would not they also need the possibility of God's will as a cause? Regarding this issue Leibniz is not so clear. In the correspondences with Arnauld, he states that ´the possible concepts in themselves do not depend on the free decrees of God', yet in the next paragraph he says that they are 'not independent of all the free decrees of God' (A II 2, p.46/LAV, p.63). Unfortunately, we cannot extend further on this issue. But it should suffice to say that whatever is its proper answer, it should not affect directly the view expressed in this thesis.
[22] In this sense, here we agree with the 'lawful' approach to Leibniz's compossibility of possible worlds.
[23] There are times that Leibniz seems to suggest an equivalence between the laws of nature and the general law of the world and some commentators have confused the attributions of the law of the world with physical laws. Ian Hacking seems to confuse these two types of laws by claiming that compossibility is due to the laws of nature (1982, p.193). Margaret Wilson also states that the ground of compossibility between substances are given by the laws of nature (1993, pp.131-2). Catherine Wilson, as well, makes a similar reference (1983, pp.775-776). Although natural and physical laws also serve as factors for compossibility, they are not the general law of the world that we are considering here. As Leibniz explains, the general law includes elements that the laws of nature do not. One example of this kind of elements are miracles, since miracles conform to the general law of the world, 'although the particular maxims that are called laws of nature may not always be observed in it' (A II 2, p.48/LAV, p.67).

world. From God's understanding, natural laws are hypotheses that explain the complexity of natural phenomena, as Leibniz states that 'God has chosen that world which is the most perfect, that is to say, which is at the same time the simplest in hypotheses and the richest in phenomena' (GP IV, 431/L, 306). In this context, hypotheses are unities of reason, since their purpose is to make nature intelligible by ordering a variety of phenomena.[24]

Laws of nature are designed by God, so although they are objective, they are not necessary laws. For Leibniz this fact adds an aesthetic value to the laws of nature, in a way that seems to celebrate the divine free creation entailed by the contingency of these laws

> All that is admirable, but one does not see its absolute necessity. A movement on the two sides of the right-angled triangle composes a movement on the hypotenuse; but it does not follow that a ball moving on the hypotenuse must produce the effect of two balls of its own size moving on the two sides: yet that is true. Nothing is so appropriate as this result, and God has chosen the laws that produce it: but one sees no geometrical necessity therein. Yet it is this very lack of necessity which enhances the beauty of the laws that God has chosen, wherein divers admirable axioms exist in conjunction, and it is impossible for one to say which of them is the primary. (GP VI, p.320-1/H, p.333)

Thus, creative freedom can be considered as another factor that enhances beauty, in contraposition with acts determined by necessity.[25] There seems to be no reason why the aesthetic value given by divine freedom to the physical laws cannot be extended to all the other laws that have been mentioned up to now, such as the law of individual substances and the law of the world. This would provide an additional reason to support the idea that the principle of order of the world is created freely by God's (possible) will. Otherwise, the principle of order of the world would be determined by necessity[26] and, therefore, the world would not be as beautiful as when produced by a contingent and free decision.[27]

The idea of a general law, design, plan or divine aim for the world is equivalent with the previously discussed principle of order (rule of production, programme of action or law of the series) that is the unity and complete concept of individual things. In fact, Leibniz states that God's plans reveal that there must be a primary concept of the universe:

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[24] We will come back to the topic of hypotheses as unity at the end of this chapter and in chapter VI.

[25] However, as we will see later, God's freedom always follows rules in order to comply with perfection. It is important to notice that for Leibniz following rules does not imply necessity. God chooses freely to follow rules since acting in this way guarantees to act –or rather is the result of acting– in the best possible way. We will refer to the relation between rules and perfection later in this chapter and others, especially in chapter V. Lastly, we should clarify that freedom to choose and contingency are factors that enhance beauty, but they are not necessary requirements for beauty. Otherwise, it would be the case that what is mandated by necessity cannot be beautiful, which would entail that logical structures, such as mathematics, are not beautiful, and this is not the case for Leibniz, as we will show in chapter V.

[26] As is in fact postulated by the 'logical' approach.

[27] In chapter IV we will look more in detail into Leibniz's argument about freedom in divine creation and the beauty of the universe.

> this universe has a certain principal or primitive concept, of which particular events are only consequences, except however for freedom and contingency, which certainty does not impair, since the certainty of events is partly founded on free acts. (A II 2, p.47/LAV, p.65)

Just as in the case of individual substances, possible worlds have principles of order, plans or laws that constitute the particular concept of each one of these worlds and their identities. The concept of the world is the set of all its predications that constitute its identity. If for individual substances their concepts contain predicable properties and qualities that make them unique, in the case of worlds their concepts include predicates about individual substances (with their respective properties and qualities), their relations and the laws that regulate them. Moreover, just as individual substances, the general law of the world or design is what determines the inclusion of elements into each world, as Leibniz clearly states that

> the resolution he [God] makes with regard to Adam and that which he makes with regard to other particular things are consequences of the resolution he makes with regard to the whole universe and of the principal plans that determine its primitive concept, and establish within it that general and inviolable order to which everything is conformable. (A II 2, p.48/LAV, p.67)

The concept of individual things is a consequence of the concept of the world. This suggests that the former is constituted, at least in part, by the latter. Thus, the concept of the world is in a certain way previous or at least simultaneous to the concept of individual things.[28]

The relation between the laws or programmes of individual substances and the worlds' design consists in the expression of the latter in the concept of the former. For Leibniz 'each possible individual of any world contains in its concept the laws of its world', which means that 'each individual substance of this universe expresses in its concept the universe into which it enters' (A II 2, p.47/LAV, p.65). The idea that individuals 'express' or 'contain' the laws of their respective worlds should be understood here in the same way as was explained before regarding monads, i.e. the principle of order of the individual substance (its rule of production, programme of action or law of the series) is compatible with or includes the general law of the world to which that substance belongs. It could be also said that the law of the world relates to the monad in a recursive relation, where the former is

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[28] Several commentators have different views regarding this issue. For example, Catherine Wilson states that '[t]he notion of a 'world' conceptually precedes the notion of a substance' (2000, p.10). For Nachtomy the question of precedence is misleading, as for him 'complete possible individuals and possible worlds are mutually dependent or, in other words, that possible worlds and *complete* individual concepts are mutually constitutive' (2007, p.108). On the other hand, for Gilles Deleuze 'the world is virtually first, but the monad is actually first' (1993, p.52), since before individual substance there is a virtual world without subjects that consists only in 'a series of inflections or events' (1993, p.60). Nevertheless, all these different views coincide in affirming the dependency of individuals to their world, at least in the sense that individuals do not come separately and before their world.

somehow repeated in the latter in a different scale and from a unique perspective.[29] When individual substances contain or express and, therefore, agree with the design of the world, they are compossible. This coincides with the interpretation given by several commentators, according to which the compossibility of worlds is based on the lawfulness of worldly principles.[30] Furthermore, by virtue of the inclusion of a common general law in every individual member of the world, all individuals are in agreement among each other, therefore the world is harmonious and hence beautiful.

2.3 The world's design, divine rules and beauty

The plan, general law or design of each world is the unity that, together with their variety, constitutes their harmony and beauty. However, for Leibniz beauty seems to be anterior to these plans, since the reason why God formulated these plans is to comply with order and beauty

> God could not have refrained from establishing laws and following rules, because laws and rules are what makes order and beauty; that to act without rules would be to act without reason; and that because God called into action all his goodness the exercise of his omnipotence was consistent with the laws of wisdom, to secure as much good as was possible of attainment. (GP VI, p.328/H, p.341)[31]

Because Leibniz is not a voluntarist,[32] his God does not choose or design random principles or laws without criteria. In fact it could be said that God follows an even more general law; the law of wisdom, as a criterion to design the general laws of each world. In a letter to Bernard le Bovier de Fontenelle (1703), Leibniz argues that beauty plays a significant role as a criterion in these divine designs

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[29] As an analogy the law of the world can be thought as a hardware and each of the individual substance as software; a hardware integrates many softwares as long as they are compatible with it, where compatibility is given by the softwares sharing the 'rules' of the hardware.

[30] Here we are referring to the 'lawful' approach. As said, according to the 'lawful' approach compossibility for Leibniz is not logical consistency, but consistency under a general law, as Ian Hacking explains: 'Compossibility is a more demanding relation than mere consistency. For one thing to impede another is more a matter of laws of nature than of logic' (1982, p.193). Russell also held a similar view, where compossibility is only intelligible under the reign of some law (1937, p.67). Along the same lines, Gregory Brown argues that the law of a world is contained in each individual substance of that world, hence individuals are consistent with each other because they share the same general worldly law (1987, p.196). Margaret Wilson also claims that complete concepts of compossible substances are logically consistent on the grounds that they contain compatible laws of nature (1993, pp.131-2). Rutherford and Medina have a similar position, at least in respect of the main thesis, as they argue that for Leibniz compossibility between substances is given by the fact that God can conceive of them together in a same previously conceived notion of a world, which is an abstract relational structure. They add that this world is constituted not only by a general law, but also by a common spatiotemporal order inhabited by substances (2009, p.969).

[31] Is in this sense, divine creativity is not anarchic, but governed by rules.

[32] See chapter IV for a more specific discussion about voluntarism and beauty.

> In the same way, we should not believe with Lucretius that there are worlds in which, instead of animals, the collision of atoms forms detached arms or legs, nor finally that everything possible occurs however unreasonable it may be, or to want it to belong to the greatness and magnificence of God that he should make everything that is possible. Apart from the fact that this is impossible, because of the incompatibility of possibles and the connection of all creatures; quite apart from that, it is, I say, to want grandeur at the expense of beauty. And it is as if, pretending that it was one of the perfections of God to be a poet, we wanted this perfect poet to produce all possible verses, good and bad; the same applies to an architect, and God truly is one. (G III, p.595/ trans. in Strickland, 2006, p.137).

Leibniz's God does not produce a world that lacks beauty just because it is compossible, since he prefers beauty over grandeur.[33] Here we find yet another argument to conclude that possible worlds are not just logically construed, since they are put together partly based on an aesthetic criterion –among other criteria.

Furthermore, there is at least one more aspect of this view that constitutes another reason to reject mere logical composition. Leibniz's commitment to a divine design is also motivated by a rejection of a cosmology based on chance, such as the one entailed by bare logical compossibility. In a letter to Lady Masham (1704), Leibniz criticises the element of chance, as the cause of the world's beauty, in Epicurean philosophy:

> The only surprising thing which follows from this [the lawful agreement between souls and bodies] is that the works of God are infinitely more beautiful and more harmonious than had been believed. And it may be said that the subterfuge of the Epicureans against the argument drawn from the beauty of visible things (when they say that among numberless productions of chance it is not to be marvelled at if some world like our own has succeeded passably) is destroyed, in that the perpetual correspondence of beings which have no influence one upon the other can only come from a common cause of this harmony. (GP III, p.341/D, p.161)

The world is not beautiful by chance, but because of its divine design that follows the rules of beauty. In the particular case of this quote, the pre-established harmony between bodies and souls presents us a metaphysical aspect of the world that stresses the high degree of divine

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[33] Gregory Brown (1987) points out two conflicting ideas in Leibniz's metaphysics: on one hand there is a more perfect world that complies at the same time with being the 'simplest in hypotheses and richest in phenomena', and therefore excludes some things in order to preserve this perfection. On the other hand, as mentioned in the first chapter, in *De rerum originatione radicali* (1697) Leibniz presents a maximalist world that is more perfect because perfection or degree of essence is 'through which the greatest number of things are compossible' (GP VII, p.304/AG, p.151), in other words; grandeur. However, according to Brown both views are correct if in the second view 'degree of perfection' is considered not only as individual things or substances, but as harmonious properties (1987, pp.200-201). This interpretation coincides with the view presented in the first and second chapters of the present work, where we stated that perfection is variety of not only individuals, but also harmonious properties. Hence, the most perfect world has the largest number of harmonious properties, yet it still excludes many not so harmonious things that could otherwise include.

intervention in the design of a world following harmony and beauty that in no way could be achieved just by chance.[34]

It must not be taken from this that the aesthetic criterion that Leibniz's God followed to design the world is a universal pure idea of beauty that precedes and is actualised by possible worlds, since as has been argued Leibniz is a nominalist. As explained in chapter I, the criterion of beauty is a formal structure that includes certain rules with which worlds' designs comply and then they are beautiful. In other words, beauty does not precede a possible world or its plan. However, what seem to precede possible worlds are the rules or requirements for achieving beauty, which do not require God's will. For example, in *Confessio Philosophi*, Leibniz seems to suggest that the fact that the criterion of diversity contributes to harmony and beauty is in virtue of God's understanding, in the same way that three times three is nine (A VI 3, pp.121-122/CP, pp.43-45). In this sense, the criteria for beauty are formal eternal truths in God's understanding, yet beautiful things, such as worlds, are contingent entities dependent on (the possibility of) God's will to be designed in a manner that comply with those rules. We will return to this in more detail later in this chapter and again in chapter V, but for now it suffices to reiterate that if God's design of worlds follows an aesthetic criterion, worlds' unity must be dependent on divine will, hence worlds cannot be the product of mere logical composition or, worse, of chance.

3. Unities
3.1 Different types of unity
Since the actual world finds its unity as a whole in its plan or design, the world has its unity in a transcendental and hence a separated plane. Here we find a significant difference

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[34] It must be said that in the last two quoted paragraphs is hard to tell if Leibniz is talking about all possible worlds or exclusively about the actual world. However, if the latter alternative is correct, it would be the case that the actual world is designed by God with beauty in mind, while other possible worlds are not. In this regard Leibniz explicitly affirms that 'another possible World will also have all of this [the general order of God's plans whether considered in its actual or possible state] in its manner, although the plans for ours have been preferred' (A II 2, p.47/LAV, p.65). Hence, at least we know that every world has a divine plan or design. The question that remains is whether every plan has been designed following the criteria for beauty. Leibniz explanation in the *Theodicy* states that our world is the more perfect or beautiful, followed by an infinite amount of other possible worlds that can be ranked according to their perfection to such degree that 'there is not any one [possible world] which has not also less perfect worlds below it' (GP VI, p.364/H, p.372). Therefore, there is at least a differential degree of beauty in each world. Other passages suggests that this degree never falls so low to the point that there are ugly or imperfect worlds; God doesn't write bad verses (G III, p.595/ trans. in Strickland, 2006, p.137). Yet Leibniz also said that God's intellect or the 'vast Region of Verities contains all possibilities' therefore 'it is necessary that there be an infinitude of possible worlds' (GP VI, p.115/H, p.136). If all possible worlds *are* or have being, then either ugliness or complete imperfection is not a possibility for any world or there are in fact ugly and imperfect possible worlds. We think that the former is the case. The way Leibnizian ontology is able to claim that ugliness and complete imperfection is not possible is by considering that, as said in the chapter I, every being must have a degree of essence or perfection that is a variety of harmonious properties, which for Leibniz is beauty. Therefore ugliness and complete imperfection do not have being. Accordingly, every possible or actual world or individual thing must have a certain positive degree of overall perfection and beauty.

between the unity of an individual thing and the unity of the world, since the former finds its unity in the rule of the monad or substance that is in the plane of existence, while the unity of the world does not depend on anything on the plane of existence –the world has no individual substance, monad or soul–, but in a design that is only virtually in the mind of God.[35] This indicates two type of unities in Leibniz's metaphysics, which should also correspond to two types of beauty. On one hand, the unity of individual substances is given by a substantial unity contained in itself, such as the monad. Since the unity of an individual substance is contained in itself, unity also results in a singular unit or simple entity. On the other hand, the unity of the world finds its unity in a transcendental plane outside itself, hence it is a composition of other units and therefore lacks substantial unity. However, both are objective unities, in the sense that in both cases unity is given by a principle of order that is independent of a subjective mind.

If unities are sets of many elements defined by a principle or rule, the type of unity depends on the type of rule. Hence, the type of rule partially determines also the type of beauty. Moreover, these types of rules present different degrees of unity and, as Leibniz says, 'however much greater is both the variety and the unity in variety, so much greater is the harmony' (A VI 4, p.1359/SLT, p.191), to which we could add, the greater the beauty. Therefore different types of beauty are susceptible of classification and even to be ranked. But before we do this, we have yet to consider, at least briefly, other types of unity hitherto left unspecified here. Besides the unity of the world and the unity of the substances we could consider three others. Firstly, we will comment on the unity of God. We will do so briefly, as most of its main features coincide with the analysed case of the individual substance's unity. Next we will extensively focus on the unity of aggregates, since it significantly differs from the ones so far analysed. Lastly, we will offer a few remarks about a fifth hypothetical type of unity that stands mid-way between the unity of the monad and the unity of the world, i.e. the unity of monadic representation.

3.2 Divine unity

God is the supreme unity that is substantial and objective, so in this sense his unity is similar to the one that is found in the monads.[36] God is the unity of all eternal truth, every possible world and any conceivable thing. As commented at the beginning of chapter II, all variety is

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[35] Unlike Spinoza, for Leibniz the universe is not a mode of the divine substance, but something conformed by many substances that, although created by God, are different from God.

[36] Indeed, there are passages that Leibniz does identify God as a monad. See for example a deleted passage from §47 of the *Monadology (*LM*, p.107) and G VII, p.502.

the manifestation of the divine essence, making God the source and hence the unity of everything else (Mercer, 2001, p.212). There is also a causal argument by which God is the source of absolutely everything, be it eternal truths or contingent beings. In the case of the latter God is a causal source since contingent entities need always a cause and God's will is that cause. Regarding eternal truth, although God's will is not required, they do need to have being 'somewhere'. That 'somewhere' is God's mind, which means that for eternal truths 'God is the cause not by his *will* but by his *existence*' (A VI 3, p.122/CP, p.43).

In §47 of the *Monadology*, Leibniz repeats this idea about God being a causal source and adds that 'God alone is the primitive unity or the first [*originaire*] simple substance' (GP VI, p.614/AG, p.219). Because God is a substantial unity in the same way that monads are (or rather monads are like God), this supreme unity is substantial and there is nothing more strongly united as one (and at the same time with more variety) than him. By the same token, God does not only possess supreme beauty (A VI 1, p.461/L, p.134), but he is also the principle of beauty in everything, as he is the unity amidst all variety, hence the harmony of all things (A VI 1, p.499/LGR, p.33).[37] God is the supreme principle of order in at least two senses; firstly, because everything in him (in his understanding) is supremely ordered and harmonious and, secondly, because all principles of order (all unities) are established by him. As Leibniz states 'God is all order; he always keeps truth of proportions, he makes universal harmony; all beauty is an effusion of his rays' (GP VI, p.27/H, p.51). An example of God being the supreme principle of order in the first sense, i.e. everything is in God, is found in what was said in chapter II: the order of all possible things in different possible worlds is in God's mind organised in such way that it avoids incompatibility and at the same time it manages to include in him everything with perfect harmony. But God is also the supreme principle of order because he establishes all objective principles of order. Here it is enough to consider that all examples of real unity are given by God, i.e. the principles of order (rules, designs, laws, etc.) of each monad and all possible worlds. The only exception would be the case of unities by aggregation that do not have an objective or substantial unity. However, as we will see, any unity of aggregates, although subjectively given by finite minds, must have being in God's mind too.

3.3 The unity of aggregates

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[37] In Leibniz words: 'God, i.e. the Mind of the universe, is nothing other than the harmony of things, or the principle of beauty in them' (A VI 1, p.499/LGR, p.33).

In contrast with God, as the strongest type of unity, the weakest type is the unity of aggregates. For Leibniz 'an aggregate is nothing other than all the things from which it results taken together, which clearly have their unity only from a mind, on account of those things that they have in common, like a flock of sheep' (GP II, p.256/LDV, p.275). Aggregates are neither objective nor substantial unities, since their unity is founded on subjective ideas. Aggregates take place when the mind apprehends a set of relations among individual elements and bring them to unity under one idea or concept. These relations that conform the unity of an aggregate can be apprehended rationally, perceptually or even aesthetically.

However, this unity by aggregation is not radically created by the mind ex nihilo, as if it were operating with no regards for the relations and properties of the individual elements that it unites. Paul Lodge states that although 'aggregates exist only if a mind exists and apprehends the relation that constitutes the essence of that aggregate', it is still necessary to have 'things standing in those relations' (2001, p.473). Therefore, an aggregate also depends on there being individual substances that can be apprehended as related by the mind. As Leibniz states: '[t]he unity of the idea of an aggregate is a very genuine one; but fundamentally we have to admit that this unity of collections is merely a respect or a relation, whose foundation lies in what is the case within each of the individual substances taken alone' (A VI 6, p. 146/RB, p.146). Aggregates then share with the world the trait that their principle of unity is extrinsic or not substantial, yet in the case of aggregates there is no objective principle of unity, since 'the only perfect unity that these 'entities by aggregation' have is a mental one, and consequently their very being is also in a way mental, or phenomenal, like that of the rainbow' (A VI 6, p. 146/RB, p.146).

Despite the mind-dependent character of aggregates, Leibniz still refers to their unity as 'perfect' and 'genuine', since aggregates do have being: 'Being and one [or unity] are convertible, but just as there is being by aggregation, so also there is one by aggregation, although this entity and unity are semi-mental' (GP II, p.304/LDB, p.30). If aggregates have being, they are not completely created by our mind, but they are first in the mind of God as possible beings. As was remarked in the first chapter, for Leibniz, being is made possible by degree of essence or perfection. Accordingly, if being and one (or unity) are convertible then unity must also has degrees. Although in the cases of the unity of individual substances and possible worlds the significance of degrees of unity is not made explicit by Leibniz, in the case of aggregates he is clearer

> I agree that there are degrees of accidental unity: that a regulated society has more unity than a confused throng, and that an organized body, or machine, has more unity than a society. That is, it is more appropriate to conceive of them as a single thing, because there are more relation among the ingredients. (A II 2, p.190/LAV, p.207)

In aggregates, connections between constituents determinate their degrees of unity, therefore the objective nature of individual elements –and the relations they establish by virtue of their nature– affects the degree of unity of an aggregate. However, if the unity of aggregates is an idea, why would the connections between things matter? Here we should remember that the foundation of the uniting idea of an aggregate is the relations taken from the nature of the individual substances that are the idea's constituents or ingredients. Therefore, a correct idea that supplies the unity for an aggregate, although subjective, should be correlated with the objective nature of individual substances. This correlation is weaker when the connections or relations between substances is weaker. When the idea of an aggregate has fewer degrees of unity it has less being. In turn, if the idea has less being then it is less correlated with the objective reality of substances. That said, as Lodge puts it 'aggregates are very cheap', since they come into existence with an extraordinary facility (2001, pp.473-4). Yet this is to be expected from a harmonically interrelated world, where every individual thing is related to every other, allowing the mind to discover connections everywhere and, hence grouping together individuals almost at will.[38]

In the previous section we established that 'monadic preference' is given by the degree in which a relation is clearly perceived. Along the same lines we can say here that the degree of unity of aggregates depends on the degree of clarity in which the relations of the united elements are able to be perceived, in other words the facility to notice the relations united by an idea.[39] By the same token, the degree of correctness of our ideas that constitute aggregates is an issue only for finite subjects. Indeed, for Leibniz this issue seems to be incumbent mostly for its utility to organise our minds: 'there is sometimes more, sometimes less basis for assuming many things to be forming a single thing, according to the degree of

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[38] The randomness of some contemporary art installations offers a good example of how several apparently unconnected objects can be united under one idea, hence becoming one individual aggregate. Just to give one example, let's consider Robert Rauschenberg's 'Monogram' (1955-9), composed by the following elements: oil, paper, fabric, printed paper, printed reproductions, metal, wood, rubber shoe heel, and tennis ball on canvas with oil and rubber tire on Angora goat on wood platform mounted on four casters.

[39] As said in chapter II, Leibniz writes to Wolff that 'consonances please, since agreement is easily observable in them' (GW, p.171/AG, p.233). The same principle is extrapolated here to aggregates. Accordingly, the facility with which relations are noticed explains the degree of unity of the aggregate. Yet once again, we should warn the reader that this seemingly subjectivist view is not enough to explain the whole issue, since for Leibniz, just as it was in the cases of dissonance and monadic preference, aggregates' unities are, in a way, also objectively and substantially founded, as we will explain in the following paragraphs.

connection between these things, but that is useful only for summarizing our thoughts and representing phenomena' (A II 2, p.185/M, p.121).[40]

However, for Leibniz it is also possible to establish an objective hierarchy between relations regarding the degree in which they are grounded on nature. In order to understand this idea, we must first delve into the discussion about the nature of relations: are relations objective or just mind dependent? Some commentators, including Lodge, take relations to be subjective, in the sense that they are 'not features of the real world', since relations 'exist in the minds of beings that apprehend similarities between intrinsic features of individual things' (Lodge, 2001, p.477). For Lodge it seems to be the case that aggregates require to be founded on substances' content, but not on substances' relations, since these latter are a product of the mind. On the contrary, other commentators have argued that relations are not mind dependent, as they do have an ontological base in the individual concept of substances.[41] Some passages of Leibniz's writings confirm this latter view, for example in the correspondences with Arnauld he states that

> the concept of the individual substances contains all its events and all its denominations, even those commonly called extrinsic (that is, the ones that belong to it only in virtue of the general connection of things and because it expresses the whole universe in its manner), since there must always be some foundation for the connection of the terms of a proposition, which must be found in their concepts. (A II 2, p.80/LAV, p.111)

Relations or extrinsic denominations are in the individual substance; they are not a mere product of the mind. Relations are contained in the complete concepts of individual things.[42] This coheres with what was said in the first section of this same chapter, when we established that agreement among substances was given by their own internal programme, since each substance in agreement with others includes the programme of all others.

Following this line of argumentation, aggregates cannot just be based on relations established by the subject's mind, since those relations are already present within the

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[40] In this thesis we use Voss' translation of Leibniz-Arnauld correspondence (LAV), but here we prefer to illustrate this passage with Mason's version (M). We do not think that there is anything wrong with the former version (in fact, it could be argued that is even more faithful to the original), we simply consider that the latter conveys the point more forcefully by translating *sert* into 'useful' instead of 'serve'. For Voss' translation, see LAV, p.201.

[41] For example Hide Ishiguro states that 'there is no way of characterizing things without invoking both the relational properties and the non-relational properties of the thing in question' (1990, p.107). Also Nachtomy states that 'relations (but not primarily those of time and space) are constitutive of complete individual concepts' (2007, p.118). He considers the complete concepts of individuals as perfect when they include all the relational properties of the world that they inhabit. There is an alternative position, which states that relations are mind dependent, but objective nevertheless, since they are grounded on God's mind, see Carlin (2000, p.108).

[42] This raises the following question: how can external relations be internal to the substance? This issue has sparked significant controversy, yet here is not the place to examine this debate. For more on this topic see Ishiguro (1990), Carlin (2000), Lodge (2001), Nachtomy (2007) and Phemister (2016).

complete concept or substantial programme of individual things. We propose instead that aggregates are the product of a mental process of selection of certain relations –existing in the substance's concept–, where the mind includes some and exclude others, following the criteria given by an idea. Although, objectively –or in God's perfect view– there is no exclusion between any possible set of connections, there are relations that are objectively easier to be apprehended than others. Accordingly, the degree of unity of these selections of relations is determined by the facility with which certain relations are more easily disposed to be apprehended by the mind or the clarity with which an idea can establish the criteria of selection in comparison with other ideas. Once again music serves as a good example: as said before, the agreement between the first three resonating notes of a harmonic series is perceived more clearly than the agreement with other notes, because objectively they sympathetically vibrate in a more prominent manner. Yet if we heard more attentively, we would perceive the objectively harder to perceive sympathetic vibration of many or all the other notes and hence their relation. In this sense, there is an objective hierarchy of related things, i.e. some things are more strongly related to others in nature, but in the end everything is related. Thus, there are aggregates with a higher degree of unity than others. For example, we could say that the idea of tonality expressed in Mozart's compositions, which considers a more limited set of intervals to be harmonically related, had a stronger unity than the idea of tonality expressed in the music of Debussy, where more and further resonating intervals were accepted as part of the tonal harmony.

3.4 Aggregates' beauty

Although Leibniz did not offer an explicit account of the relation of aggregates and aesthetics, we claim that aggregates respond to the formula of unity in variety and, therefore, they replicate the structure of beauty. Indeed, as we have seen, aggregates replicate a principle of order that unites a variety, just as the law of individual substances and the general design of worlds. Leibniz's concept of aggregates suggests the existence of subjective harmonies that run in parallel with the objective harmony of the world and the harmony of substances. Yet, since this principle of order is a subjective idea, there are differences between aggregates and other objective unities regarding the resulting sort of beauty.

The degree of unity in aggregates is established by how easily noticeable are the relations that our human mind establishes, which depends on the objective disposition of these relations to be apprehended and united under the criteria of an idea. In turn, the degree

of beauty depends on the degree of unity of our ideas plus the variety (quantitative and qualitative) of elements that these ideas are able to unite. Since our mind has a limited capacity it is normal to assume that there is a trade-off between the degree of variety –how many and diverse elements– and the degree of unity –how accessible are the connections between these elements. When there is more quantity and more diversity of and between elements, it is harder to find an idea apt to establish clear connections among them. Here the comparison between Mozart and Debussy works as well. As said Mozart's music presents more unity in the form of stronger –easier to apprehend– relations between intervals at the cost of limiting the set of intervals used in his music. On the contrary, Debussy's use of chromatic scales sacrifices degrees of unity in order to reach more variety, i.e. a greater diversity of intervals, but harder to apprehend as related to each other.

The limitations of our mind to give unity to a high degree of variety without losing unity would explain why according to Leibniz the beauty of aggregates is outranked by the other mentioned types. Leibniz expresses several times that things created by God are more beautiful and complex than the ones created by us or even than the things that our mind could ever imagine. For example, regarding nature he states that '[t]he beauty of nature is so great' that all other delights should be considered 'small by contrast' (GP VII, p.89/L, p.428). In the *Theodicy*, Leibniz expresses his agreement with Bayle about the fact 'that there is more artifice in the organism of animals than in the most beautiful poem in the world or in the most admirable invention whereof the human mind is capable' (GP VI, p.42/H, p.66) In another passage Leibniz recommends us to look at organic bodies and we 'will find there a contrivance and a beauty transcending all imagination' (GP VI, p.232/H, p.248). Regarding souls he comments the following: 'The operation of spiritual automata, that is of souls, is not mechanical, but it contains in the highest degree all that is beautiful in mechanism' (GP VI, p.356/H, pp.364-365). Accordingly, for Leibniz, those entities whose unity is objectively given (e.g. the world, nature, God, substances, etc.) unite a larger quantity of more diverse elements than the unity of aggregates. Thus the former are able to achieve greater beauty than the latter.

But, on the other hand, the unity of aggregates is more flexible than the objective unity of natural entities. Aggregates' unities can overlap each other over the same individual thing. Unities produced from artworks are a good example of overlapping unities by aggregation. A traditional painting is a unity because mentally we assume that everything that is within the frame is one individual painting. This unity is given by a rational or

conventional idea of what a painting is. Yet this unity is not the only possible unity of a painting. We can consider the variety of physical and aesthetic properties of what is inside the frame of the painting and find its principle of order and evaluate its degrees of unity accordingly. In this case our ideas and perceptions regarding the composition of the figures, the relation of the colours and the meaning of the iconography would constitute different overlapping principles of order over the same object, hence creating different unities. Moreover, we can subordinate these unities into one more general unity that includes them. For example, the principles of order that unite the composition, the iconography and the colours could be subordinated as traits of the mentioned conventional principle of order that is everything that is within the frame is one individual painting. By this token, there are still more types of unities by aggregation regarding art, for example when we are able to connect a variety of aesthetic traits or several artworks to the idea of a style, one artist or even to one period.

These examples of unity show how flexible the unity per aggregation is. Indeed, thus understood, the notion of aggregates allows Leibnizian philosophy to articulate a dynamic unity that results in a more relative and varied conception of beauty. The advantage of this view is that it can explain and even justify the possibility of disagreement among subjective aesthetic judgements. This is the case because aggregates' harmonies not only differ from nature's objective harmonies, but also from each other. Since ideas are subjectively grounded, they enjoy a certain level of freedom regarding the way in which they select the multiple elements they unite. Furthermore, the presence of dissonances in the world allows ideas to form aggregates with different combinations of consonant and dissonant elements. As a result, aggregates can resolve dissonances harmonically with different degrees of success, thus generating different aesthetic judgements about the world.[43] In this sense, Ruth Lorand is partially wrong when she writes that

> Rationalism tends to espouse the notion of total order, and does not generally consider orders that
> may vary in degree […] In the perfectly ordered universe of Spinoza and Leibniz, for instance,
> coherence between events and laws is maximum; the notion of quantitative coherence is ruled out
> and disorder does not exist. (2003, p.91)

Although she is right in saying that the universe for Leibniz is perfectly ordered and that there is no place for disorder, Leibniz's notion of aggregates allows a dynamic organisation of

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[43] Here we cannot extend further in explaining this idea. But for more on aesthetic disagreement in Leibniz's philosophy, see Portales (2018).

unities with different degrees of unity and hence a variety of different types and degrees of order that differ from the objective order of natural entities.

That said, Leibniz's philosophy allows and pretty much promotes the possibility of the encounter between subjective unity and objective unity. The objective unity of the world includes several sub-unities, such as laws of nature. But it also includes those of natural individual beings that are given by a dominant monad, which in turn includes an infinite amount of other subordinated monads that are dominant monads to other monads. Hence there are almost infinite principles of order or unities cohabitating within each unity. In this sense, it is not uncommon that the mind grasps or conceives a principle of unity that coincides with these natural unities. Examples of beauty under these circumstances would be the beauty of scientific theories in natural sciences.[44]

An important caveat must be considered here: the notion of a subjectively grounded unity does not entail a subjective notion of beauty. In Leibniz's philosophy, beauty is always objective for three reasons: first, the rules with which a unity per aggregation must comply in order to reach beauty are objective, i.e. they are in God's understanding (e.g. unity, variety, wholeness, etc.) (A VI 3, pp.122-23/CP, pp.43–45). Accordingly, the formal structure of beauty is always objective. Second, the relations that are united by an idea must be founded on individual substances, i.e.; objective reality. Therefore, even if the principle of order that unites a variety is subjective, the variety that is being united is objective. Third, for Leibniz, beauty is a property of the object. Even if we are able to establish arbitrary unities and hence create 'new objects' (even as ideas), these objects have being in the mind of God even before we conceive them. This is the case because for Leibniz every conceivable thing has being in God's intellect. In other words, any conceivable unity already has being in the mind of God. We will cover extensively the idea of the objectivity of beauty in the next two chapters, so for now it suffices to reiterate that the beauty of the aggregates is not a subjective beauty.

3.5 The unity of monadic representations

Finally, there is one other type of principle of order that we already partially described in chapter II, when in section 2.2 we refer to the monadic synchronic representation of the manifold. This is why we will just briefly describe it. In the unity of monadic representations,

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[44] This is not so different from contemporary cognitivist views of nature's aesthetics, such as Carlson's idea (1981) that natural sciences provide the categories through which we should judge nature's beauty. For a comparison between Leibniz's metaphysics and aesthetics of nature and Carlson's positive aesthetics, see Phemister and Strickland (2015). We will come back to this topic in chapter VI.

the unity of the world and the unity of individual substances converge. This is the unity of the world from the perspective of a monad. More specifically, it is a unity of one perspective found in one particular representation of one particular monad at a particular time –that is before the monad follows its appetites and move to another representation.

All monads represent the same objective universe, yet each representation of the whole universe is different. The difference is given by the specific perspective from which each monad, at one moment, expresses the universe. While the principle of order of aggregates only unite a limited set of things and relations, the monad expresses the whole universe. Yet each monad represents the infinitely many elements of the world with different degrees of clarity, obscurity, distinctness or confusion. Monads perceive the same whole from different perspectives. The particularity of each perspective is determined by a specific principle of order that only works for one representation or one perspective of the universe.

This type of unity largely coincides with the general principle of order of the world. However, in the *Monadology* Leibniz seems to make the distinction between the order of the world and the order of the monad's perspective:

> since every monad is a mirror of the universe in its way, and since the universe is regulated in a perfect order, there must also be an order in the representing being, that is, in the perceptions of the soul, and consequently, in the body in accordance with which the universe is represented therein. (GP VI, p.618/AG, p.221)[45]

The principle of order (or unity) of each monadic representation determines the particular and unique perspective of each monadic representation. In order for this to be the case, the principle of order of each monadic representation must dictate which elements of the universe are to be represented distinctly, confusedly and in which degree. This makes every representation a unique version of a common world. Hence this type of unity can be considered the cause of the originality and uniqueness of the monad that we described in chapter II. Indeed, Ernest Cassirer extends this trait of the Leibnizian monad to define artworks, as he states that the 'internal model that represents and shapes the outer, is the power and the tendency of the artwork' (1902, p.461).[46]

The unity of the monadic representation also differs from the unity of the monad, i.e. what we have called the rule of production, the programme of action or the law of the series. While the unity of the monad is objective and determines an indivisible unit, the unity of

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[45] In this passage, Leibniz refers to this order of the representing being in relation to the body and the soul. Unfortunately, we cannot draw here on the soul/body discussion.

[46] Author's translation from the original German: '*Dieses „innere" Vorbild im Aeusseren darzustellen und zu gestalten, ist die Kraft und die Tendenz des Kunstwerkes.* (Cassirer,1902, p.461)

monadic representations is the expression of the former in time and space. The former is a rule of production or law of the series that, from God's point of view, indicates the whole set of perceptions and appetites of a monad, independent of time and space; it is a substantial and objective unity. This corresponds to the unity of what would be the unfolded soul, outside of space and time, that Leibniz describes in his *Principles of Nature and Grace*: 'One could know the beauty of the universe in each soul, if one could unfold all its folds, which only open perceptibly with time' (GP VI, p.604/AG, p.211). In contrast, the unity of monadic representations is ephemeral; a new unity is created for each new representation. The unity of monadic representations is included and dependent on the unity of the monad. Indeed the former is determined (in content and order of succession) by the principle of order of the monad.

The unity of monadic representation could be considered a subjective one, in the sense that it is a perspective. Yet it is also substantial, as these representations of the world constitute the nature of the monad.

4. Conclusions

The main objective of this chapter was to claim that 'unity' in Leibniz's philosophy is ultimately given by a principle of order. This is the case especially for 'unity' in the formula 'unity in variety' that is harmony and beauty. As defined, a principle of order grounds other related notions of unity, such as individuality, identity, and agreement. In the first section we illustrate the notion of 'principle of order' with the case of individual substances. We developed our notion of principle of order for individual substances with the help of Nachtomy's concepts of 'rule of production' and 'programme of action'. With this conceptual framework, we proposed that a complete concept's principle of order decides its identity and individuality, since it determines what predicable properties the complete concept possesses. In the case of monads we followed Whipple's 'Substance/Primitive Force/Law of the Series Identity Thesis' and showed that a principle of order, such as the law of the series, regulates the attributes of a monad and the order of their manifestation, thus explaining unity, especially as individuality and identity.

Regarding unity as agreement among substances, we explained that it takes place when a substance includes in its own closed constitutions some aspects of the programme of other substances, thus coordinating with each other in order to produce agreement despite their closed nature. Power relations among substances are not an imposition of unity from

one substance to another, but something not so different from agreement. What defines power in a substantial relation is an asymmetry given by an active monad that expresses in its own programme the principle of order (order or part of it) of a passive monad. We gave a similar definition to explain different degrees of agreement among substances or as we called 'monadic preference': a substance agrees more with some substances than others when their relation is more easily observed by a third party.

In the second section we claim that for Leibniz the world also has a principle of order that is its unity. The world's general plan or design defines the set of its members and expresses the agreement among them. This worldly principle of order is not just the automatic result of possible logical combinations, but a divine design produced by God's will. The world's general law includes and determines sub-unities such as natural laws and individual substances that express the same general law in their own constitutions, thus making each individual compatible and their world compossible.

Finally we noticed other types of unities in Leibniz's philosophy that also work as a principle of order. In summary, we can classify unities in at least four categories:

a. Substantial/objective: unities defined by the rule of individual substances, be it God or Monads. Substances are undividable unities, in other words; the only type of entities that are truly one. In this sense, substances are the elements with the highest degree of ontological individual unity and therefore being (because 'being and one are convertible'). This implies that entities formed with this type of unity possess a high degree of beauty. Examples of this type of beauty are the beauty of God, the monad, the soul or the mind.

b. Non-substantial/objective: unities defined by God's free given rule (*desseins principaux* or *fins de Dieu*) over a group of substantial individuals, such as possible worlds. Although this type of rule does not determine the most ontologically strong unity, they are objectively real unities, since they are united by a divinely given order. There are infinitely many different rules or designs of this type, one for each possible world. Each different rule or designs determines a different world with a different degree of perfection and beauty for each one. In this sense, possible worlds are ranked according to their perfection.[47] In that ranking, the actual world is at the top, as it is

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[47] In § 416 of the *Theodicy*, Leibniz explains the ranking of worlds through a metaphor of a pyramid when he is narrating the tale of the encounter of Theodorus with the goddess Pallas Athena: 'The halls rose in a pyramid, becoming even more beautiful as one mounted towards the apex, and representing more beautiful worlds. Finally they reached the highest one which completed the pyramid, and which was the most beautiful of all: for the pyramid had a beginning, but one could not see its end; it had an apex, but no base; it went on increasing to infinity. That is (as the Goddess explained) because amongst

the most beautiful. In fact it is objectively beautiful, because its beauty comes from the best possible God-given rule or design (the one with the higher degree of agreement and variety) and its variety is also objective. In this sense, a non-substantial/objective unity allows different degrees of beauty,[48] although not ugliness or lack of beauty, since they are divine rules and, as it was established, 'God does not produce bad poetry'. Example of this type of beauty is the beauty of the actual universe and the beauty of possible non-actual worlds, yet their degree of beauty is inferior.

c. Non-substantial/subjective: unities that are mind dependent, i.e. aggregates. These unities are sets with no objective rule or principle of order, but only a subjective one. Yet, this subjective principle is founded on actual relations and properties of individual things that the mind is able to apprehend. This subjective unities also reproduce the formula of harmony (unity in variety), so they can achieve beauty. Nonetheless, since their unity depends in part of finite subjects' minds, their degree of beauty is the result of a trade-off between degree of unity and degree of variety. Hence, their beauty is in a lesser degree than those things which possesses God's given unity. The beauty of art is an example of this kind of unity.

d. Substantial/subjective: unities defined by the rule that determines the agreement in the representations of the external world in the monad. This is another level of the first type of unity (substantial/objective) and it is framed and determined by that one.

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an endless number of possible worlds there is the best of all, else would God not have determined to create any; but there is not any one which has not also less perfect worlds below it: that is why the pyramid goes on descending to infinity' (GP VI, p.364/H, p.372).

[48] Although different worlds have different degrees of beauty it is not certain that they possess different degrees of unity, at least Leibniz does not mention the latter explicitly. However, the idea of different degrees of unity in different worlds should not be completely discarded, as it would help to explain why there are different degrees of beauty in different possible worlds.

PART II: BEAUTY AS A PROPERTY, VALUE AND EXPERIENCE

Introduction to Part II

The debate about objectivity and subjectivity in aesthetics is one of the most common discussions about the topic, starting long before Leibniz. In 'Objectivity and Subjectivity in the History of Aesthetics', Wladyslaw Tatarkiewicz situates this discussion at the very beginnings of philosophy, with the Pythagoreans on one side and the Sophists on the other. The former ones argued for an objective notion of beauty, grounded on the idea that among the properties of a thing there is one that constitutes its beauty, the latter ones defended aesthetic subjectivism, since for them beauty varies from one person to another, so it must be a property in the subject rather than in the object (Tatarkiewicz, 1963, pp. 157-158). According to Tatarkiewicz, although this debate has survived through the history of philosophy, the objective position predominated for thousands of years (1963, p.159). Indeed, most Greek philosophers after Plato endorsed the idea that beauty is objective (with the prominent exception of the Epicureans and the Sceptics). This position persisted though the Middle Ages, where Augustine hit the medullar point of the dichotomy with the following reflection: 'And my first question will be whether these things are beautiful because they delight, or delight because they are beautiful. Here he will undoubtedly answer that they delight because they are beautiful' (Augustine, 2005, p.70). Tatarkiewicz explains that, not without several and important contrasts, this was the predominant tendency also through the Renaissance and the 17th century, until the 18th century, when the subjective position becomes generally accepted in philosophy (1963, p.170).

In this context, Leibniz is found defending the predominant position of objective beauty at the end of the 17th century and the beginning of the 18th, when, as Tatarkiewicz states, philosophers took little interest in aesthetics (1963, p.167). However, if we take a closer look into that period, this was not entirely the case. Philosophers such as Spinoza did have some clear and diverse positions about aesthetics and, although they did not develop a systematic theory, some of their metaphysical views did include interesting and diverging conceptions about notions such as beauty, sensations and music. For example, Descartes' position on beauty can be recognised, yet mixed with other concepts such as perfection and goodness, as an objective notion based on the idea that God willed to create a beautiful universe (CSM II, p.248). The opposite view was held by Spinoza, who said that beauty is a property only in our imagination and that it has nothing to do with God, nature or reason (CE, pp.30-31). In this context, Leibniz argued against both philosophers in defence of complete

objectivity. His argument is not only against Spinoza's explicit subjectivism, but also against Descartes' position, since for Leibniz the logical result of Descartes's view ends up meeting Spinoza's subjectivism (A II 1, p.505/D, p.2). As will be discussed in the following chapter, Leibniz's disagreement with Descartes was based on a subtle contrast between two different ways to conceiving an objective notion of beauty: while for Descartes the nature of beauty – whatever beauty is– is decided by God's will, Leibniz insisted that the rules that determine what is beautiful are grounded in God's intellect with anteriority and independence of divine will. Through this reasoning Leibniz affirms the complete autonomy of an object's beauty. In other words, beauty as a property cannot but reside in the object itself.

The objective characterisation of beauty in Leibniz has not been adequately developed by his commentators. This is the case not just because there are only few academic works that focus their attention on this specific issue, but also because there are some valuable contributions that have been mistaken about Leibniz's position. An example of this is found in Frederick Beiser's book *Diotima's Children*, where he states and implies several times that, for Leibniz, beauty is the intuition –or perception– of perfection.[1] This formula suggests that the concept is based on a subjective and an objective dimension. The subjective aspect of beauty would correspond to our intuition or perception of an object; whereas, the objective aspect comes from the perfection of the object in itself –its unity in variety. Even though Beiser's book is arguably one of the most complete contributions recently given to the discussion of the rationalists' account of aesthetics, it mistakes Leibniz's view for the ones of his successors, particularly Wolff and Baumgarten. For Leibniz a subjective perception or intuition is not needed for beauty, as it is in the case of Wolff's and Baumgarten's later formulations. There are two main aspects of Leibniz's thought that corroborate this view: firstly, as we will see in chapter IV, beauty is in things by themselves with autonomy from any subjective intuition, i.e. if a thing is beautiful, it is as such before it is perceived or even if it is not. And secondly, as we explain in chapter V, beauty is not exclusively or completely for us, human perceivers, since its value does not reside only in our subjective appreciation. Both aspects are entailed by the idea developed in chapter I that beauty is a perfection and not a phenomenon that emerges from the interaction between a subject and perfection, as it is the case for Baumgarten.

In order to distinguish the subtleties surrounding Leibniz's discussion it would be useful to establish some basic definition of objective beauty, starting with the difference

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[1] See Beiser (2009). In pages 2 and 19 Beiser stated that this idea is valid for all German rationalism; and on pages 33, 36 and 42 he explicitly attributes this idea to Leibniz.

between the concepts of objectivity and subjectivity in aesthetics. A first and simple definition can be postulated as follows: beauty is subjective if beauty is in the perceiving subject. And beauty is objective if it is in the object. Both propositions seem to agree that the main difference between the two positions resides in the location of beauty: objectivity posits beauty in the object and subjectivity in the subject. Yet this is not enough to define all the nuances of the objective position, since it is possible to posit beauty in the object but still require a subject for beauty to manifest itself. As said, Beiser mistakenly attributes this idea to Leibniz's aesthetics, yet Beiser is right in considering Baumgarten as an adherent of this position. Indeed, Baumgarten's notion of beauty is relational, since he defines it in *Metaphysica* §662, as 'the perfection that is a phaenomenon (*perfectio phaenomenon*), or the perfection observable by taste' (Baumgarten, 2014, pp. 239-40), and later, in his *Aesthetica* §14, as the perfection of sensory cognition (*perfectio cognitionis sensitivae*). Mirbach explains that, in Baumgarten's account, beauty is the appearance of metaphysical perfection, but only in the degree to which perfection can be grasped by the subjective cognition of the human mind, therefore beauty can only have place when there is a subject (Mirbach, 2008, p.111-2).[2] Thus beauty is a relational, therefore, not a completely objective property. Roughly summarised, Baumgarten's position can be stated as follows: an object O has beauty or is beautiful if and only if there is a subject S, which has a specific relation R to O.[3]

What is then truly objective –i.e. not relational– beauty? Simply put, the answer is an intrinsic property.[4] John O'Neill offers three definitions of intrinsic value that can be also applied to beauty as a property:

> 1) Intrinsic value is used as a synonym for non-instrumental value. An object has instrumental value insofar as it is a means to some other end. An object has intrinsic value if it is an end in itself.
>
> (2) Intrinsic value is used to refer to the value an object has solely in virtue of its 'intrinsic properties'. The concept is thus employed by G. E. Moore: To say a kind of value is 'intrinsic'

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[2]. In his *Psychologia Empirica,* Wolff defines beauty as the observability of perfection. Paul Guyer thinks that for Wolff beauty is a relational property because it is coextensive with or emergent from objects' perfection, but is not intrinsic to them, since without a perceiver beauty is not equivalent to perfection (Guyer, 2007).

[3] For similar positions in contemporary debates see Nehamas (2007) and Sartwell (2004).

[4] The word intrinsic has been object of many debates, yet for our purpose there is no necessity to extend on this discussion. It should be enough just to consider O'Neill's definition as we will do in the text. Nevertheless, here we offer couple of simple definitions, besides O'Neill's, such as the one given by David Lewis: 'A thing has its intrinsic properties in virtue of the way that thing itself, and nothing else, is' (Lewis, 1983, pp.111-2). In other words, it could be said that a thing has beauty because of what it is and not because a subject participates in the fact that that thing has beauty. A similar but negative definition is given by Brian Ellis, who states that an intrinsic property 'is a property that something has independently of any other thing' (Ellis, 2001, p. 26). The notion of independence implies that the property is not related in any way to the context or to any other thing, such as a subject, to emerge or to manifest itself. In chapter IV we will emphasise the importance of independence in Leibniz objective account.

means merely that the question whether a thing possesses it, and in what degree it possesses it, depends solely on the intrinsic nature of the thing in question.

(3) Intrinsic value is used as a synonym for 'objective value' i.e., value that an object possesses independently of the valuations of valuers. (O'Neill, 1992, pp.119-120)

In chapter IV we will investigate beauty as a property, which refers mostly to O'Neill's second definition of intrinsic value; the autonomous reality of beauty. Chapter V will focus on Leibniz's notion of beauty as a value, where we will explore an acceptation of 'intrinsic' along the lines of O'Neill's definition one and three, namely the non-instrumental nature of beauty and its independence from valuers.

Until now we have been mostly defining the objectivity of beauty in general terms that coincide mainly with beauty as a property and less with beauty as a value. Thus we have been uncritically overlooking the differences that might come up between these two approaches. We will return to specify the nature of beauty as a property in chapter IV, but now is time to say something specific about value. The question about aesthetic value implies that there is something positive in certain aesthetic properties, such as beauty. This means that beauty supplies almost always a positive value to the things that possess it.[5] When this is the case, it is possible to ask not only if this value is *in* the object or the subject, but also if it is a value *for* the object or the subject. John O'Neill differentiates these contrasting aspects of value stating that the first question –where is the value?– asks about the *source of value* and the second one –for what or for whom is the value?– about the *object of value*. He insists that it is possible and perfectly coherent to be objectivist in one aspect and subjectivist in the other, e.g. to hold an objectivist claim about source of value –such as 'there is value in a thing x independently of the attitudes of the ones evaluating x'– is compatible with an anthropocentric view of the object of value –such as 'x is valuable only if there are human beings to acknowledge it'. This position would recognise that beauty is in the beautiful thing independently of any other object or subject, nonetheless it only matters if a human subject contemplates it in such a way that 'a world without humans would have no value whatsoever' (O'Neill, 1992, p.121). Although O' Neill does not make the distinction between property and value, we should remark that in our case O'Neill's first question –where is value?– is related to our notion of beauty as a property, while his second question –for what or for whom is the value?– addresses the notion of beauty as a value. Accordingly, it is important to keep this difference in mind while analysing Leibniz's position.

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[5] For a contemporary discussion about this topic, see Mothersill (1984), Goldman (1990) and Zangwill (1995).

In chapter IV, we will consider beauty as a property –or in O'Neill terms as the source of beauty– in things. It will be argued that this view of objectivity is grounded on a notion of beauty as a completely autonomous property that is in things, since beauty resides in the object in itself with independence of subjective recognition and even before the object itself reaches existence. In chapter V, we will approach beauty as a value, or in O'Neill's terms the *object of beauty*. This means that we will consider for what or for whom beauty is valuable. As will be argued, Leibniz holds here a non-subjective position, as for him the beauty of our universe 'is not made for us [humans] alone' (GP VI, p.232/H, p.248). Furthermore, we will show that Leibniz's view on this issue also sides with the objectivist camp.

Finally, in chapter VI, we will engage with the subjective experience of beauty. Hitherto, we have only focused on Leibniz's position on the objectivity of beauty and we have insisted that Leibniz held a strictly objectivist position. Nevertheless, this does not mean that Leibniz's philosophy has nothing to say about the subjective dimension of beauty. Although for Leibniz beauty, as a property and a value, is objective, it is something that can be known, perceived or, in general terms, experienced by a subject. It is worth repeating that for Leibniz objective beauty does not require any form of subjective counterpart in order to emerge or acquire being. But, as many other entities with an independent ontological status, it can be experienced by subjects.

The subjective experience of beauty was arguably one of the main fields of aesthetics in 18th century. Yet before that, and despite his objectivist position, Leibniz provided a significant contribution to the understanding of subjective aesthetic phenomena. In fact, in his survey of the history of aesthetics, Benedetto Croce attributes to Leibnizian thought a twofold role in the advances of aesthetics. On one hand, Leibniz 'opened the door' to notions such as imagination, wit, taste and, in general, to subjective 'aesthetic facts' 'from which Cartesianism recoiled in horror'.[6] On the other hand, Croce seems to suggest that Leibniz tackled these topics 'more thoroughly and with greater philosophical rigour' than his contemporaneous counterparts in Britain –such as Shaftesbury and Locke– and, furthermore, even than later British empiricists –such as Hutcheson and Hume (1964, p.207). Moreover, it is no small thing to consider that aesthetics, as a subjective experience, was first proposed as an independent discipline of philosophy by a Leibnizian thinker. Indeed, Alexander Baumgarten developed his views on aesthetics mostly based on Leibniz's philosophy.

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[6] Croce's statement quoted here is a bit more complex. He explicitly states that Leibniz 'opened the door to a crowd of physical facts' and only later Croce relates this opening to imagination, wit, taste and 'aesthetic facts'. We apologise for not being able to develop the subtleties of Croce's interpretation in detail here. However, we will return to Croce's view in chapter VI.

Despite the significant role of Leibniz in the history of aesthetics, there is by no means an abundance of works dedicated to this topic. Furthermore, as we will see in chapter VI, among the few that have written about this, it is very common to fall into an inadequate interpretation of Leibniz's views on the experience of beauty. Many of these shortcomings are the result of the difficulties in accounting for the relation of the aesthetic experience and the rest of Leibniz's system. But more recurrent is the confusion of Leibniz's original views with later rationalist aestheticians such as Baumgarten. More specifically, we often find in those works the mistaken idea that for Leibniz beauty is exclusively a confused perception. It is true that, in the 18th century, Baumgarten, and afterwards other Leibnizian philosophers such as Mendelssohn, established the limit and definition of aesthetics around confused perceptions. Yet this was not Leibniz's view. As we will see, Leibniz's account accepts that aesthetic experience is constituted by distinct thoughts, based on reason, as well as by confused perceptions and sensations, while reserving higher praises for the former rather than for the latter. We will dedicate chapter VI to resolve this issue and other ones related to the subjective experience of beauty.

Chapter IV: Beauty as a property

In this chapter we will focus on beauty as a property. More specifically, we will argue that for Leibniz beauty is an objective property. Here we understand objectivity as O'Neill's second definition of 'intrinsic', i.e. when a property depends exclusively on the intrinsic nature of the thing in question. In this sense, intrinsic is understood as opposed to relational. However, this is a problematic distinction in Leibniz's philosophy. A proper account on his views on intrinsic/relational properties would require a rather long explanation that, unfortunately, we cannot provide in this chapter. Many of these complications are associated with the difficulty of finding a theory of purely intrinsic properties in Leibniz. Indeed, in former chapters we have described beauty more like a relational property than an intrinsic one: for example the beauty of the universe is a property that pertains to the ordered relation of all members of a world, so it is not intrinsic to any particular substantial individual. Nevertheless, in this chapter, we are interested in the objectivity of beauty as a property only in terms of its independence from subjective perception. Therefore, we will ignore the nuisances of relational beauty, if 'relational' means relations between objects or between properties. Accordingly, 'intrinsic' in this chapter means that the property is within the object and does not need a subject in order to emerge.[1] Here we will assume that complete objectivity is intrinsic in this sense of independence from subjectivity. In the form of a proposition this goes as follows: *a thing is objectively beautiful if it is beautiful or has beauty intrinsically.* This will constitute our first main proposition to define objective beauty.

However, this is still not enough to define complete objectivity if we consider that recent discussions about aesthetics have been using a weak sense of the term 'objective', which brings a certain amount of confusion to the characterisation of objectivity. For example, Frank Sibley's renowned contribution to contemporary discussions about aesthetics attempts to make the case for this specific kind of weak objectivity. He acknowledged that aesthetic properties are objective only in the sense that if there is an aesthetic judgement about a thing, that judgement can be true or false. For example, if I say that a work of art is 'graceful' or 'beautiful' and other observer says that it is not, one of us will be correct and the

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[1] Here we will also ignore beauty as a result of a unity given by subjective ideas, such as it is the case of aggregates. The beauty of aggregates is a specific case in which one requirement of beauty is subjectively provided –namely, unity–, yet as we explained at the end of chapter III, the beauty of an aggregate is, nonetheless, objective. Here we will not return to that discussion. We will abstain from analysing the nature of beauty's requirements or structural constitutive elements (e.g. unity, variety, intelligibility, wholeness, etc.). We will focus here only on beauty as a whole in its ontological status as a property in something.

other mistaken, depending on which proposition is true (Sibley, 2006, p.71). Sibley's suggestion is that, under the right set of conditions, observers might tend to agree about some aesthetic judgements (2006, p.85). This weak account of objectivity is, in principle, coherent with the idea of intrinsic objective beauty, since it is assumed that the aesthetic properties, mentioned in our propositions, are in the object. Nevertheless, the reality of these properties is a nominal categorisation based on agreed perceptions and not an ontological state of the thing in itself, mainly because the proof for the objectivity of aesthetic properties is posited on the possibility of intersubjective agreement.[2] Consequently, it raises the following question: would there be beauty if there were no subjects to agree with each other? This suggests at least the possibility of certain degree of ontological dependence from subjective judgement in the form of intersubjective corroboration, which makes his interpretation of objectivity partial and limited.

In order to make a clear distinction between the strong objectivity that we are proposing and Sibley's weak version, it will be added to the mentioned first proposition of intrinsic beauty a negative version of itself, to supplement it and to permit a better understanding of what we mean by complete objective beauty. Hence 1) *objective beauty is when an object is beautiful or has beauty intrinsically* and 2) *when it does not need any kind of subjective corroboration*. This latter proposition intends to exclude individual, intersubjective and nominal corroborations of beauty as necessary for something to be objectively beautiful. With this in mind it is possible to establish a basic definition of complete objective beauty with two premises, one positive and other negative:

- Positive definition of objective beauty (P): O is beautiful or has beauty intrinsically.

- Negative definition of objective beauty (N): O is beautiful or has beauty without the necessary condition of any kind of subjective corroboration.

These propositions will establish the standard that every characterisation of objective beauty must meet. In other words, any definition of objective beauty must be necessarily coherent with these two propositions.[3]

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[2] Sibley himself explicitly expresses his intention to distance his argument from any ontological commitment (2006, p.71).
[3] We are not saying here that P and N together are sufficient and necessary definitions of objective beauty. We do not affirm this in order to avoid stepping in an endless discussion about definitions and their objections. For example it could be said that together they are not sufficient because they could overlap each other, hence in certain contexts P might include N, so P would be by itself sufficient. On the other hand, they might not be necessary because there could be other definitions that supply an account of objective beauty. Instead we are just saying that both propositions conform to a basic standard, with which every account of true objective beauty must necessarily cohere.

Through this chapter we will examine Leibniz's views about the objective nature of beauty as a property and compare it with these two propositions. We will consider not only Leibniz's explicit statements about beauty and similar properties, but we will also infer the characterisation of a Leibnizian notion of objective beauty from his views on theology, cosmology and ontology. In the first section, we follow Leibniz's argument against Cartesian voluntarism and Spinoza's subjectivism. We explain how Leibniz's ideas about objective beauty converge with his views on God and the world's creation in one coherent stand against the ideas of Descartes and Spinoza. We will also see how Cartesian voluntarism and Spinoza's subjectivism relate to our definition of objective beauty represented by P and N. By exploring Leibniz's rejection of the views of these two philosophers, we will be in a better position to understand his own ideas and to develop a Leibnizian account of objective beauty, based on the autonomous nature of beauty as a property. In the second section, we will examine whether Leibniz's account of objectivity is compatible with propositions P and N or not. We will do this by inferring from Leibniz's views on cosmology and ontology a systematic definition of objective beauty. We will try out three possible propositions to represent a Leibnizian definition of objective beauty and examine them regarding their compatibility with P and N. It will be argued that the Leibnizian views that properties are independent from subjective corroboration and that the beauty in things *is* prior to existence results in a completely objective account of beauty.

1. God, creation and objective beauty

1.1 Creation and the rules of beauty

For Leibniz, God created an objectively beautiful universe and there is a reason why he did so. The case that the universe is beautiful is postulated in the title of §2 of the *Discourse on Metaphysics* (1686): 'Against Those Who Claim That There Is No Goodness in God's Works, or That the Rules of Goodness and Beauty [*Beauté*] Are Arbitrary' (A VI 4, p.1532/AG, p.36). Here, Leibniz argues that there are rules of goodness and beauty in the nature of all created things as well as in God's ideas of them. This complies with the account of God that Leibniz states in the first paragraph of the same text, according to which God is an 'absolute perfect being' who possesses 'supreme and infinite wisdom' and, therefore, 'acts in the most perfect way' (A VI 4, p.1531/AG, p.35). The fact that he acts in the most perfect way implies that he created the world in the most perfect possible way, which includes the rules of beauty and goodness in all created things, since these rules constitute his essence (A VI 4,

p.1533/AG, p.36). Hence, the reason why God created a beautiful universe (or nature) is because it is in his essence to do so.

The rules of beauty that Leibniz mentions refer to the idea that there are criteria or requirements that must be satisfied by something in order to be beautiful. These criteria are independent of or logically prior to God's will.[4] Indeed, as we have briefly suggested in chapter II and III, these criteria are in God's intellect and they are not a product of his will.[5] As an example of these criteria, see the ones we enumerated in chapter I, among which the most fundamental is unity in variety.[6]

1.2 Cartesian voluntarism

But why is Leibniz concerned about rules of beauty? Leibniz is arguing in defence of rules of beauty that come before God's will in contradistinction with the view that we referred to as 'voluntarism'.[7] In Leibniz's argument he criticises the idea that the power of God prevails as will, which means that God can do whatever he pleases and does not need to comply with goodness, justice or wisdom. Leibniz attributes this position to Descartes[8] and not without good reason: for example, in the *Meditations*, Descartes states that 'just because he [God] resolved to prefer those things which are now to be done, for this very reason, in the words of Genesis, 'they are very good'; in other words, the reason for their goodness depends on the fact that he exercised his will to make them so' (AT VII, pp.435-6/CSM II, p.293). Accordingly, goodness was not a criterion that mandated God's preferences for his creations, but God's preferences determined what goodness is. As Descartes explains:

> If anyone attends to the immeasurable greatness of God he will find it manifestly clear that there
> can be nothing whatsoever which does not depend on him. This applies not just to everything that
> subsists, but to all order, every law, and every reason for anything's being true or good. (AT VII,
> pp.435/CSM II, p.293).

Contrary to Leibniz, voluntarism posits the foundation of goodness or beauty in the act of the divine will and not as a reason to guide the divine will.[9]

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[4] Logical priority should not be understood as a referring to time, but as indicating an order of logical concatenation: for Leibniz the divine will is perfect, which means that it must follow perfections. Accordingly, these perfections must be logically anterior to God's will. We will discuss this in detail through this chapter.

[5] See A VI 3, pp.121-122/CP, pp.43-45. We will return to this idea later in this chapter and in the next one.

[6] Completeness, intelligibility, the potential to give pleasure, etc.

[7] Leibniz himself did not use the term 'voluntarism'.

[8] Descartes was not the only thinker that held this view. See for example Pierre Poiret's *L'oeconomie divine, ou Systeme universel et démonstré des oeuvres & des desseins de Dieu envers les hommes* (1687), book I, page 54.

[9] The purpose of this view is to ensure absolute freedom for God's will. In the same paragraph, after asserting that everything depends on God's will, Descartes writes as follows: 'If this were not so, then, […], God would not have been completely indifferent with respect to the creation of what he did in fact create. If some reason for something's being good

These two different views result in two different ways to value the properties of world and its maker. Indeed, Leibniz defends the thesis that God is to be praised exactly because he acts in compliance with perfect reason and not otherwise:

> For why praise him for what he has done if he would be equally praiseworthy in doing the exact contrary? Where will his justice and wisdom reside if there remains only a certain despotic power, if will holds the place of reason, and if, according to the definition of tyrants, justice consists in whatever pleases the most powerful? Besides, it seems that all acts of will presuppose a reason for willing and that this reason is naturally prior to the act of will. (A VI 4, pp.1532-3/AG, p.36)

Because Leibniz's God is not a tyrant we should not call his creation beautiful, or assume that it is beautiful, just to praise the arbitrary choice of its author, but on the contrary: we should praise God because we recognise the beauty and/or goodness of its creation. Leibniz repeats this idea years later in the *Theodicy* §254 stating that we can be content with God and his creation by being acquainted with true principles, which 'must rest upon the perfection and beauty of things' (GP VI, p.268/H, p.283). What Leibniz means can be summarised in the following phrase: 'it is through a consideration of his works that we can discover the craftsman' (GP VII, p.86/L, p.304). These arguments favour the notion that beauty could be recognised in things in themselves, independently of the recognition of God's hand in their making. Moreover, we can know the nature of the creator by inferring it through the consideration of his works.

From this position Leibniz argues against the logical consequences of the tenets of voluntarism: namely, on accepting goodness or beauty in things only from the premise that these things were made by God's will. Leibniz claims that he is 'far removed from the opinion of those who maintain that there are no rules of goodness and perfection in the nature of things or in the ideas God has of them and who say that the works of God are good solely for the formal reason that God has made them' (A VI 4, p.1532/AG, p.36). The position of voluntarism that Leibniz is criticising, states that things must be praiseworthy just because they are caused by God's will. According to Loemker, in this passage Leibniz has in mind specifically Descartes' voluntarism (L, p.328). Leibniz's criticism about Descartes seems appropriate if we consider the first paragraph of the third part of Descartes's *Principles of Philosophy*:

> we must bear in mind the infinite power and goodness of God, and not be afraid that our imagination may over-estimate the vastness, beauty and perfection of his works. On the contrary,

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had existed prior to his preordination, this would have determined God to prefer those things which it was best to do'. (AT VII, p.435/CSM II, p.293).

> we must beware of positing limits here, when we have no certain knowledge of any, on pain of
> appearing to have an insufficient appreciation of the magnificence of God's creative power. (CSM
> I, p.248)

The demand to over-estimate the beauty of God's works and the warning against appearing to have an insufficient appreciation of their magnificence, indicate that Descartes is asking us to not trust completely in our judgement and accept the beauty of creation based on God's power and goodness. This is what Leibniz calls a 'formal reason' of beauty, which implies judging the beauty of a thing not in itself, but by deducing it from assumed external premises such as 'the infinite power and goodness of God'.

As an analogy to understand this position it could be supposed that there is a praiseworthy artist A who creates an artwork W. The voluntarist claim would consist in praising W just because A decided to create W and A is praiseworthy. In this context, it does not matter whether A decided to create W or Y or V, because what is being evaluated is not the artwork *a posteriori* and not even the praiseworthiness of A. There is an *a priori* acceptance of two facts; first, that A is a praiseworthy artist, and second that, because of the first fact, anything that A makes must be praiseworthy. If we do not accept these principles we might suffer the 'pain of appearing to have an insufficient appreciation' of A's work, because we were afraid to 'over-estimate the vastness, beauty and perfection of his works'. Furthermore, according to voluntarism any criterion C, used to qualify whatever is praiseworthy, is given only by A through whatever A creates. Thus there is no C before A decides to create something. For Leibniz the opposite must be the case, i.e. the reason why we praise A is because first we find W praiseworthy, and we find it so only through our knowledge of C. Hence we can find W praiseworthy even if we do not know that W was created by A. This is the case because the criteria to determine if something is praiseworthy comes before any creation. Before further explaining Leibniz's view, we will first consider Leibniz's position regarding Spinoza's aesthetic subjectivism and its relation to Descartes.

1.3 Spinoza's subjectivism

In the same chapter of the *Discourse* where Leibniz introduces his argument against voluntarism, he extends his criticism against those who say that beauty is just an exclusive human property of the imagination, which men attribute to things or to the Creator

> I confess that the contrary opinion [that God's works are good or beautiful just because he made
> them] seems to me extremely dangerous and very near to the opinion of the recent innovators who

> hold that the beauty of the universe and the goodness we attribute to the works of God are but the chimeras of those who conceive of God in terms of themselves. Thus, in saying that things are not good by virtue of any rule of goodness but solely by virtue of the will of God, it seems to me that we unknowingly destroy all of God's love and all his glory. (A VI 4, p.1532/AG, p.36)

According to Loemker, in the original draft of the *Discourse*, instead of 'recent innovators', Leibniz wrote '*les Spinozistes*' (L, p.328). There is no reason to think that the fact that Leibniz deleted this word means that in the quoted fragment, Leibniz is not arguing against Spinoza. Indeed, by the content it is clear that Leibniz is in fact considering Spinoza´s philosophy. More specifically, Leibniz is arguing against the notion that the world's beauty is just a human projection onto nature and God.[10] Leibniz's disagreement with Spinoza here is that for the German philosopher God's perfection involves beauty, meanwhile for Spinoza it does not.[11] For the latter, God's perfection is based neither in his will nor even in his goodness, but on his power as a free substance (CE, p.25). Accordingly, God's perfection is not reflected in the goodness of his will or in his wisdom to create a beautiful world. By the same token, for Spinoza, God's perfect creation is not coextensive with human taste, since 'the perfection of things is to be judged solely from their nature and power: things are not more or less perfect because they please or offend men's senses, or because they are of use to, or are incompatible with, human nature' (CE, p.31). We tend to project onto nature and God what is pleasing to us, yet these attributes correspond to neither nature nor reason;

> We see, therefore, that all the notions by which ordinary people are accustomed to explain nature are only modes of imagining, and do not indicate the nature of anything, only the constitution of the imagination. And because they have names, as if they were [notions] of beings existing outside the imagination, I call them beings, not of reason, but of imagination (CE, pp.30-31).

Indeed, beauty is an example of these 'beings of the imagination'. In other words, Spinoza's God –or any of God's modes– does not possess the attribute of beauty. Properties such as goodness, order, harmony and beauty are merely 'modes of imagining' or 'beings of imagination' in men's brains and not an attribute of things pertaining to the infinite substance (CE, p.30).

In the same analogy mentioned before, Spinoza's position would state that A is not an artist: A does not even care, know or consider the notion of art. However, A does create W, which we wrongly think is an artwork, when in fact it is something else. Indeed, Spinoza's position simply denies the true existence of beauty.

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[10] For Spinoza´s argument see CE, p.30.
[11] Furthermore, for Leibniz, beauty is a divine perfection, as it was explained in the chapter I.

On the contrary, for Leibniz it is very clear that there are rules of goodness and beauty in created things and in the ideas that God has of these things, as is perfectly clear from the title of §2 of the *Discourse* quoted at the beginning of this chapter. Moreover, as said in chapter I, beauty is a perfection, which God possesses in the highest degree, therefore, beauty is a property more closely related to the divine than to us.[12] Following this premise, to say that God does not know about beauty, or that he does not act according to it, would be to deny his absolute perfection, and hence that he is God.

1.4 The convergence of voluntarism and Spinozism

As quoted before, in §2 of the *Discourse*, Leibniz says that the opinion that God's works are good and beautiful just because he made them seems to him 'extremely dangerous and very near to the opinion of the recent innovators [*les Spinozistes*] who hold that the beauty of the universe and the goodness we attribute to the works of God are but the chimeras of those who conceive of God in terms of themselves'. In other words, Leibniz is bringing together what seemed to be two opposing positions; voluntarism and Spinoza's subjectivism. Although Cartesian voluntarism and Spinoza's subjectivism are grouped together by Leibniz's criticism, it is clear that Spinoza is far from agreeing with the doctrine of voluntarism. Indeed, in the *Ethics* (1677) he explicitly denies the existence of God's will as an attribute of his nature (CE, pp.14&24). So why does Leibniz mention both together in the same passage under the same criticism? In this context it would seem that Leibniz is taking a stance in the middle of two opposing positions; first, against a Cartesian voluntarism, which, in Leibniz's terms, claims that things are good or beautiful just because God decided to create them, and second against Spinoza's subjectivism, which states that God has nothing to do with beauty, but it is we who attribute it to him and his creation.

Yet, on the contrary, for Leibniz there is a connection between both positions. Indeed, the mentioning of Spinoza in that passage is of vital significance to understand Leibniz's position against the Cartesian account of God and his creation. This position was developed with more detail a few years before the *Discourse* in a couple of letters to Christian Philipp in 1679 and 1680. In one of those letters Leibniz quotes the article 47 of the third part of Descartes' *Principles of Philosophy,* where it is stated that 'matter must successively assume

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[12] This idea will be discussed further in the next chapter.

all the forms of which it is capable' (CSM I, p.257). Leibniz strongly objects to Descartes' view and pairs it together with Spinoza's opinions:

> I do not think that it is possible to form a more dangerous proposition than this. For if matter receive successively all possible forms it would follow that nothing so absurd, so strange and contrary to what we call justice, could be imagined, which has not occurred or would not some day occur. These are exactly the opinions which Spinoza has more clearly explained, namely, that justice, beauty, order belong only to things in relation to us, but that the perfection of God consists in a fullness of action such that nothing can be possible or conceivable which he does not actually produce. (A II 1, p.505-6/D, p.2)

In an article entitled *Refutation of Spinoza* (1709), Leibniz explains this parallel between Descartes and Spinoza's proposition 16 on the first part of his Ethics: 'From the necessity of the divine nature there must follow infinitely many things in infinitely many modes' (CE, p.13). Leibniz finds this proposition seamlessly equivalent to Descartes' opinion that matter successively assumes all possible forms (FB, pp.46-8/D, pp.179-180). If matter assumes all possible forms it implies a lack of any kind of criteria of actualisation in the divine intellect, which means that God is indifferent to whatever he brings into existence. God does not choose the best because he simply does not choose, as everything that is possible comes to existence. From the idea that every possible becomes actual it follows, that there must have been, there are or there will be forms that are absurd, strange, unjust, ugly, chaotic, etc.[13] For Leibniz this means that Descartes' God is a God that is indifferent to properties such as justice, beauty and order. In other words, these properties do not correspond to God's perfection. If beauty and these other properties do not correspond to God's perfection, but are possible for us to conceive, it must be the case that they are only in our imagination, which is exactly what Spinoza says.[14] Leibniz is very much aware that Descartes never explicitly manifested these opinions, but he thinks that they can be clearly concluded from Descartes' arguments (A II 1, p.506/D, p.2).

Nevertheless, for Leibniz this divine indifference towards beauty and other properties is already entailed by Descartes' more explicit view of voluntarism: if God's will is the 'formal reason' of beauty, something beautiful is just whatever God decides to create, hence

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[13] It could be objected that in Descartes' phrase 'matter must successively assume all the forms of which it is capable', the concept of 'capable' could act as a limitation for forms such as unjust, ugly and chaotic. In other words, it could be said that matter is not capable of assuming unjust, ugly and chaotic forms. Nevertheless, Leibniz interpreted 'capable' as 'possible' and possible is for him everything that we can conceive or everything that is not a contradiction (GP VII, p.319/L, p.363). Hence, unless unjust, ugly and chaotic forms are unconceivable or contradictory they are possible, therefore, according to the aforementioned quote, matter must assume those forms.

[14] It could be said that there is a third possibility: beauty is neither a part of God's perfection nor is it in our mind, but in the objects. However, this would not be valid for Spinoza as for him perfection is the same as reality (CE, p.32).

God's will does not pursue what is beautiful, but what is beautiful comes after his will, therefore his will is indifferent to beauty. Indeed, even without considering the logical consequence of a statement such as 'matter successively assumes all possible forms', Cartesian voluntarism turns divine will into a 'fiction' and results in an understanding of God and his creation that, according to Leibniz, is not significantly different from Spinoza's blind determinism:

> Such understanding [Descartes' voluntarism] is nothing but a chimera, and consequently it will be necessary to conceive God, after the manner of Spinoza, as a being who has neither understanding nor will, but who produces quite indifferently good and bad, and who is indifferent respecting things and consequently inclined by no reason towards one rather than the other. Thus, he will either do nothing or he will do all. But to say that such a God has made things, or to say that that they have been produced by a blind necessity, the one, it seems to me, is as good as the other. (A II 1, p.507/D, p.4)

Leibniz's point here is that a divine will that does not follow goodness, beauty and even truth is a will with no reason and thus sterile as an alternative to determinism. In this sense, Leibniz is not defending a position in the middle of two opposing views –Descartes and Spinoza–, as seemed to be the case before, but on the contrary, he is opposing Descartes's view because its logical conclusion is a sort of determinism by indifference that ends up meeting Spinoza's subjectivism.

 2. **Objectivity as autonomy**

2.1 Independence from formal reasons

Regarding the relation between beauty and determinism, Leibniz suggests that beauty is enhanced when there is no determinism in creation, in other words; there is more beauty because of God's free choice among possibles:

> All that is admirable, but one does not see its absolute necessity. A movement on the two sides of the right-angled triangle composes a movement on the hypotenuse; but it does not follow that a ball moving on the hypotenuse must produce the effect of two balls of its own size moving on the two sides: yet that is true. Nothing is so appropriate as this result, and God has chosen the laws that produce it: but one sees no geometrical necessity therein. Yet it is this very lack of necessity which enhances the beauty of the laws that God has chosen, wherein divers admirable axioms exist in conjunction, and it is impossible for one to say which of them is the primary. (GP VI, p.320-1/H, p.333).

In this sense, creative freedom is per se an important aspect of beauty in contraposition with acts determined by necessity. For Leibniz, God does not bring everything into existence, just what is the best according to certain principles which include beauty. Therefore, there are possible things that did not and will not exist, in other words, there are possible beings or complete worlds that are, nonetheless, not actual. God chooses to actualise some things that are beautiful in themselves, more beautiful than others that he does not actualise.

An object O is more or less beautiful in itself depending on its compliance with the rules of beauty –namely, more variety and more unity in variety (A VI 4, p.1359/SLT, p.191). This means that if we can recognise the compliance of an object O with these rules, we can recognise the beauty of O without any reference to reasons beyond the properties of the object itself, contrary to Voluntarism. Furthermore, it is exactly because O is beautiful in itself, without the necessity of external reference, that O's beauty does not need to be corroborated by us. What this account provides is the notion that the objectivity of beauty is based on its autonomy, understood as complete independence of external elements. This view is postulated as follows:

- Objectivity by Autonomy 1 (OA1): An object O is beautiful or has beauty if this property can be recognised just by contemplating O and does not need to be assumed by deducing it from any premise extrinsic to O.

Accordingly, the beauty of the object O is independent of external things or as Leibniz puts it 'formal reasons'. The beauty of O can be corroborated only on the basis of examining the object O.

However, that formulation of the definition has a significant problem; namely, that it is based on a criterion that contains implicitly a subjective and epistemic element, as it calls for a 'recognition' in order to define something as objectively beautiful. OA1 does not seem clearly correlated with P, since it states that beauty can be recognised just by contemplating O, which appears to call for the requirement of something else which is not O, thus seeming much like a relational property and not an intrinsic one. Furthermore, even though OA1 states that beauty does not need to be assumed by deducing it from any premises extrinsic to O, it does include the term 'recognised' that, without further clarification, could be related to the presence of subjective corroboration, which is what N explicitly denies. OA1 leaves space for further questioning, for example what happens if we fail to recognise the beauty of the object O? Is O still beautiful? The obvious answer will be yes, because things are beautiful in

themselves and it does not need us to corroborate this beauty. However, OA1 is not the best proposition to explain these questions.

2.2 Independence from subjective recognition

One possible solution would be to modify OA1 in such way that there is no place for a possible failure in the recognition of beauty, this can be done by assuming an infallible subject that will never fail to see the truth about O. Leibniz himself uses God as an infallible subject for similar purposes and it is precisely this subject-God that he uses in his argument against Descartes, referring to a passage from the Genesis:

> If things are not good by any idea or notion of goodness in themselves, but because God wills them, God, in Genesis, had but to consider them when they were made and to be satisfied with his work, saying that all was good; it would have sufficed for him to say, I will it, or to have remembered that he willed them, if there is no formal difference between the two things, to be willed by God, and to be good. But it is apparent that the author of Genesis was of another opinion, introducing a God who would not be content with having made them unless he found further that he had made them well. (A II 1, pp.506-7/D, pp.3-4)

In the *Discourse*, Leibniz says that these verses of Genesis –i.e. that God saw afterwards that his creation was good– are 'anthropomorphic expressions'. According to Leibniz, we should understand from these verses 'that the excellence of God's works can be recognized by considering them in themselves, even when we do not reflect on this empty external denomination which relates them to their cause [i.e. God]' (A VI 4, p.1532/AG, p.36). In other words, the objectivity by autonomy of beauty could be based on the 'anthropomorphic expression' that God, as an infallible subject, would have seen that things are good, or in this case beautiful, and since God's observations and the truth are the same[15], if God recognises things to be beautiful it must be the case that they truly are. Based on this example we can formulate a second proposition of beauty by autonomy as follows:

- Objectivity by Autonomy 2 (OA2): An object O is beautiful or has beauty objectively if this property can be recognised just by the contemplation of O by an infallible subject and, therefore, the beauty of O does not need to be assumed by deducing it from any premises extrinsic to O

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[15] This notion differs from the theories about the observer in ideal conditions described by Sibley (2006, p.85) or O'Neil (1992, pp.127-8) in the sense that God, as an infallible subject, does not depend on ideal conditions to see or know the truth of an object. Furthermore, God's recognition of beauty would entail a commitment with the objective reality of beauty in the strong and not just in the weak sense provided by Sibley's view.

This proposition provides an infallible subject, so the question about failing to see beauty is not valid. Compared with P, OA2 affirms that there is beauty in O because what God recognises to be, must be truth, so there is true beauty in O. The question that remains is if the beauty of O requires subject-God to recognise it. If this is the case beauty would be a relational property as it needs two different entities to emerge; God and O.[16] OA2 does state that for objective beauty God's recognition is a condition, so it is possible to ask if beauty exists in the hypothetical case that God would not recognise it.

Leibniz's cosmology never formulates this situation explicitly, although it still presents a frame in which a solution for this issue can be found. In almost all of his texts about this topic, Leibniz alternates the words 'create' and 'choose' for describing the relation of God and the actualised universe. The word 'choose' conveys the idea that God chose to actualise one set of combination of things (world or universe) from an infinite number of possible combination of things (worlds or universes).[17]

> For, since all the possibles have a claim to existence in God's understanding in proportion to their perfections, the result of all these claims must be the most perfect actual world possible. And without this, it would not be possible to give a reason for why things have turned out in this way rather than otherwise. (GP VI, p.603/AG, p.210)

The idea that God decides to actualise the most perfect possible world, entails the notion that there are alternative worlds, even if they are non-actual entities. Indeed, possible things do not have existence if they have not been actualised, yet they are true beings if they are conceivable without contradiction: 'A being is that whose concepts involves something positive or that which can be conceived by us provided what we conceive is possible and involves no contradiction' (GP VII, p.319/L, p.363). This means that there are infinitely many possible worlds, yet they do not possess existence. Now, if Leibniz's God chose from a set of possible universes to actualise the best one among them, it must have been the case that God had certain criteria to determine that the chosen universe was indeed the best universe. Indeed, God must have had these criteria, even 'before'[18] he took the decision of actualising this world. It also means that the chosen alternative had certain properties 'before' God decided to choose it –when it was still a non-actualised possibility, i.e. a true being but

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[16] For Leibniz God is different from O, since he bases his whole metaphysical system in individual substances.

[17] It is worth noticing that the difference between creating the world and choosing it is for Leibniz only apparent, because all possible things are in God's understanding, from which he choose to actualise/create one possibility (see for example L, p.575). Also, as said in chapter III, God creates a general design that unites many possible things, thus constituting a possible world. So in this sense, God chooses among his creations.

[18] The term 'before' indicates logical priority and not a position in time. In this case, 'before' cannot refer to time because there is no time before creation.

without existence–, since it was because of these properties that God chose it as the most perfect possible world. Within these properties beauty was undoubtedly one of them, since beauty is a perfection. Indeed, Leibniz explicitly says that 'God created [or chose] all things in accordance with the greatest harmony or beauty possible' (A VI 4, p.2804/D, p.130).

Accordingly, if we could make an analytic and hypothetical distinction, we could say that the actualised universe was beautiful even 'before' God decided to actualise it, therefore its beauty was real 'before' God recognised it. In fact, as previously suggested, in *Confessio Philosophi* (1671-1678) Leibniz hints that the formula of unity in variety, that is beauty, is in God's intellect, independent from God's will (A VI 3, pp.121-122/CP, pp.43-45). Accordingly, we can postulate a third definition as follows:

- Objectivity by Autonomy 3 (OA3): An object O is beautiful or has beauty objectively if this property is in or is possessed by O as a possible being, before existence and, therefore before any kind of recognition, yet it can be recognised just by the contemplation of O by an infallible subject and therefore, it does not need to be assumed by deducing it from any premises extrinsic to O.

In this case it is possible to say that beauty is completely autonomous, even from God, considered as a subject. OA3 establishes that O is beautiful even before or independently of existence, which means that O is beautiful even as a being –a logical possibility- without existence. At this ontological level, the autonomy of beauty is reached by excluding any possible dependence on other subjective-like entities. In other words, beauty cannot be found anywhere else than in O itself, since the beauty of O and O itself are as such 'before' any other subjective-like entity recognises them. It is for this reason that O cannot be or have beauty but intrinsically, as P states, and it denies, in the most radical way, the necessity of any kind of subjective corroboration, thus agreeing with N.

This view can be illustrated in a much simpler manner: for example, let's say that A is an artist that created a beautiful work W. A wanted to create something beautiful so before creating W, A imagined W. A thought about something possible –i.e. with no contradiction–, that she found beautiful before it existed and then she actualised it. According to Leibniz's theory, it must be the case that even if A never did create W, W, as a possible non-actualised entity is still beautiful. In fact, in *Elements of Naural Law* (1670-71) Leibniz explicitly affirms this: 'Just so the relations of numbers are true even if there were no one to count and nothing to be counted, and we can predict that a house will be beautiful, a machine efficient,

or a commonwealth happy, if it comes into being, even if it should never do so' (A VI 1, p.460/L, p.133). Yet according to what has been said, we can go even further in our example: even if A had not even thought about W, W would still be a possible entity. This is the case because W has no internal contradiction. Non-actual possible entities are real beings in their own right, with all the same properties as if they were actual, except existence. Then, W is still beautiful even if it does not possess existence or even if no one thinks about it. In this scenario W is intrinsically beautiful, since its beauty resides only in itself, thus its beauty does not depend on any subjective corroboration.

Finally, we need to consider what appears to be a contradiction between OA3 and Leibniz's criticism of Descartes' voluntarism. At the beginning of the chapter we showed that Leibniz is adamant in insisting that, contrary to voluntarism, we must be able to recognise nature's beauty and not just assume that it is there because of an external (formal) reason, such as faith in God. Yet, OA3 states that beauty is independent of any subjective corroboration. This entails a commitment to the idea that there might be uncorroborated beauty, i.e. things that are beautiful beyond our recognition. Indeed, this is the case for Leibniz. There are not only infinitely many possible beautiful things that are beyond our knowledge, but even within the actualised world we cannot always fathom its overall beauty. Certainly, this is one of the most important points of the *Theodicy*: despite the fact that the world in some parts might appear to us disordered, dissonant, imperfect and evil, we should not assume that it is so in its totality, and have faith in the creator's perfection and in his perfect design. Furthermore, elsewhere, referring to the beautiful order of the universe, Leibniz writes that '[t]he natural light of reason does not suffice for knowing the details thereof, and our experiences are still too limited to catch a glimpse of the laws of this order [the order of the universe]. The revealed light guides us meanwhile through faith' (GP VI, p.508/LTS, p.246). There is no doubt that passages such as this one reassemble Descartes' recommendation to overestimate God's creation just because it is God's creation, even if we fail to notice its merits. How, then, can Leibniz insist upon a beautiful universe that can be recognised as such without any reference to its author?

A first glimpse of the solution to this apparent contradiction is partly contained in the caveat that Leibniz introduces in the next sentence of the quoted passage: 'there are grounds to think that in time we will know more of this order by experience itself, and that there are minds which already know more of it than we do' (GP VI, p.508/LTS, p.246). The limitation of our knowledge to apprehend the beauty of the divine creation and, hence the

recommendation to follow faith, is only temporary. We might later reach a better knowledge of the beauty of the universe. The most significant aspect of this statement comes when we ask why Leibniz believes that our knowledge will progress. Leibniz's answer can be summarised in the following argument: God created the world following reason. Thus, the world is rational or has a (divine) rationality. God's rationality and ours is one and the same – reason just differs in magnitude; God's is infinite, while ours is finite. Therefore, in principle we are equipped with the means to understand and know the whole of God's creation. Hence, our knowledge can progress without any limitation except our finitude. We will explore this idea in detail in the next chapter, but for now we should focus on how it reflects on our previous issue. For Leibniz it is the case that, in principle, we are able to recognise the beauty in any object O that is beautiful, without reference to its creator, because God created O with a rational structure that coincides with our reason, hence we can know O's properties including its beauty. That said, our finitude does not allow us to know the whole universe's beauty (or the beauty of other possible world), but only because we cannot experience something of such magnitude in its entirety with our temporally finite reason and experience. Because of this, we can only infer that there is more beauty to discover beyond our knowledge from the recognition of the beauty of the part of the world that we already know. Accordingly, we do not assume that the world is beautiful just because it was created by God, but, because we can apprehend its beauty, if not in its entirety, at least in parts.

3. **Conclusions**

As we have seen, Leibniz postulates that beauty is a completely objective property in things. His account is not a limited to a debate about the nature of properties, but it involves ontological, cosmological and theological principles. Indeed, Leibniz's position regarding the debate about the objectivity of beauty is inextricably related to a wider framework of his metaphysics. Thus, when he stands against Cartesian voluntarism and Spinoza's subjectivism, he does so as a result of his wider commitment with a God that acts following rules and a world that was chosen for its perfection among many other possibilities. The logical conclusion of these tenets is that properties such as beauty are in things even when these things are only possible entities.

Leibniz objects to Descartes that beauty is arbitrarily decided by God and the entailed conclusion that our recognition of world's beauty depends on a 'formal reason', i.e. the world is beautiful just because God created it. A God that does not act according to principles, is a

God that cannot guarantee us a world that exhibits perfections as its properties. Thus the Cartesian God created a world which properties are not available for us to judge with certainty and independence.

A notion of beauty that is truly objective must be a property of the world that we can recognise independently of our knowledge of any external premise. Furthermore, such property must *be* –or possess being– independently of any kind of subjective recognition. Accordingly, we argued that the Leibnizian notion of objective beauty can be characterised by a radical independence from any sort of subjective corroboration, even in the hypothetical case that God is considered as a subject. We reasoned that the world must have been the most perfect and, thus the most beautiful, even before its actualisation. We based this conclusion on two of Leibniz's notions: firstly, an ontology that establishes that possible things *are* even before existence and, secondly, a God follows rules and therefore chose the most perfect possible world. Therefore, positive properties such as beauty must *be* in things even before existence for God to be able to choose a world with the highest degree of these properties. From this position it must be the case that beauty is in things before any subjective recognition.

We conclude that a proper Leibnizian definition of objective beauty that states that beauty is objective if it is in a possible thing even before existence, therefore independently of subjective requirement, yet it can be recognised just by being contemplated by a rational subject.

Chapter V: Beauty as value

Now that we have settled the matter of the objectivity of beauty in terms of where is beauty as a property, we can address the second question posed at the introduction of the second part of this research: is the value of beauty subjective or objective? This question requires us to recognise beauty as a value, in other words, as a property that is fundamentally positive. Once this is understood, the main issue is to establish whether, for Leibniz, beauty is a subjective or objective value. The question about the value of beauty differs from the analysis given in the previous chapter, where beauty was addressed just as a property, and the question was about its location; either in the object or the subject. Here, regarding beauty as value, the subjective position states that beauty is valuable only as long as it is perceived by subjects, in other words, the significance of beauty in things is the subjective appreciation of it. This position implies that in a universe without subjects to perceive its aesthetic value, beautiful things would not be valuable. An objective position would hold the idea that the value of beauty does not depend on the subjective perception of it, therefore the value of beauty is not just meant for subjects to appreciate. The issue between these two positions can be further itemised with two questions: (1) Is beauty valuable only when it is appreciated by subjects? And (2) is beauty valuable because the effect it produces on subjects? For example is beauty meant only for subjects' happiness? [1]

In order to answer these questions, we must first explain what value is and what has value according to Leibniz. In Section 1, we will explain this and show that Leibniz's notion of value is grounded on an ontological position that states that everything has value in different degrees. Afterwards, in section 2, we will tackle the relation between us and value by taking into account Leibniz's complex relation with anthropocentrism. In this section we will show that despite Leibniz's considerations for beings with minds such as us, his notion of the value of harmony and beauty is not reduced only to our well-being. In section 3, we will explore ways in which harmony and beauty can be indirectly valuable –for example, instrumentally valuable because of their effects on us and God– and the relation between God and harmony as a value. We will conclude that harmony, and hence beauty, are values in

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[1] Consequently, in this chapter we tackle two aspects of O'Neill's definition of intrinsic value given in the introduction of this part; firstly, if the aesthetic value of nature is instrumental, as a mean to an end (for example, if nature was created beautiful just for human happiness). And secondly, if beauty is valuable 'independently of the valuations of valuers' (O'Neill, 1992, pp.119-120).

themselves. This entails that harmony and beauty are valuable not indirectly as instrumental values and also that they are valuable with independence of its relation with God.

1. **What is value?**

1.1 Perfection(s) is value and every being has value

In Leibniz's philosophy, to be a perfection means that something is a positive property, and to be a positive property is to be valuable. Thus, we could say that perfections (in plural) are values. As Strickland explains, Leibniz himself uses the term 'value' in this way: 'We should thus understand, as indeed Leibniz's contemporaries would, that for a creature to have a perfection is for it to have some measure or value of an attribute which is found in its fullest extent in God' (2006, p.20). Strickland quotes as an example a letter to Johann Christian Schulenburg (1698), where Leibniz states that 'this value, since it must consist of a positive, is a certain degree of created perfection' (GM VII, p.239/ Strickland, 2006, p.38). In this quote, it seems that Leibniz is stating that value is a degree of perfection (in singular). Thus, both perfection in singular and plural are value.

As said in chapter I, some perfections (in plural), such as beauty, are 'moments' or instances of unity in variety. On the other hand, in that same chapter, we established that unity in variety is the formal structure of perfection (singular). Therefore, if perfection and perfections are value or valuable, value must be unity in variety, or harmony. Consequently, if 'the perfection a thing has is greater, to the extent that there is more agreement in greater variety' (GW, p.171/AG, p.233), the more agreement in greater variety also translates into more value. In the first chapter we also stated that every being (possible or actual) *is* in virtue of its degree of essence or perfection, which is 'calculated' from its 'harmonising properties' (GW, p.171/AG, p.233). Leibniz states that 'we must hold that everything having some degree of perfection is possible and, moreover, that the possible that occurs is the one more perfect than its opposite' (Grua, p.288/AG, p.20). The inverse reasoning is also valid; a possible is what possesses some degree of perfection and an actual being (a possible being that occurs) is one that has the highest degree of perfection among possible beings.[2] Hence beings are defined as such by possessing degrees of perfection, harmony or unity in variety. Accordingly, if perfection, harmony or unity in variety are value, then every possible or

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[2] To be precise, this is the case when the considered being is a possible world. However, a high degree of individual perfection does not guarantee existence for an individual thing. For example it could be the case that despite its individual perfection, a thing X contributes less to the overall perfection of the world that a thing Y. If that is the case, even if Y has a lower degree of perfection than X, Y would achieve existence instead of X. We will return to this issue later on this chapter.

actual thing has a certain degree of value. It is also clear that if harmony is value, beauty is also an expression of value.

The notion that value is ontologically related to *being* is consistent with Leibniz's fierce opposition to the idea that nature is neutral regarding value.[3] Yet, in order to criticise a value-neutral universe it is not enough to state that every being has value. It must be added that their degrees of value differ from each other. Furthermore, if everything had the same value, the Leibnizian notion of the best possible world would be impossible. Indeed, Leibniz's theory of the best possible world requires that things present unequal value. Since God actualises the most perfect possible world and perfection is value, the actual world is the most perfect possible world, hence the one with the highest degree of value. By the same token, the world's value was a reason for God to create it. Since God can only choose the best, if everything had the same value, there would be no best to choose from.

In a text probably written between 1680 and 1684, Leibniz lays a form of this argument using beauty as an example of value. Indeed, Leibniz explicitly states that God freely chooses to actualise some things instead of others by taking their aesthetic value into account

> From the essence of God or from supreme perfection it follows, certainly and so to speak by a necessary consequence, that God chooses the best, yet he chooses the best freely, because in the best itself there is no absolute necessity, otherwise its contrary would imply a contradiction and only the best would be possible, but then everything else would be impossible, contrary to the hypothesis. And so with a circle or triangle each claiming existence, God freely chooses the circle (so we may imagine), although he chooses it because of its greater beauty. (A VI 4, p.2577/SLT, p.110)

Leibniz's defence of God's freedom –or the contingency of his decision to actualise certain things– implicitly requires a differential of value between possible things. Leibniz assumes three conditions that collectively permit the free act of a divine decision; (C.1) there are many possible things, (C.2) among which only some will be actualised and (C.3) all these possible things possesses different value, therefore they can be ranked as better and worse. Under these conditions, God freely chooses to actualise the best and most beautiful set of things. In order for there to be a divine free decision, condition (C.2) –the actualisation of some things instead of others– must be met, which in turn requires condition (C.1) –there are possible things among which to choose. This argument can be also examined in reverse: If there were

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[3] Jonathan Israel claims, Leibniz's *Theodicy* is in great part a critique of philosophers such as Spinoza and Bayle who hold that the universe is value neutral, regarding morality (2014: p.240). As we will explain here, we think that it is possible to extend Israel's claim about Leibniz to other values such as harmony and beauty.

no free divine decision, it would be necessary that only the best exists, making the other possibles not possible at all. So in order to satisfy condition (C.1) –there are possibles–, condition (C.2) –the actualisation of some things instead of others– must be realised by a contingent decision. However, as contingent as it may be, God's decision is always subordinated to his wisdom. In other words, he has always a good reason to choose what he chose to actualise.[4] This reason is given by condition (C.3); each thing, or set of things, possesses different degrees of perfection or value (or beauty). The presence of higher perfection –or higher value (including aesthetic value) – in some things, gives God a reason to decide to choose some of them for actualisation instead of others. As Leibniz explains in his *Principles of Nature and Grace, Based on Reason* (1714)

> For, since all the possibles have a claim to existence in God's understanding in proportion to their perfections, the result of all these claims must be the most perfect actual world possible. And without this, it would not be possible to give a reason for why things have turned out in this way rather than otherwise. (GP VI, p.603/AG, p.210)

Leibniz's strong insistence that everything has a reason requires that all things must possess more or less value in order to explain why only the actual set of things exists. Moreover, Leibniz states that 'if there were not the best (*optimum*) among all possible worlds, God would not have produced any' (GP VI, p.107/H, p.128). The differential of value between possibles is so important that if there weren't any difference, there would be no universe, since there would be no reason to create one instead of another. It is important to notice that, as said before, 'in the best itself there is no absolute necessity'. Accordingly, only value stands as a criterion for the divine actualisation of the best. We can take from this three important ideas; firstly, the actualised set of things is the most valuable, and hence beautiful, among other sets of possible things. Secondly, beauty (and perfection) is valuable for God, i.e. something worth choosing to actualise. And thirdly, there is a differential of value between the actual world and the non-actual possible ones that provides God the only possible reason to actualise some and not others.

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[4] Paul Rateau claims that one of the three fundamental theses behind Leibniz' *Theodicy* is that God's freedom does not step in the way of his wisdom: 'according to Leibniz, the power of God is always subordinated to his wisdom. His absolute independence and freedom do not imply he could decide and act without considering any law or rule. God always acts according to wisdom, goodness, and justice, never in an arbitrary manner, even if we are unable to understand all the reasons of his Providence' (Rateau, 2014, pp.95-96). Leibniz's conviction about this issue is illustrated in the following passage: 'God cannot sin; he is obliged by a sort of moral necessity of his own wisdom and goodness to do and choose the best, and his failure to do this would be worse that any creaturely sin because it would conflict with divine perfection. For a lesser good has the character of evil'. (GP III, p.33/LGR, p.293)

1.2 Absolutely everything has a different value

It must be specified that all these arguments show that the most significant difference in value is observed between the actualised world and other non-actual possible worlds. Yet this is not the only difference. As Leibniz explains in the *Theodicy*, each non-actual possible world also has a different value. He illustrates this with the figure of a bottomless pyramid:

> The halls rose in a pyramid, becoming even more beautiful as one mounted towards the apex, and representing more beautiful worlds. Finally they reached the highest one which completed the pyramid, and which was the most beautiful of all: for the pyramid had a beginning, but one could not see its end; it had an apex, but no base; it went on increasing to infinity. That is (as the Goddess explained) because amongst an endless number of possible worlds there is the best of all, else would God not have determined to create any; but there is not any one which has not also less perfect worlds below it: that is why the pyramid goes on descending to infinity. (GP VI, p.364/H, p.372)

The actual world, as the most valuable/perfect possible world is in the apex of the pyramid, while below it, each possible world is ranked in a different position according to its value/perfection. Hence all possible worlds have a different degree of perfection or value, including the infinitely many non-actual possible worlds.

What is less obvious is whether all individual things within the actualised world differ in value between each other. Leibniz often talks about different degrees of perfection between created things and especially between substances, as we stated in chapter III. But this is not the same as stating that, among existing things, absolutely all of them differ in value among each other. Nevertheless, there is no lack of evidence to suggest that for Leibniz every individual being possesses a different value:

> Indeed, *all individual created substances are different expressions of the same universe* and different expressions of the same universal cause, namely God. But the expressions vary in perfection, just as different representations or drawings of the same town from different points of view do. (A VI 4, p.1646/AG, p.33)

If all individual substances differ from each other by being different expressions, and expressions vary in degree of perfection, all individual substances have a different degree of value. Later, in the *Theodicy*, Leibniz extends this characterisation further to include organic bodies: 'But these organic bodies vary no less in perfection than the spirits [individual substances] to which they belong' (GP VI, p.179/H, p.198). By the same reasoning, different degrees of perfection in organic bodies indicate different value in organic bodies. Moreover, according to Rutherford's interpretation, for Leibniz the only difference between two or more

things is their degree of perfection (1998, pp 25, 41). Rutherford quotes as evidence Leibniz's letter to Sophie Charlotte of 8 May 1704: 'my great principle of natural things is […] *that it is always and everywhere in all things just as it is here*. That is, that nature is fundamentally uniform, although there is variety in the greater and the lesser and in the degrees of perfection' (GP III, p.343/LTS, p.311). Rutherford also points out that in the *New Essays,* Leibniz's speaker Theophilus states that in the system of pre-established harmony, there is 'an astonishing simplicity and uniformity, such that everything can be said to be the same at all times and places except in degrees of perfection' (A VI 6, p.71/RB, p.71). Thus, value is not just different in each possible and actual thing, but also what determines the difference between any two different things.

Accordingly, we can establish that every possible and actual thing, and every set integrated by these things, can be arranged in a hierarchical order according to their value, aesthetic or otherwise. That said, it is worth mentioning that, for Leibniz, beings with lower degree of perfection or value are nonetheless valuable for the whole. In this latter sense, value is conceived not as value in the thing itself, but as a contribution; a relational value. A good example of this value is the value of dissonances. We will say more about this later on this chapter.

Value must be possessed intrinsically and objectively by possible things. This means that, although God assesses the value of possible things and actualises them, he does not give them their value –at least not as an act of his will. Otherwise, he would not be choosing wisely among possibles of different quality, but imposing his whim. So every possible thing, and every set of them, has different value, which gives God a reason for choosing the best. But how does God recognise what has value or what is valuable? In other words, how does God impart judgement over things? As said, things possess different degrees of perfection, therefore different degrees of value. Consequently, for God to judge the value of each thing or series of things he would need to consider their degrees of perfection, which is harmony as unity in variety. Since beauty is an instance of harmony, it could be said that God's reason to decide what to actualise is in part determined by his aesthetic judgement. However, God's aesthetic judgement must not be understood as a matter of relative taste, but as a factual judgement, i.e. either one thing is more beautiful than another or not. Hence the reason of God's choice to actualise certain things is based on both; a judgement of a matter of fact and a judgement of value: God knows for a fact that A has objectively more unity in variety than

B, therefore A has objectively more value (is more perfect or more beautiful) than B.[5] Because beauty is an objective property and God possesses infinite knowledge and wisdom, he can never fail to know what is, for a fact, more perfect, more beautiful and hence more valuable.

Since God perceives, or rather knows, beauty and chooses beautiful things, because he knows they are valuable, we already have a partial answer to our first question: (1) The value of beauty is not dependent only on us, finite rational subjects, as beauty is also valuable for God, as an infinite rational subject. This begs three related questions: (1.a) would beauty be valuable if God wasn't a percipient subject? (1.b) Can finite subjects value objective beauty as God does? And if we can, (1.c) are we humans the only ones? We will deal with these questions through this chapter, but first we should notice that a partial answer to our second initial question is also implicit here. In (2) we asked if beauty is valuable because the effect it produces on subjects (e.g. is beauty instrumental for our happiness?). Since God chooses to bring into existence things because they are beautiful, aesthetic value seems to be a reason in itself to motivate God's choice. In other words, God does not choose beautiful things only because their beauty works as a mean to a different end, e.g. our happiness. Furthermore, regarding the question why God created a beautiful world, the answer turns around the question: the world was created because it is beautiful (as a possible world). But then again, there are following questions to these statements: (2.a) if beauty is not just for our happiness, but a value in itself, could the same be said about God's happiness? In other words, is beauty for God's happiness? And, (2.b) is there any relation between our happiness and the value of beauty? Among these questions there some that refer to God (1.a & 2.a) and others to finite subjects (1.b, 1.c & 2.b). We will start from the ones about finite subjects to then proceed to answer the questions related to God.

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[5] It must be admitted that this illustration of God's choice is a simplification. Even though this view is right in a general sense, it does exclude a few important details of Leibniz's view on value or rather perfection. Firstly, if we consider the case of perfection of *individuals*, it is the case that God not always chooses to actualise the ones with the highest levels of perfection, harmony or value, but the ones that fit better into the most perfect world. The result is that there are individuals with low level of perfection (low levels of value) that are more perfect (or more valuable) for the world than other individuals with higher levels of perfection (higher value) in themselves. This issue is discussed further later in this chapter. Secondly, when the perfection or value of *worlds* is appraised, there are some aspects that also contribute to their perfection, such as human's overall happiness and nature's mechanistic order. Yet, later on this same chapter we will explain that the main divine consideration of the world's value is metaphysical perfection; that is the overall harmony of a universe. Finally it could be objected that, in the case of *monads*, perfection is measured by the degree of distinctiveness of each monad's representation of the whole. Accordingly, it could be claimed that degrees of distinctness and, therefore, perfection in this case have nothing to do with harmony or unity in variety. This is a significant objection, yet in the next chapter we will make our case arguing that a higher level of distinctness entails more unity and more variety, hence a higher degree of harmony.

2. Value and anthropocentrism

2.1 The value of/for minds

The questions about value that refer to humans are related to Leibniz's position regarding anthropocentrism. It is hard to ignore the importance of human beings in Leibniz's philosophy. For example, in the *Discourse on Metaphysics* (1686), he claims that '[s]ince God himself is the greatest and wisest of all minds, it is easy to judge that the beings with whom he can, so to speak, enter into conversation, and even into a society […] must be infinitely nearer to him than all other things', he continues, 'all wise persons value a man infinitely more than any other thing, no matter how precious it is' (A VI 4, p.1585/AG, p.66). It must be said that Leibniz himself will moderate his own statement later in his *Theodicy* (1710), as he explicitly states that '[i]t is certain that God sets greater store by a man than a lion; nevertheless it can hardly be said with certainty that God prefers a single man in all respects to the whole of lion-kind' (GP VI, p.169/H, p.188). Be it as it may, Leibniz clearly distinguishes between humans, or rather minds as rational souls, and the rest of creation, including other monads. In his *Monadology* (1714) Leibniz states:

> Among other differences which exist between ordinary souls and minds, some of which I have already noted, there are also the following: that souls, in general, are living mirrors or images of the universe of creatures, but that minds are also images of the divinity itself, or of the author of nature, capable of knowing the system of the universe, and imitating something of it through their schematic representations [*échantillons architectoniques*] of it, each mind being like a little divinity in its own realm. (GP VI, p.621/AG, p.223)

The privileged position of minds is based mainly on two related reasons: firstly, we are created in God's image; and secondly, because we are so created, we have a privileged access to the knowledge of the universe, and hence to its value. Regarding the first reason, Leibniz has a very specific interpretation of the Christian notion of 'being created in God's image'. As he explains in §36 of the *Discourse*:

> Thus the quality that God has of being a mind himself takes precedence over all the other considerations he can have toward creatures; only minds are made in his image and are, as it were, of his race or like children of his household, since they alone can serve him freely and act with knowledge in imitation of the divine nature; a single mind is worth a whole world, since it does not merely express the world but it also knows it and it governs itself after the fashion of God. (A VI 4, p.1586/AG, p.67)

Leibniz's interpretation is rather simple: we are created in God's image. God is mind. Hence we are minds (i.e. rational souls).[6] This implies that we can imitate divine nature by having will and knowledge.

Since rational souls or minds are created in God's image, they are not only the most cherished by God, but they are also governed by different laws from the rest of creation. One of the sources of our privileged access to knowledge derives from the capacity of rational minds to transcend the 'Kingdom of Nature' and converge with God in the 'Kingdom of Grace'. The latter kingdom differs from the former in 'that the Kingdom of Grace has special laws, laws besides those by which the Kingdom of Nature is governed' (GM III, p.561/AG, p.170). While the Kingdom of Nature is the one of efficient causes, the Kingdom of Grace is the one of purpose or final causes, more specifically awareness of purpose and morality.[7] The difference, as Leibniz explains it, is 'between God considered as the architect of the mechanism of the universe, and God considered as the monarch of the divine city of minds' (GP VI, p.622/AG, p.224). Minds, and souls in general, are more than the mechanistic laws of nature regulated by causality. Both, minds and common souls, 'act according to the laws of final causes, through appetitions, ends and means' (GP VI, p.620/AG, p.223). The difference is that minds are self-conscious of final causes and free to choose.[8] Since minds are free and capable of conceiving purpose, they have access to dimensions of reality such as freedom and morality. Because minds self-consciously relate to purpose, they have access to a more complete picture of the world and its truth. As Leibniz puts it:

> it is a fact that we can sometimes arrive at the truth about natural things through final causes,
> when we cannot arrive at it easily through efficient causes [...] For just as in animated bodies
> what is organic corresponds to what is vital, motions to appetites, so also in the whole of nature
> efficient causes correspond to final causes, because everything proceeds from a cause which is not

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[6] To be precise we are not only minds, we have minds. We are not just minds because we have indeed bodies.

[7] Strictly speaking for Leibniz the difference between the kingdoms of nature and grace is not their respective restriction to efficient and final causes, since the kingdom of nature also includes purpose, yet not awareness of it. This is the case because the kingdom of nature is composed, on one hand, by bodies that act according the laws of efficient cause and, on the other by souls that that obey final causes (GP VI, p.621-2/AG, pp.223-4). In this sense, Pauline Phemister considers that, for Leibniz there are two natural kingdoms distinguished from one another by their respective modes of operating: the natural kingdom of bodies, which is restricted to efficient causes, and the natural kingdom of souls, which includes purpose (2003, p.127). Here we consider that the crucial difference between the realm of nature and the realm of grace is that although the former includes souls (and hence purpose), they are non-rational souls that are unaware about purpose and their freedom to choose, while the realm of grace considers minds or rational souls that are self-conscious, thus aware of purpose. Despite recognising the subdivision of the kingdom of nature, here we will use the notion of kingdom or realm of nature to refer mostly to what has been identified as the natural kingdom of bodies characterised by efficient causes, since it is more relevant to the present argument.

[8] Pauline Phemister explains the mind as follows: 'Minds, however, can reason abstractedly, reflect on themselves and their actions, and are generally conscious of themselves as agents. Like God, they have knowledge of final causes and can make conscious choices as to which ends they wish to pursue' (2003, p.132). Is for this reason that minds are morally responsible and included in the moral realm of grace.

only powerful, but also wise; and with the rule of power through efficient causes, there is involved the rule of wisdom through final causes. (C, p.13/MP, p.174)

Since the cause of the world is not just blind power, but also wisdom and final causes, minds are better suited to reach the truth about reality by being able to conceive the purpose of the world. The same could be applied to the aesthetic value of nature and state that minds are more able to appreciate aesthetic value, since we can grasp not only the natural order of efficient causes, but also the purpose and goodness of the creation. And this variety of different orders surely contributes to the overall perfection by increasing the variety of the universe. Purpose, and every other dimension of reality related to the kingdom of grace, enhances the unity and the variety of the universe, thereby exhibiting more aesthetic value for the minds that have access to these dimensions.[9] Therefore, minds have potentially more capacity for happiness than other beings, since they perceive more unity and more variety or harmony than other souls.

2.2 Human happiness versus nature and perfection

Our happiness is important to God, and hence happiness is one of the purposes of nature's value and thus its beauty. As Leibniz states in the *Discourse* 'we mustn't doubt that the happiness of minds is the principal aim of God and that he puts this into practice to the extent that general harmony permits it' (A VI 4, p.1537/AG, p.38). However, it is important to notice the restriction to human happiness that Leibniz introduces in this last quote from the *Discourse*, when he adds 'to the extent that general harmony permits it'. Later, in the *Theodicy*, this condition guides Leibniz's charge against one of the main maxims of Christian anthropocentrism defended by Pierre Bayle. In the *Theodicy* Leibniz quotes Bayle's version of this maxim:

> 'An infinite goodness having guided the Creator in the production of the world, all the characteristics of knowledge, skill, power and greatness that are displayed in his work are destined for the happiness of intelligent creatures. He wished to show forth his perfections only to the end that creatures of this kind should find their felicity in the knowledge, the admiration and the love of the Supreme Being.' (GP VI, p.168/H, p.188)

Leibniz immediately dismisses the view that 'all is made solely for man', stating that it is 'not sufficiently exact', and later, he calls this view 'a remnant of the old and somewhat

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[9] Consider the case of art criticism: for the appreciation, interpretation and description of any artwork, its purpose or meaning is equally or more significant than the knowledge of how it was made.

discredited maxim' (GP VI, pp.168-9/H, pp.188-9). For Leibniz our happiness cannot be the only goal of a perfect design:

> I grant that the happiness of intelligent creatures is the principal part of God's design, for they are most like him; but nevertheless I do not see how one can prove that to be his sole aim. It is true that the realm of nature must serve the realm of grace: but, since all is connected in God's great design, we must believe that the realm of grace is also in some way adapted to that of nature, so that nature preserves the utmost order and beauty, to render the combination of the two the most perfect that can be. And there is no reason to suppose that God, for the sake of some lessening of moral evil, would reverse the whole order of nature. (GP VI, p.168/H, p.188)

The realm of nature –or more specifically the natural kingdom of bodies (hence excluding souls) – is a machine based on efficient causes that follows mechanical principles. Therefore, its aesthetic value is grounded on a rational order based on causality. In God's most perfect possible design, nature is not just a malleable medium in order to achieve the moral purpose of the realm of grace. In other words, the preservation of the natural order and its beauty, based on efficient causes, should not be altered for the purpose of minds' happiness. Therefore, the order that grounds the aesthetic value of the realm of nature is not always destined to our happiness. As said before, the Kingdom of Nature and the Kingdom of Grace must go together only 'to the extent that general harmony permits it'.

Pauline Phemister claims that '[t]he net result is that Leibniz's anthropocentrism is balanced with a less obvious but equally robust nature-centrism'. She argues that for Leibniz there is a close relation between the kingdom of grace and the kingdom of nature. Both kingdoms 'stand in a reciprocal relation of mutual utility' (2016, p.79). This means that Leibniz's God is capable of designing a universe that aims towards several converging ends at the same time:

> There already is the abuse or the ill effect of the preceding maxim. It is not strictly true (though it appear plausible) that the benefits God imparts to the creatures who are capable of felicity tend solely to their happiness. All is connected in Nature; and if a skilled artisan, an engineer, an architect, a wise politician often makes one and the same thing serve several ends, if he makes a double hit with a single throw, when that can be done conveniently, one may say that God, whose wisdom and power are perfect, does so always. (GP VI, p.169/H, p.189)

Nevertheless, the result is that, in some cases, it is just not possible to comply with all these aims, and human happiness must be sacrificed, as it is neither God's only nor final aim:

> The felicity of all rational creatures is one of the aims he has in view; but it is not his whole aim, nor even his final aim. Therefore it happens that the unhappiness of some of these creatures may

> come about *by concomitance*, and as a result of other greater goods: this I have already explained,
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> and M. Bayle has to some extent acknowledged it. (GP VI, pp.169-70/H, p.189)

Here Leibniz implies what we already discussed in the second chapter; the harmony of the world includes dissonances and evil. As stated then, the inclusion of evil and negative values is what allows a better order, and more order entails more beauty, even though the integration of negative elements goes against the happiness of some. As Leibniz states 'it would by no means follow that the interest of a certain number of men would prevail over the consideration of a general disorder diffused through an infinite number of creatures' (GP VI, p.169/H, p.189).

Furthermore, for Leibniz's God there is another source of worldly value: the overall metaphysical perfection of the world. In the last two quoted paragraphs Leibniz is not referring just to the occasional mismatch between the realm of nature (the natural kingdom of bodies) and our happiness. Besides the realm of nature there is another source of value that can differ from human happiness. This is metaphysical perfection or goodness, which refers mostly to the harmonic distribution of degrees of perfection of each individual substance within the overall perfection of the world. The result of metaphysical perfection is the overall harmony and the beauty of the whole in metaphysical terms; i.e. degrees of perfection. Leibniz's commitment is first and foremost to this metaphysical perfection or overall harmony of the world, even at the cost of some measure of moral and physical evil, i.e. human unhappiness:

> Each perfection or imperfection in the creature has its value, but there is none that has an infinite
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> value. Thus the moral or physical good and evil of rational creatures does not infinitely exceed the
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> good and evil which is simply metaphysical, namely that which lies in the perfection of the other
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> creatures. (GP VI, pp.168-9/H, p.188)

Metaphysical perfection depends on this distribution among substances of different degrees of perfection. Since their degree of perfection is finite, there is also moral and physical evil.[10] In other words, the harmony and beauty of the most perfect possible world cannot be without some dissonance and evil, because '[e]ach perfection and imperfection in the creature has its value'. This last sentence expresses how the notion of value presents certain duality when regarded in the individual thing itself versus the whole. If, as said, degree of perfection is value, how can it be that '[e]ach perfection and imperfection in the creature has its value'?

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[10] For the same reason Leibniz considers that '[t]he perfection of the universe, or harmony of things, does not allow all minds to be to be equally perfect' (A VI 4, p.2804/W, p.568). Here we find another argument, why every mind has a different degree value or perfection.

The answer is that a certain imperfection (low degree of perfection or low value) in the individual could determine the perfection (high degree of perfection or high value) of the whole, if located in the right order. This is not different from what was said regarding dissonances in the chapter II, as dissonances caused by elements with low degrees of perfection in their immediate context, yet, in relation to the whole, they enhance its harmony or overall degree of perfection. In relation to this, Pauline Phemister considers the notion of an 'intrinsic relational value', a hybrid notion that is

> at once both (a) *intrinsic* to the individual insofar as it is grounded on its intrinsic or internal relational properties and (b) *instrumental* insofar as an individual's relational value can be assessed in terms of its particular contribution to the overall perfection of the world and to the perfectibility or flourishing of other individuals within the whole (2016, p.104).

With this notion we can explain that, although in itself a creature could present a low degree of perfection or value, its contribution to the whole could indeed be valuable independently of its low individual value. In other words, creatures with low degree of perfection can have high degrees of intrinsic relational value.

Now we are in position to answer one of the previously postulated questions: (2.b) Is there any relation between our happiness and the value of beauty? Since we have minds, we have access to the realm of grace and hence reach a dimension of the world's value related to purpose that other beings have no access. Thus, we are more able to appreciate certain aesthetic value offered by the universe's purpose, which results in pleasure and happiness. This is not fortuitous because our happiness is important for God, and hence one of the purposes of nature's beauty. However, the aesthetic value of the world is not solely for our happiness, as there are two other dimensions of the world that must be upheld, even if they are sometimes at odds with individual human happiness: the realm of nature (more specifically the natural real of bodies) and metaphysical perfection. Both of them are sources of aesthetic value in different ways; nature's aesthetic value is in its order based on a mechanic order or an order of efficient causes and metaphysical perfection refers to the harmony that rules the cosmos based on the distribution of perfection. In both cases, the same structures that make them aesthetically valuable can stand in the way of individual human happiness. Nonetheless, we must add that this should not be understood as a trade-off between nature's order together with metaphysical perfection on one side, and human happiness on the other. As we will explain later, human happiness depends in part on the appreciation of world's beauty and, in turn, worldly beauty depends on the intelligible order

of the world.[11] This order involves the metaphysical perfection of the whole and the mechanic order of the realm of nature.

2.3 The world's value is not just for us, yet it is if we are wise

The relation between happiness and beauty relates to the questions (1.b) about our capacity to value nature's beauty. However, in order to answer it, we must first examine our position in the universe and if (1.c) we humans are the only one able to value beauty? There are passages where Leibniz argues against humanity's uniquely privileged position in the universe. Nevertheless, humans do not occupy a marginal position either. Our position in the universe is best summarised by the following paragraph from the *Theodicy*:

> Wait until you know more of the world and consider therein especially the parts which present a complete whole (as do organic bodies); and you will find there a contrivance and a beauty transcending all imagination. Let us thence draw conclusions as to the wisdom and the goodness of the author of things, even in things that we know not. We find in the universe some things which are not pleasing to us; but let us be aware that it is not made for us alone. It is nevertheless made for us if we are wise: it will serve us if we use it for our service; we shall be happy in it if we wish to be. (GP VI, p.232/H, p.248)

This paragraph contains Leibniz's central idea of the relation between the world's value and us. What is of especial interest to this chapter is the last part, when Leibniz claims that *the universe is not made for us alone*, yet *it is made for us if we are wise*. Here we have two statements; firstly, the cosmos is not made just for us, and secondly, it is made for us if we are wise.

Regarding the first statement, we have already shown that the world's value is not just perceived by us, but also by God. Yet Leibniz has more to say about this. For example, in the first part of the *Theodicy*, Leibniz considers our limitations to impart judgement over all reality, since we only know a relatively small part of an extremely vast universe:

> Thus since the proportion of that part of the universe which we know is almost lost in nothingness compared with that which is unknown, and which we yet have cause to assume, and since all the evils that may be raised in objection before us are in this near nothingness, haply it may be that all evils are almost nothingness in comparison with the good things which are in the universe. (GP VI, p.114/H, p.135)

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[11] Rutherford explains this issue in the following way: 'God understands these qualities in such a way that the greatest happiness and virtue can only be actualized in minds under the condition that they inhabit the possible world of greatest perfection and harmony, for only under this circumstance will there be realized the objective conditions that make possible the knowledge on which happiness and virtue depend. It follows, therefore, that the perfection of the whole cannot be sacrificed for the sake of the happiness and virtue of minds, for the former is itself a necessary condition for the latter' (1995, p.49).

If we know only a minuscule part of the whole cosmos, it must be the case that the universe's value is not meant only for humans. Furthermore, Leibniz even speculates about the possible existence of non-human rational beings; 'it must be acknowledged that there is an infinite number of globes, as great as and greater than ours, which have as much right as it to hold rational inhabitants, though it follows not at all that they are human' (GP VI, p.114/H, p.135). The existence of other rational inhabitant of the cosmos, takes away from humans the privilege of being the only rational observers of God's creation and hence weakens the idea that we are the only ones towards whom value is addressed. Moreover, rationality is not the only attribute that defines the capacity of beings to perceive the value of beauty. In a letter to Christian Wolff (18/05/1715), Leibniz states that even beasts are capable of something like pleasure when they observe harmony, even though they 'do it empirically' (GW, p.171).[12]

Thus, regarding the question (1.c) –are we humans the only ones that value beauty?–, the answer is no. Furthermore, even if humans share with animals and possible aliens the status of being witnesses of the universe's beauty, Leibniz does not think that every member of humankind grasps the world's beauty in the same way. As stated above, we can only fully appreciate the world if we are wise and, as Robert Merrihew Adams notices, Leibniz expected the wise to be only a few (2014, p.198).[13] Here we seem to have a contradiction: on one hand, the aesthetic value of the world is not just for us, as it is also for other possible rational beings, as well as for animals. Yet, on the other hand, this value is fully appreciated just for the wise few. To solve this contradiction we should consider that for Leibniz beauty has a particularity that other perfections do not have: the capacity to give pleasure even if we only have a confused perception of it. In this sense, beauty can be valuable for animals and even for unwise humans. Nonetheless, the appreciation of value is higher if we are wise and reach higher levels of distinct perceptions and knowledge of the universe. We will address the relation between confusion and beauty in detail in the next chapter, but for now we can conclude about this point that wisdom is not strictly necessary to appreciate beauty to a certain degree, but it is so if we want to value the world as if it was made for us and 'be happy in it if we wish to be' (GP VI, p.232/H, p.248). What Leibniz means here seems to be that if we are wise we can value the world in a way that is similar to how God does.

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[12] In the original Latin: '*Sunt et Bruta cujusdam quasi voluptatis capacia, quia observant consensus, quamvis hoc faciant Empirice, non vero ut nos a priori sic ut rationem reddere possint*' (GW, p.171). Here Leibniz seems to be suggesting that beauty can give pleasure even if confusedly perceived. We will explain the notions of 'confused' and 'distinct' in relation to beauty and pleasure in the next chapter.

[13] Adams does not mention any explicit reference in Leibniz's bibliography to state that the wise are only a few. Even though it seems that Leibniz never stated this literally, it is possible to notice through Leibniz's writings that the possession of wisdom is a quantifier that does not necessarily include all humanity.

2.4 Can we value the world's beauty as God does?

What is at stake in the relation between wisdom and value is the content of question (1.b): Can we value objective beauty of nature as God does? In other words, can we value the full potential that the universe offers? The answer is not so straight forward. We can value nature's beauty just as God does if we are wise as God is wise. In principle we can do this, since wisdom is qualitatively the same in finite subjects and in God. Nevertheless, we cannot value nature's beauty as God does, because God's wisdom is superior to ours in degrees. As Leibniz states: 'His [God's] goodness and his justice as well as his wisdom differ from ours only because they are infinitely more perfect' (GP VI, p.51/H, p.76).

This issue is related to one of the main controversies that Leibniz has with Bayle in the *Theodicy*. Leibniz argues against Bayle's particular sceptic fideism, which denies that God and finite beings share the same universal attributes; mainly the attribute of reason. In Bayle's words; 'everything which seems to us not to be in conformity with reason, must seem to be contrary to reason' (quoted in Labrousse, 1983, p.57). The discrepancy that Bayle establishes is essentially between the divine mysteries, truths and reason, on one hand, and men's reason, on the other. As Leibniz explains; 'He [Bayle] acknowledges fully that our Mysteries are in accordance with the supreme and universal reason that is in the divine understanding, or with reason in general; yet he denies that they are in accordance with that part of reason which man employs to judge things' (GP VI, p.84/H, p.107). Leibniz opposes this view, as he firmly believes in the divine origin of our reason, hence it cannot go against or be different from God's own reason

> But this portion of reason which we possess is a gift of God, and consists in the natural light that has remained with us in the midst of corruption; thus it is in accordance with the whole, and it differs from that which is in God only as a drop of water differs from the ocean or rather as the finite from the infinite. Therefore Mysteries may transcend it, but they cannot be contrary to it. One cannot be contrary to one part without being contrary to the whole. That which contradicts a proposition of Euclid is contrary to the *Elements* of Euclid. That which in us is contrary to the Mysteries is not reason nor is it the natural light or the linking together of truths; it is corruption, or error, or prejudice, or darkness. (GP VI, p.84/H, p.107)

The metaphor of the drop of water and the ocean illustrates that the difference between our reason and God's is one of degrees and not in kind. As pointed out earlier, Bayle's argument is that because there are some mysteries that do not seem to conform to our reason, they must

be against our reason. Leibniz, in opposition to this argument, refers to the distinction between 'against reason' and 'above reason':

> The distinction which is generally drawn between that which is *above* reason and that which is *against* reason is tolerably in accord with the distinction which has just been made between the two kinds of necessity. For what is contrary to reason is contrary to the absolutely certain and inevitable truths; and what is above reason is in opposition only to what one is wont to experience or to understand. (…) For I observed at the beginning that by REASON here I do not mean the opinions and discourses of men, nor even the habit they have formed of judging things according to the usual course of Nature, but rather the inviolable linking together of truths (GP VI, p.64/H, p.88)

Reason here is the logical concatenation of truths, hence for Leibniz what is contrary to reason is false and illogical and, therefore, not reason at all. There could be, however, things above our reason, since we may lack enough experience or understanding in order to grasp them.[14] But more important is the notion that reason is the one and the same. For Leibniz there are not two types of reason, only one in different degrees. The same applies to wisdom, justice, goodness and other attributes shared by God and humankind. Thus, Leibniz's position finds itself in direct opposition to Bayle's idea that God's truths might be against our reason.

The logical consequence of Bayle's fideism is the objection to natural theology and the idea of a rational God that we can understand. Bayle makes a distinction between God's wisdom and God's goodness and he rejects the former in favour of the latter. God's goodness is mostly a religious notion, which assumes that God's utmost concern is our eternal salvation. On the other hand, God's wisdom refers to the lawfulness and rationality of God's creation and, in general, the rationality of God's actions. Since Bayle rejects that we can approach God through human reason, it is also futile to try to understand God's creation through reason. Accordingly, nature's truths and value do not follow any law or rationale that is within the reach of our understanding. As Elisabeth Labrousse explains, for Bayle the main reason why he is against the idea of divine wisdom is that the notion of God's wisdom implies a universe functioning according to fixed laws, which assumes that God is faced with a 'nature of things' that acts as some sort of resistance to God's will: 'We have still reduced

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[14] For example, consider the case of contingent truths. Leibniz conceives an analogy between truths and mathematical proportions. He explains that truths are the containment of the predicate in the subject just as in proportions a smaller quantity is contained in a larger or equal quantity. The way to prove the truth value of a statement is to give reasons in order to achieve common notions between the subject and the predicate, just as in proportions a mathematical operation shows common quantities. The particularity of contingent truths is that they require an infinite series of arguments to reduce a statement to a simple tautology, and therefore to be proved and known. As we finite beings can only compute finite series of operations, we cannot prove contingent truths, since only an infinite being can fathom infinite series of operations. In other words; it is above our reason, but not against reason. (See *The source of contingent truths* in AG, pp. 98-101, original source in A VI 4, pp.1661-4).

the omnipotent One to the status of a craftsman working with rebellious matter' (Labrousse, 1983, p.65). Bayle opposes to this idea hoisting a voluntarist position that simply denies any law or rule abided by God in the creation of the world. For Bayle, God's goodness is the only one attribute that guides his divine will.

On the contrary, for Leibniz it is exactly the case that God is like a craftsman that works with laws and rules –to the extent that the laws of the realm of nature are to be respected even if they might attempt against our immediate happiness. More importantly, we are able to understand these rules and therefore have a glimpse into God's reasons.[15] As Leibniz writes in a letter to Wolff (1715) 'wisdom always acts through principles, that is, through rules, and never through exceptions, except when rules interfere with one another, and one rule limits another' (GW, p.163/AG, p.231). Even before that, in a text entitled *On Contingency* (1689?), Leibniz says that 'God always acts wisely, that is, in such a way that anyone who knew his reasons would know and worship his supreme justice, goodness, and wisdom' (A VI 4, p.1651/AG, p.29). Because Leibniz's God is wise, he created reality following rules and laws that are based on reason (which is one and the same for us and for God), so potentially we could grasp the same structure of reality and even God's reasons to create the universe as he did if we were infinite. For Rutherford, a world that is grounded on a rational order is the key notion behind the *Theodicy* and Leibniz metaphysics in general:

> I argue that a principal measure of the world's perfection for Leibniz is its 'rational order,' or the degree to which reason in the form of order and intelligibility - has been realized within the constitution of created things. It follows on this reading that the perfection God finds in the world is, at the most fundamental level, an intellectual good: a state of affairs that is recognized to be of the highest value by an omniscient intelligence. […] The ground of Leibniz's belief in the doctrine of the best of all possible worlds is a thoroughgoing faith in the governing power of reason: reason as it directs the creative will of God, reason as it is subsequently realized in the intelligible order of the created world, and reason as it helps human minds discern and appreciate that order. As I try to show, this conception of the pervasiveness of reason is the guiding force behind his theodicy, and the thread that connects it with the detailed theories of his metaphysics. (Rutherford, 1995: p.2)

The main point of interest for us in Rutherford's passage is that God acts following reason, the world is based on reason and minds have the faculty of reason. Therefore, the rule of reason is the common ground where God, the world and minds converge and reach communion. As we said before, for God the aesthetic value of the world is exactly the same

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[15] Furthermore, as stated in the previous chapter, we know God through our appreciation of his creation: 'it is through a consideration of his [God's] works that we can discover the craftsman [ouvrier]' (A VI 4, p.1532/L, p.304).

as its degrees of harmony, or what is the same; order. Following Rutherford, this order is in fact a rational order. In this sense, we can say that for God the aesthetic value of the world is related to the perception of the rational order of the world. The appreciation of a rational order requires the exercise of reason, hence for us –as for God– reason is required to be able to value the world.[16]

Although all minds have the potential to do this, not all minds necessarily engage in a wise rational appreciation of the world. This is what Leibniz means when he adds the conditional 'if we are wise' in order to appreciate the world's value:

> all measurable things of which we have an adequate conception, that they are not only just and perfect but also quite harmonious and beautiful […] Indeed, we cannot see such harmony so long as we do not enjoy the correct point of view, just as a picture in perspective is best appreciated only from certain standpoints and cannot be seen properly from another angle. It is only with the eyes of the understanding that we can place ourselves in a point of view which the eyes of the body do not and cannot occupy. (DS, p.51/W, p.572)

In this passage, Leibniz affirms the objective aesthetic value of the world, which is not automatically perceived by all subjects. He suggests that, for us to perceive this value, we require that our understanding moves beyond our partial point of view and our senses. This adequate use of our faculties is what is at stake when Leibniz states that the world 'is nevertheless made for us if we are wise' (GP VI, p.232/H, p.248). More specifically, being wise in the context of the given quote refers to the right exercise of reason.

Wisdom, for Leibniz, is connected to morality, politics and ethics, all aspects of Leibniz's thought that fall outside the scope of this thesis. However, we can briefly show the relation between wisdom, value and reason as it is expressed by Leibniz in his text entitled *On Wisdom*. The first line of that essay defines wisdom as 'merely the science of happiness or that science which teaches us to achieve happiness'. Immediately, he defines 'happiness' as 'a state of permanent joy' and then 'joy' as 'a pleasure which the soul feels in itself'. Now 'pleasure' is 'the feeling of a perfection […] such as understanding, courage, and especially beauty' (GP VII, p.86/L, p.425). Thus, wisdom is a science that teaches us how to be happy through the appreciation of worldly perfections such as beauty. Since the best possible appreciation of beauty in nature requires from us to exercise reason to grasp the rational order of the world, wisdom is the science of rightly exercising reason, which brings us happiness. Thus, our happiness is possible because the world is based on a rational order and we can

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[16] As Rutherford explains 'In Leibniz's view, a proper appreciation of harmony requires the exercise of reason. It is based on an understanding of the order by which a variety of things is united in a pleasing whole, a whole whose harmony, or well-ordered diversity, is judged by divine wisdom to be an objective good in the construction of a world.' (1995, p.14)

exercise reason to appreciate it.[17] When we use reason rightly we enter into a communion with the criteria and structure of the world itself. If we do so, we will not fail to appreciate nature's value, including its beauty. In this sense, wisdom or the right use of reason is a way for us to connect with the aesthetic value of the world. If we are wise we will see the value of the world, because the world was made following the same criteria that define our wisdom; reason (based on laws), which brings happiness, not only to us, but also to God. Is in this sense that we can we value objective beauty as God does.[18]

3. **Value beyond harmony and beauty**

3.1 Reason as value

So far we have been examining the notion of value as a perfection, but are there other possible sources of value? In what follows we will consider some alternatives and at the same time answer the pending initial questions about God and value.

In some passages Leibniz seems to suggest that the exercise of reason itself is a source of value. For example, while he is arguing for the value of non-rational beings, he states that 'if there were only rational creatures, there would be less good'. The reason is that

> [n]ature had need of animals, plants, inanimate bodies; there are in these creatures, devoid of reason, marvels which serve for exercise of the reason. What would an intelligent creature do if there were no unintelligent things? What would it think of, if there were neither movement, nor matter, nor sense? If it had only distinct thoughts it would be a God, its wisdom would be without bounds: that is one of the results of my meditations. (GP VI, p.179/H, p.198)

One of the ways in which non-rational beings' existence contributes to the value of the world is by serving as the objects of reason. More specifically, they are objects of high complexity that tend to be represented by minds as confused thoughts. Leibniz is suggesting that there is more value when some things prevent minds from always having only distinct thoughts. Here we find again a sort of Leibnizian dialectic similar to the case of dissonance: certain negative elements contribute to the overall positive result. In this case natural non-rational beings that

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[17] Here I agree with Rutherford when he states that 'Leibniz grounds the virtue and happiness of intelligent creatures in their possession of rational knowledge' (1995, p.47).

[18] Nonetheless, as mentioned before, we are finite minds, while the creator is an infinite one, and therefore so is his creation infinite as well. Although in kind we are equipped with the same reason, the difference in magnitude constitutes our limitation. In a letter to Queen Sophie Charlotte of Prussia (1702) Leibniz explains that the light of reason 'makes us resemble in miniature the divinity', as it allows us to recognise the order of the universe 'by ordering which we ourselves know how to give to the things which are within our reach'. Our perfection and virtue is related to the recognition of order, 'as our *felicity* consists in the pleasure we take therein'. However, 'the natural light of reason does not suffice for knowing the detail thereof, and our experiences are still too limited to catch a glimpse of the laws of this order'. Nevertheless, 'there is room to believe that in the course of time we shall know them even more by experience, and that there are spirits that know them already more than we do' (GP VI, pp.507-8/W, p.366). See the previous chapter where we examined this passage in more detail.

are apprehended by minds as confused thoughts work as a restriction for finite minds to have only distinct thoughts. This restriction makes different thoughts between minds possible, since if all minds had a completely distinct representation of the world, they would be all the same. Different thoughts introduce variety, more variety results in higher levels of perfection and in turn, this means higher value.[19]

In this sense, the exercise of reason over non-rational beings seems to be instrumental for a more important metaphysical phenomenon; the production of quantitative and even qualitative variety. Although this passage states that, in a certain way, the value of non-rational beings is instrumental for the exercise of reason (including the limitation they entail), it also implies that in this case the exercise of reason is instrumental to extend variety. Indeed, for Leibniz, rational souls not only contribute to variety, but they also reproduce the harmony and beauty of God's creation. Minds or rational souls have the peculiar effect of enlarging the harmony of the world as echoes or duplications. This is the case because minds reflect the world just like mirrors. In his notes for *Elements of Natural Law* (1668-1670?), Leibniz asserts the value of this occurrence, since the reflection of the harmonic and beautiful world multiplies these traits. He writes that '[i]f God had no rational creatures in the world, he would still have the same harmony, but alone and devoid of echo; he would still have the same beauty, but devoid of reflection and refraction and multiplication'. In fact, God's wisdom demanded (*exigebat*) the creation of rational creatures in order to achieve this multiplication (A VI 1, p.438/L, p.138). In this context, yet again our faculty of reason is an instrumental element in order to multiply harmony and beauty.

Yet, this reproduction of variety is not exclusive to rational souls. In later writings Leibniz extends the metaphor of mirrors to substance in general. In the *Discourse*, he states that:

> every substance is like a complete world and like a mirror of God or of the whole universe, which
> each one expresses in its own way, somewhat as the same city is variously represented depending
> upon the different positions from which it is viewed. Thus the universe is in some way multiplied

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[19] In the same paragraph Leibniz establishes the importance of variety as different levels of perfection and how this is more reasonable: 'There are innumerable others which attract the inclination of God: from all these inclinations there results the most possible good, and it turns out that if there were only virtue, if there were only rational creatures, there would be less good. Midas proved to be less rich when he had only gold. And besides, wisdom must vary. To multiply one and the same thing only would be superfluity, and poverty too. To have a thousand well-bound Vergils in one's library, always to sing the airs from the opera of Cadmus and Hermione, to break all the china in order only to have cups of gold, to have only diamond buttons, to eat nothing but partridges, to drink only Hungarian or Shiraz wine—would one call that reason?' (GP VI, p.179/H, p.198).

as many times as there are substances, and the glory of God is likewise multiplied by as many entirely different representations of his work. (A VI 4, p.1542/ AG, p.42)[20]

Hence all substances reproduce the universe from its own point of view, yet not all substances are minds. Thus, the reproduction of the universe is not just an exercise of rational souls, but a function of every substance.[21] In any case, this shows that reason alone cannot be the only value or the source of all values. This does not mean that reason is of absolutely no value by itself and just purely instrumental. However, it does entails that in Leibniz's system reason is neither the only valuable element nor the element that gives others their value.[22]

3.2 God's pleasure as the purpose of harmony and beauty

At the end of the previously quoted passage Leibniz implies that the aim of the multiplication of the universe is God's glory. In the continuation of the same paragraph he seems to suggest that God's glory is the reproduction of God himself:

> It can even be said that every substance bears in some way the character of God's infinite wisdom and omnipotence and imitates him as much as it is capable. For it expresses, however confusedly, everything that happens in the universe, whether past, present, or future—this has some resemblance to an infinite perception or knowledge. And since all other substances in turn express this substance and accommodate themselves to it, one can say that it extends its power over all the others, in imitation of the creator's omnipotence. (A VI 4, p.1542/ AG, p.42)

Following this idea, it could be said that in the same way that the exercise of reason is instrumental to the reproduction and enhancement of harmony and beauty, harmony and beauty are instrumental to God's glory, which is the reproduction of himself.

At the end of this chapter we will explore the suggestion that God is by himself the source of all value, but first let us consider God's happiness or God's pleasure as the purpose

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[20] Later on, in his *Principles of Nature and Grace, Based on Reason* (1714), Leibniz applies the same metaphor in a similar context, yet this time for monads: 'And since everything is connected because of the plenitude of the world, and since each body acts on every other body, more or less, in proportion to its distance, and is itself affected by the other through reaction, it follows that each monad is a living mirror or a mirror endowed with internal action, which represents the universe from its own point of view and is as ordered as the universe itself' (GP VI, p.599/AG, p.207).

[21] Yet there is a difference between minds and other monads in this process of reproduction. As Leibniz points out in his *Elements of Natural Law* (1670-71) that '[p]leasure, however is doubled by reflection, whenever we contemplate the beauty within ourselves which our conscience makes, not to speak of our virtue […] For every mind is something like a mirror […]' (A VI 1, p.464/L, p.137). Since rational souls are able of self-conscience, they do not only reflect the external world, but also their own reflection of the world, which is a source of beauty. The quote also seems to suggest that reflecting what is within ourselves also involves virtue. Just as we said before, only minds are able to grasp the moral dimension of the kingdom of grace and therefore only they can reproduce it by reflecting what is inside of them. This is on aspect that distinguishes minds from other monads. Other distinguishing aspect to consider is that minds reproduce the world with a higher degree of clarity and distinction than other monads.

[22] Nonetheless, rationality is a structural component of harmony and the exercise of reason is the method to enter into communion with the value of harmony as well as to reproduce harmony. Also, for Leibniz rational souls with their distinct perceptions are more perfect (more valuable) than others, therefore reason can be considered a manifestation of perfection.

of value in relation with harmony and beauty. This relates with one of our previous questions: (2.a) if beauty is not just for our happiness, could the same be said about God's happiness? In other words, is God's glory or happiness the purpose of harmony and beauty? In an undated passage, Leibniz states that God's aim is 'his own joy or love of himself', therefore he 'created all things in accordance with the greatest harmony or beauty possible' (A VI 4, p.2804/W, p.568). This implies that God not only values harmony and beauty, as we said before, but he also enjoys them.

Leibniz not only considers that harmony is a source of pleasure, but he even affirms more than once that harmony is the *only* source of pleasure. For example in the second half of *Elements of Natural Law* (1671?) he writes that 'neither is delight without harmony nor harmony without variety'' (A VI 1, p.466).[23] And also in *Confessio Philosophi* (1672-1673):

> Furthermore, *all happiness is harmonious or beautiful* […] Now, surely happiness is the state of mind most pleasing to the mind itself, but nothing is pleasing to a mind except harmony […] since we agreed previously that being delighted is nothing but experiencing harmony (A VI 3, p.116/ CP, pp.29-31).

For Leibniz harmony and beauty delight every wise person (A VI 1, pp.434-5).[24] Plus, '[s]ince God is the most perfect mind, however, it is impossible for him not to be affected by the most perfect harmony' (A II 1, p.117/L, p.146). In this sense, we can give a partial answer to question (2.a): harmony and beauty do give pleasure and happiness to God. Yet, we still haven't answered a more relevant question: Is God's delight the main purpose of harmony and beauty? Or, formulated for our context: Are beauty and harmony valuable just because they delight God?

In letter to Magnus Wedderkopf (May, 1671), Leibniz writes that:

> What, therefore, is the ultimate reason for the divine will? The divine intellect. For God wills things which he understands to be the best and more harmonious and selects them, as it were, from an infinite number of all possibilities. What then is the reason for the divine intellect? The harmony of things. What [is] the reason for the harmony of things? Nothing. For example, no reason can be given for the ratio of 2 to 4 being the same as that of 4 to 8, not even the divine will. This depends on the essence itself, or the idea of things […] Since God is the most perfect mind, however, it is impossible for him not to be affected by the most perfect harmony. (A II 1, p.117/L, p.146)

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[23] Author's translation. In the original Latin: '*[S]ed nec delectatio est sine harmonia, nec harmonia sine varietate.*' (A VI 1, p.466)

[24] '*Sed hâc qvilibet delectabitur, qvia omnis sapiens delectabitur pulchritudine seu harmonia. Sed ita tamen ut penset inter se istam ex harmonia voluptatem, et damnum suum.*' (A VI 1, pp.434-5)

'There is no reason for the harmony of things'. To understand the implication of this sentence we must remember that according to Leibniz's principle of sufficient reason, everything that is must have a reason. The implication is that a thing X has a reason R, R has a reason R2 and, in turn, R2 has R3 and so on. Nevertheless, the quoted passage suggests the cessation of what could be otherwise an eternal regression. Harmony is the final stop of the regression, which means that harmony *is* (has being), without a reason that justifies its being. In other words, the fact that there is harmony is a primitive fact. Therefore, harmony *is* (has being) not for any other thing, harmony just *is*.[25] Consequently, it is not merely instrumental for God's happiness. In this sense, the ontological status of harmony in Leibniz' system is teleologically independent from God.

Nonetheless, it could be still argued that the value of harmony is given by God's pleasure. In other words, although harmony *is* (has being) independently of its effect on God, it could be *valuable* just because of its pleasure-giving effect on God. This affirmation would entail that 'God's taste' –understood as what pleases him– is what determines what is valuable; i.e. X is valuable only because it pleases God and not because it is valuable independently of God's 'reaction' to it. It could be said that the problem with this view is that it sounds very similar to Descartes' God, as described in the previous chapter, and Leibniz fiercely opposes voluntarism and its conception of value determinate by God. Yet it is not exactly the same voluntarism that Leibniz opposes: we said at the beginning of this chapter that the reason why God chooses to actualise some things (or the world) instead of others is because they are the most valuable things (or world), yet he does not give these things their value, because that would mean that he is not really choosing the most valuable according to a reason, rather only through will. This is in fact the objection to the notion of voluntarism considered in detail in the previous chapter. On the other hand, the idea that we are examining now is that things reach their value because they coincide with 'God's taste' or because they give pleasure or happiness to God. This latter view is not exactly the same as voluntarism if we assume that God's will does not constitute 'God's taste'. So the proposition that we are examining now is that something X is valuable just because X pleases (i.e. gives pleasure to) God and whatever pleases God is not dependent on his will.

Nonetheless, this view does not seem adequate either. As the quoted paragraph says 'it is impossible for him [God] not to be affected by the most perfect harmony' (A II 1,

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[25] However, we should consider that there is a distinction between harmony as essence and actual harmony as existing, i.e. the harmony of the actual world. Although the former does not require a reason for it to be, the latter would be subject to the principle of sufficient reason.

p.117/L, p.146). This seems to suggest a passive stance on God's relation with harmony. Furthermore, Leibniz implies necessity in the relation between God and harmony, as he uses the word 'impossible'.[26] If harmony *is* independent of reasons and God must be positively affected by it, its capacity to give pleasure appears to be 'previous' to or at least independent from God's 'preferences'. Leibniz's justification for God's unavoidable reaction to harmony is simply that it must be because 'God is the most perfect mind'. To understand Leibniz's view here it might be helpful to remember two things: firstly, that it is safe to assume that harmony's effect on God is pleasure or delight, as harmony and beauty always delight the wise and God is the wisest mind (A VI 1, pp.434-5); and secondly, that according to Leibniz harmony and beauty are the *only* sources of pleasure. For Leibniz the latter seems to be a primitive fact (which would explain why he does not try to justify it). Primitive facts have no justification, causation or reason; they cannot be reduced to something else, they just are. If we assume that this is indeed a primitive fact (i.e. harmony and beauty are the only sources of pleasure), we can infer that the wisest mind must contain the primitive fact and not produce it, otherwise it would not be a primitive fact. Consequently, if harmony's being a source of pleasure is a primitive fact, it cannot be explained by or reduced to 'God's taste'. If I am right, the fact that harmony and beauty are a source of pleasure is in God's intellect and not given by 'God's taste' and much less produced by God's will. According to our assumption, God's delight in harmony is just a necessary effect that may prove the value of harmony, but it does not determine or cause it, since harmony would still be the source of pleasure even in the hypothetical case that God did not perceive it. This seems to be the case, although it must be said that Leibniz does not explicitly express this idea.

3.3 Pleasure as value

The manner in which this later argument has been examined raises the question about the relation between pleasure and value. More specifically, whether the pleasure given by something is what makes something valuable. If this is so, are then harmony and beauty valuable only as sources of pleasure? Since we established in the previous chapter that for Leibniz beauty is in the object, if we state now that beauty is only valuable because it produces pleasure, it would mean that, although beauty exists independently of any subject, its value only emerges once there is some entity to experience pleasure. This relates to our question (1.a): Would beauty be valuable if God was not a percipient subject? Or better yet,

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[26] In the original Latin: '*Cum autem Deus sit mens perfectissima, impossibile est ipsum non affici harmonia perfectissima, atque ita ab ipsa rerum idealitate ad optimum necessitari*'. (A II 1, p.117)

would harmony and beauty be valuable if neither God nor anyone else were there to receive pleasure from them? The answer to this enquiry varies depending on the definition of the term 'value'; as pleasure or as a perfection. If value is to be understood as a perfection –as we have assumed so far–, the answer is affirmative: in chapter I, we established that harmony and beauty are perfections and at the beginning of this chapter we stated that perfections (plural) are valuable. Moreover, we said that perfection itself (singular) is harmony –as degrees of unity in variety– and that perfection is value. In this sense, the explanation of what is value is tautological and it is established by Leibniz's own definitions of the terms involved, since the definition of 'harmony' contains 'perfection' and the definition of 'perfection' contains 'value'. By this account, even if there is no one (not even God) to experience the pleasure given by harmony and beauty, they are still valuable, since by definition they *are* value in itself.

On the contrary, if things were valuable only because of the pleasure they produce, the answer to question (1.a) would be negative. Let us examine this last alternative. According to Leibniz '[e]verything pleasant is sought for its own sake' (A VI 1, p.464/L, p.136). Hence, there is no further reason why pleasure is sought, but pleasure itself. It is fair to assume that what Leibniz means is that pleasure is valuable in itself for anyone that perceives it. Thus, pleasure is not cherished because of any other purpose; pleasure is not a means to another end, but an end in itself. If value were exclusively pleasure and harmony and beauty are the only sources of pleasure, then harmony and beauty would be valuable just because they provide pleasure, but they would not have value in themselves. Therefore, if there is harmony and beauty, but no one to receive their pleasure, there could be no value, as there is no pleasure.

However, there are good reasons to assume that for Leibniz value is not just the capacity to give pleasure. In *On Wisdom*, Leibniz establishes that 'happiness' is 'a state of permanent joy' and 'joy' is 'a pleasure which the soul feels in itself' (GP VII, p.86/L, p.425). However, later in his *Principles of Nature and Grace* he writes that 'our happiness will never consist, and must not consist, in a complete joy, in which nothing is left to desire, and which would dull our mind, but must consist in a perpetual progress to new pleasures and new perfections' (G VI, p.606/AG, p.213). The rejection of complete joy as human happiness mirrors our previous explanation about the importance of dissonances in harmony; in the same way that the highest degree of harmony and beauty is not just constant consonance and positive values – but achieved after considering negative elements such as dissonances (or

evil)–, the highest degree of happiness is not just uninterrupted joy. As he explains in a letter to Wolff (1715):

> Joy I define as an extraordinary predominance of pleasure, for in the midst of joy we can sense certain sorrows, but sorrows that are hardly to be considered in comparison with the pleasures, as, for example, if somewhere a kingdom were granted to an ambitious person suffering hopelessly from the gout. Moreover, it is necessary that the joy be enduring, so that it not be withdrawn by a subsequent greater sadness [*tristitia*] by chance. Furthermore, pleasure is the sensation of perfection. *Perfection* is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement [*consensus*] or identity in variety. (GW, pp.171–2/AG, p.233)

Joy itself is not just pleasure but the predominance of pleasure, since joy contains sorrows, i.e. the exact opposite of pleasure. In the quoted letter it is not clear if the integration of sorrows in joy has any purpose in reaching happiness or if happiness is reached despite sorrow. Yet if we consider this latter passage in light of the previously quoted one, it could be said that the presence of sorrows prevents joy from being complete and therefore stimulates the continuous search for different pleasures, in order to not 'dull our mind'.[27] The fact that happiness is not just complete pleasure but the 'perpetual progress to new pleasures' seems to deny that pure pleasure is the only value. If pleasure alone were value, the only reason to search for new pleasures would be finding a greater pleasure, since, magnitude aside, all pleasures would be equally valuable and novelty should not be a factor for happiness. However, as Leibniz writes, complete joy or lack of desire dulls our minds. If pleasure were the unique value it seems odd that conformity with one single pleasure without novelty would dull the mind.[28]

What seems to be more likely is that when Leibniz mentions 'perpetual progress to new pleasures and perfections' he is considering a progress in the perfection of the perceiver.

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[27] It must be noticed that also in *The Principles of Nature and Grace*, Leibniz gives a positive reason and a negative reason for the presence of sorrows in joy. The positive is what we already mentioned; that it promotes the progress to new pleasures and hence prevents our minds to become dull, caused by lack of desire. Indeed, in the *New Essays*, Leibniz seems committed to the idea that 'uneasiness' is fundamental to reach happiness: 'Far from such disquiet's being inconsistent with happiness, I find that it is essential to the happiness of created beings; their happiness never consists in complete attainment, which would make them insensate and stupified, but in continual and uninterrupted progress towards greater goods. Such progress is inevitably accompanied by desire or at least by constant disquiet' (GP V, p.174/RB, p.188). On the other hand, the negative reason is that it is simply not possible to achieve perfect happiness due to our limitation to fully know God: 'It is true that supreme felicity (with whatever *beatific vision* or knowledge of God it may be accompanied) can never be complete, because, since God is infinite, he can never be entirely known' (GP VI, p.606/AG, p.212). At the light of this negative reason, it could be said that sorrows are just an unavoidable aspect of our nature and thus joy is achieved despite their presence.

[28] Furthermore, why would joy and happiness include sorrow and not just pure pleasure? If everything that is valuable it is so just because of its production of pleasure, why can't it makes us happy on its own? Unless we are somehow irrational beings that do not value the ultimate value as the ultimate value, (and according to Leibniz's account this is not the case) we should be able to reach happiness with what is valuable alone.

If we consider the word 'progress', it seems inadequate to use it merely as the search of novelty. It should also, and especially, be used to denote improvement. 'Progress', in this sense, is not unqualified change for something new, but enhancement of someone's state. This idea is present in many of Leibniz's writings, for example, in *On Wisdom*, he writes:

> Pleasure is the feeling of a perfection or an excellence [*vortreflichkeit*], whether in ourselves or something else. […] For the image of such perfection in others, impressed upon us, causes some of this perfection to be implanted and aroused within ourselves. Thus there is no doubt that he who consorts much with excellent [*treflichen*] people or things becomes more excellent [*vortreflicher*]. (GP VII, p.86/L, p.425)

Assuming that in this context the word 'excellent' (*treflichen*) or 'excellence' (*vortreflichkeit*) amounts to the same as 'perfection', Leibniz is establishing two significant ideas: firstly, that, as said before, pleasure is the perception of perfection;[29] and secondly, that perceiving perfection makes the perceiver more perfect. It might be concluded that pleasure has the effect of elevating our degrees of perfection, therefore pleasure and even happiness conduces to perfection. In this interpretation, pleasure would be instrumental for reaching higher degrees of perfection. Thus, the value of the perception itself would reside in the fact that the perceiver becomes more perfect when she perceives something perfect. But this is not the case for Leibniz. In other passages he suggests that is not pleasure itself that makes the perceiver more perfect, but pleasure is an effect of becoming more perfect. As he states in §15 of the *Discourse*:

> [W]hen a change takes place by which several substances are affected (in fact every change affects all of them), I believe one may say that the substance which immediately passes to a greater degree of perfection or to a more perfect expression exercises its power and *acts,* and the substance which passes to a lesser degree shows its weakness and is *acted upon* [*pâtit*]. I also hold that every action of a substance which has perfection involves some *pleasure,* and every passion some *pain* and vice versa. (A VI 4, p.1554/AG, p.48)

Pleasure is the result of a substance acting (or exercising power) and thus becoming more perfect. This idea is very similar to Spinoza's view on the topic, as in the third part of the *Ethics*, Spinoza considers that power of acting is related to joy (CE, p.102) and later he defines joy as 'a man's passage from a lesser to a greater perfection' (CE, p.104). In his notes about Spinoza's *Ethics*, Leibniz agrees with him on this issue, as he also considers that joy implies a transition to more perfection in humans, adding that this is the same as becoming

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[29] For example in this previously quoted passage: 'Furthermore, pleasure is the sensation of perfection. *Perfection* is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement [*consensus*] or identity in variety.' (GW, pp.172/AG, p.233)

more beautiful (GP I, p.152).[30] In this sense, when Leibniz writes that joy is a progression to new pleasures and new perfections, he is thinking on an increase in the degrees of perfection of the perceiver: perception of perfection in things (i.e. harmonious and, thusly, beautiful things) makes us more perfect (more harmonious and beautiful) and this passing to a higher degree of perfection brings us pleasure. Finding new perfections to perceive allows us to continue upgrading our degrees of perfection, which brings more pleasure and, in turn, this pleasure is joy.

By this account it cannot be said that pleasure is an instrumental value subordinated to harmony (or perfection), since the former is a consequence of the latter. Yet, for the reasons given before, it is not right either to consider pleasure as the only value. The relation between pleasure and other valuable properties seems to be like a perfect convergence, where one valuable property produces or enhances another: harmony, reason, perfection and beauty produce greater harmony, perfection and beauty bringing pleasure then joy and happiness. Nevertheless, there is no doubt that the ultimate value, understood as the source of all others, is harmony. If pleasure were the ultimate value it must ground all other values, yet how could this be if harmony has ontological anteriority? In order to consider pleasure as the ultimate value it must be supposed that harmony is value-neutral in itself, since on this view, harmony's value would only derive from the pleasure harmony produces. In other words, harmony would be retroactively valuable, as it is valuable only once there is someone to perceive its pleasure. However, for Leibniz, harmony is not a neutral ontological force. Harmony is what constitutes God's perfect intellect, with anteriority to God's intellect. Thus, it is the first reason that grounds everything else, since God's intellect contains every possible thing. If we consider that Leibniz's God is perfect in every sense, it is hard to deny that his intellect –and everything in it– is grounded on something that lacks value in itself and that only gained value retroactively after it constituted the first value. Furthermore, as established in chapter I, harmony is beauty, perfection and even power, all attributes that Leibniz deems perfections worthy to constitute the essence of the perfect being itself. Also in chapter I, we established that beauty has only the potential to give pleasure. The fact that beauty is a value that is only *potentially* a source of pleasure means that it could fail to give pleasure and still be a value. Hence, it is not a value because of pleasure, but even without it.

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[30] In the original Latin: '*Laetitia est hominis transitio a minore ad majorem perfectionem*' […] '*Possum perfectionem corporis augere, ut non sentiam, ut si fiam pulchrior, si membra in majus robur crescant. Responderi potest, insensibilem esse hunc transitum adeoque et laetitiam*'. (A VI 4, p.1731)

3.4 God as the ultimate value

There is however another interpretation of what could be value for Leibniz. In this interpretation the ultimate value is God himself, in other words, everything that has value, does so only because of God. As we commented at the beginning of our Chapter II, in his *Demonstrationum Catholicarum Conspectus* (1668-1669?) Leibniz states that God is the divine origin where we should look for the source of harmony and beauty: '[T]he beatific vision or [seu] the intuition of God, face to face, is the contemplation of the universal Harmony of things because GOD or [seu] the Mind of the Universe is nothing other than the harmony of things, or [seu] the principle of beauty in them'. (AVI 1, p.499/ trans. in Mercer, 2001, p.213).[31] This passage could be interpreted as saying that beauty and harmony are valuable only because they are a reflection of God himself. Yet this does seem at odds with what we have been arguing here. For once this view still resonates strongly with voluntarism, as God is in himself the final reason why there is value.

Alternatively, and more satisfactorily in my opinion, it could be said that, since harmony and beauty are valuable properties, a perfect God cannot but be harmonious and beautiful, otherwise he would not be perfect. This implies that there is an anteriority or at least an independence of harmony and beauty as values from God himself. This latter view seems more coherent with what Leibniz writes to Wedderkopf, since he illustrates a chain of reasons where the reason for God's will is God's intellect and the reason for God's intellect is the harmony of things. Even though, as said before, ontological independence does not guarantee independence of value, in this case ontological independence entails that if God is harmonious and beautiful, it is because his essence is constituted by harmony and it is so because harmony is valuable (as opposed to the idea that harmony is caused by God and that harmony is valuable because it is God's essence). This means that when Leibniz refers to God as the 'harmony of things' and the 'principle of beauty in them', he is not saying that God is the cause of harmony and value, but that his essence is constituted by the highest degree of harmony, beauty and therefore value.

Of course, for Leibniz, God's essence and its attributes are not something that can be depicted as separate entities. So besides being a purely analytic exercise it does not seem that Leibniz himself favours this practice. The same could be said about the discussion regarding ontological anteriority in the letter to Wedderkopf, which might explain why this idea is not more recurrent in Leibniz's writings. Be it as it may, according to what has been said here,

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[31] In the original Latin: '*Visio beatifica seu intuitio DEI de facie in faciem est contemplatio universalis Harmonise rerum qvia DEUS seu Mens Universi nihil aliud est qvàm rer. harmonía, seu principium pulchritudinis in ipsis.*' (AVI 1, p.499)

the best interpretation is that harmony, and therefore beauty,[32] are value in itself, which entails that beauty is a value independent of perceivers, even if that perceiver is God himself. In this sense, it must be concluded that, just as in the case of beauty as a property, beauty as a value is objective.

4. Conclusions

At the beginning, we established that for Leibniz value can be mainly understood as a positive property or perfection, as well as the degree of overall perfection. Since perfection also is degree of essence and, in turn, degree of essence is the ontological ground of every possible being, we claim that for Leibniz every possible being must have value or be valuable. Furthermore, in Leibniz's ontology every being and every possible world must express different degrees of value. Because perfection is unity in variety or harmony and beauty is harmony, this ontological view on value is also valid for aesthetic value.

Once this was established, we considered harmony and beauty as value in relation to humans and God as well as in relation to other possible aspects of value and beauty, such as pleasure and happiness. We sought to answer five questions that guided our examination of the topic. Thus, to recapitulate: 1.a) would beauty be valuable if God was not a perceiving subject? Yes, since the value of harmony is anterior to 'God's taste'. However, this question is based on the analytic exercise of assuming that a non-perceiving God is possible and Leibniz does not favour this assumption. (1.b) Can finite subjects value objective beauty as God does? In principle, yes, because God and us share the same faculty of reason, as well as wisdom. However, God's reason and wisdom are infinite while ours are only finite, plus we do not always succeed in being wise. (1.c) Are we humans the only ones that value the universe's beauty? No, any perceiving being can, such as God, non-human rational beings and even animals, although in the case of the latter their capacity to value beauty is limited. (2.a) Is beauty for God's happiness? Not uniquely or ultimately; beauty, as an instance of harmony, is not a value in virtue of another purpose, but it is a value in itself. (2.b) Is there any relation between our happiness and the value of beauty? Harmony and beauty are sources of happiness, indeed harmony is the only source of pleasure. This is valid for all minds including humans and God. However, the value of the world is not designed just for our happiness, since there are other dimensions of the universe and what is required in order to

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[32] It could be objected that many of the arguments here are about the value of harmony but not necessary about the value of beauty, since beauty still could be valuable only as a source of pleasure. However, it has been made clear in the first chapter that beauty is harmony. Furthermore, as just said, beauty is ontologically independent of pleasure, since it is only a potential source of pleasure.

uphold their value might sometimes work against our happiness, such as the natural realm of bodies and metaphysical perfection.

In summary, harmony as a value is independent of perceivers, this includes us and even God. It is also a non-instrumental value, since harmony is not valuable just because of its effect (e.g. pleasure or happiness) on us or God. As beauty is harmony (or rather an instance of harmony), there are no good reasons to deny that this applies to the former in the same manner as the latter. Nevertheless, it is the case that we experience beauty and its value. As we will show in the following chapter, Leibniz's philosophy offers a unique theory of perception, knowledge and sensation that configures an interesting interpretation of our relation with beauty.

Chapter VI: Beauty as experience

Until now we have been focusing on Leibniz's notion of beauty from a metaphysical perspective. Thus we have not talked much about the specificities of the relation between perceivers and beauty. In the following pages we explore this topic. More specifically, here we focus on the subjective experience of beauty. In the interest of properly explain Leibniz's views on this matter, it is required to engage with a variety of other notions that not always refer directly to the idea of beauty, namely notions about Leibniz's theory of knowledge and perception. In order to facilitate the following discussion, it would be useful to consider the following dichotomies:

    (a) Distinct – Confused

    (b) Concept/Notion/Idea/Thought – Sensation/Perception/Sense Perception

    (c) Intellect/Understanding – Sensitivity/Sensorial

       After the works of Baumgarten, Hume and Kant, among other modern philosophers, aesthetic phenomena have been generally associated with the terms at the right of each of these binary distinctions. It would not be an overstatement to claim that this view is shared by most contemporary aestheticians. Many of the works devoted to Leibniz's aesthetics have postulated that his account is no exception. In one way or another, the authors of these works claim that Leibniz also conceived aesthetics as confused sense perceptions. Yet, there are good reasons to question this interpretation. Here we will argue that for Leibniz aesthetic experiences, understood as our experience of beauty, resists being relegated exclusively to the second term in each of these three binary distinctions. In other words, Leibniz thinks that beauty is not only experienced through confused representations, not only a derived from sense perceptions and not only sensible. Accordingly, there is also aesthetic experience related to distinct representations, to non-sensible concepts and to the intellect. Furthermore, we will claim that for Leibniz, the experience of beauty is at its best intellectual, grounded on concepts and distinct knowledge.

       In the first section we will describe how Leibniz himself defines and classifies these dichotomies. Afterwards, we will go through the main arguments that commentators have given regarding the discussion of Leibniz' view on this matter and we will provide a conceptual frame to understand these dichotomies when applied to aesthetics. The second section will review those works that claim that Leibniz's aesthetics is limited to the second term of each dichotomy. We will argue that this limitation has no solid basis in Leibniz's

texts. In the third section, we will explain why for Leibniz the experience of beauty is at its best more related to the terms on the left of the dichotomies than with the terms on the right. We will claim not only that the intellect and distinct knowledge have a significant role in our experience of beauty, but also that science and mathematics do provide a model of beauty. In the last section, we will argue that Leibniz also considers that beauty manifests itself through matter and thus we can experience it through our senses as confused perceptions. We will argue that at least in the case of beauty there is not a strict opposition between having a sensible and having an intellectual experience. Our aesthetic experience can have confused elements as well as distinct ones at the same time. Consequently, we will conclude that the views expressed in the aforementioned works on Leibniz's aesthetics are at odds with his theory about the experience of beauty.

All aesthetic phenomena related to subjectivity will be here understood only as experiences of beauty. This includes our taste about the arts and our pleasure derived from any sort of experience that could be considered of aesthetic nature. We stand on this assumption because Leibniz does not consider explicitly any other aesthetic value or aesthetic property than beauty. It is true that he also makes the connection between (aesthetic) pleasure and perfection/harmony, but these notions are equivalent to beauty. When Leibniz refers to the arts it is safe to understand that he is valuing them in relation to our pleasure. Also when he writes about taste he tends to run this notion together with our experience of pleasure. As said in the previous chapter, for him, all pleasure comes from harmony, which is beauty. Therefore, we conclude that from Leibniz's perspective our aesthetic judgements about arts and our taste are measured by the pleasure of our experience of them, and since pleasure is given by beauty, all these aesthetic experiences are reduced to experiences of beauty.

1. The dichotomies

1.1 Leibniz's definitions of distinct and confused

Referring back to the aforementioned dichotomies, for Leibniz, it is the case that both terms of (a) apply to both terms of (b), i.e. there are *distinct concepts* (or notions, ideas or thoughts) and *confused concepts* (or notions, ideas or thoughts), as well as *distinct perceptions* and *confused perceptions*. In turn, distinct and confused concepts are normally associated with *intellectual knowledge*, while distinct and confused perceptions are associated with *sensitivity* or *sensual knowledge*. As we will see, some commentators such as George Henry Radcliffe Parkinson and Margaret Wilson argue that the terms of (a) mean one thing when applied to

concepts and something different when applied to perception, while other commentators, such as Stephen Puryear, disagree and think that distinct and confused mean the same for concepts and perceptions. The distinction held by Parkinson and Wilson entails consequences for (c), namely that intellectual knowledge differs in kind from sensitivity. Conversely, denying that there is a distinction between the terms of (a) when applied to concepts and when applied to perceptions, as Puryear claims, could imply that the difference between intellectual knowledge and sensitivity is not necessarily an irreducible one. We will start by defining the notions of (a) applied to concepts and then applied to perceptions.

In his *Meditations on Knowledge, Truth, and Ideas* (1684) Leibniz provides us with very precise definitions of *distinct and confused concepts* (or notions, ideas or thoughts). In this essay Leibniz does not explain with much detail the different meanings of the terms 'concepts', 'notions', 'ideas' and 'knowledge'. Indeed, he seems to use the terms 'notions', 'ideas' and 'knowledge' [*cognitio*] as if they are interchangeable. For the purpose of this chapter, the difference between these terms is not entirely relevant, nevertheless, it is safe to assume that for Leibniz notions or concepts, as well as ideas or thoughts, are intimately associated with knowledge.[1] Leibniz starts the essay by distinguishing between obscure and clear; a notion is obscure when it is not enough to identify what it represents and clear when it is. For example, if my idea of a particular animal or a flower is not enough to distinguish it from another animal or flower then my notion of that animal or flower is obscure; conversely, if I can distinguish them, it is clear (A VI 4, p.586/AG, p.23). Subsequently, Leibniz says that clear knowledge is either distinct or confused. He tackles first *clear and confused knowledge*:

> It is confused when I cannot enumerate one by one marks [*nota*] sufficient for differentiating a thing from others, even though the thing does indeed have such marks and requisites into which its notion can be resolved. And so we recognize colors, smells, tastes, and other particular objects of the senses clearly enough, and we distinguish them from one another, but only through the simple testimony of the senses, not by way of explicit marks. Thus we cannot explain what red is to a blind man, nor can we make such things clear to others except by leading them into the presence of the thing and making them see, smell, or taste the same thing we do, or, at very least, by reminding them of some past perception that is similar. (A VI 4, p.587/AG, p.23).

Qualia, such as colours, are good examples of confused knowledge, since it does not matter how much we know about, let's say, the colour red, it is just not possible to give a 'nominal

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[1] In the *Discourse* Leibniz proposes to call 'ideas' those expressions that are in the soul whether conceived or not, while 'notions' and 'concepts' are those that are conceived or formed (A VI 4, p.1572/AG, p.59). However, as said, these definitions are not very relevant for our topic, so here we will not consider any difference between these terms in order to avoid unnecessary complexity.

definition' of it that can explain what it is to a blind man. In other words, we cannot enumerate enough predicates or marks to express the notion of red.[2] However, confused knowledge can be clear. This means that even if we cannot provide a nominal definition of red, we are able to distinguish red from other colours. On the other hand, we have *clear and distinct knowledge* when we can give a nominal definition of something. In Leibniz words:

> a *distinct notion* is like the notion an assayer has of gold, that is, a notion connected with marks and tests sufficient to distinguish a thing from all other similar bodies. Notions common to several senses, like the notions of number, magnitude, shape are usually of such a kind, as are those pertaining to many states of mind, such as hope or fear, in a word, those that pertain to everything for which we have a *nominal definition* (which is nothing but an enumeration of sufficient marks) (A VI 4, pp.586-7/AG, p.23).

For Leibniz, we can have clear and distinct knowledge of hope or a triangle, since we can give a nominal definition of their respective notions. Unlike explaining the colour red to a blind man, we can explain what hope is to someone that has never felt it, or a triangle to someone who has never seen one.

In contrast, distinct and confused *perceptions* are not defined so straight forwardly as distinct and confused *concepts*.[3] Nevertheless, there is a recurrent meaning of these terms in Leibniz' writings. In the *Discourse*, he writes as follows:

> We also see that the perceptions of our senses, even when they are clear, must necessarily contain some confused feeling [*sentiment*], for our body receives the impression of all other bodies, since all the bodies of the universe are in sympathy, and, even though our senses are related to everything, it is impossible for our soul to attend to everything in particular; that is why our confused sensations are the result of a truly infinite variety of perceptions. (A VI 4, p.1582-3/AG, p.65)

The idea that there are confused perceptions is an important linchpin of Leibniz's theory of universal harmony; the metaphysical view that everything is related to everything else. This doctrine establishes the universal connection of things, partly through perception.[4] In other

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[2] It must be noticed that elsewhere Leibniz expresses what seems to be the opposite opinion about this same issue. We will discuss that issue later on this chapter, yet for now and for the sake of simplicity the presented view will suffice.

[3] For now, here we use the term 'perception' referring mainly to sense perceptions. Nevertheless, notice that at the end of this section we conclude that for Leibniz perceptions must not be conceived as opposed to thoughts or ideas (furthermore, we consider that maybe perceptions are just confused thoughts). Therefore, later through this chapter, we use the term 'perception' in a more general sense, not just as sense perceptions, unless specified. There is of course much to say about the rich metaphysical development of the notion of 'perception' in Leibniz ontology, such as the role of perceptions regarding substances. Unfortunately, we cannot explain at length those ideas here.

[4] Although the quoted passage from the *Discourse* mentions the universal connections of bodies through impressions, Leibniz's theory also posits the connections of minds, souls and monads through knowledge. For example, in the *Principles of Nature and Grace, Based on Reason* (1714), Leibniz repeats the same idea contained in the quoted passage, but this time positing the soul and perceptions instead of the body and including the notion of knowledge in close connection with perception: 'One could know the beauty of the universe in each soul, if one could unfold all its folds, which only open

words, we perceive everything. Yet, it is obvious that we are not aware of perceiving everything. Hence, it must be the case that we are unaware of many or most aspects of our perceptions of the world. When we are unaware of some aspects of our perceptions, we perceive confusedly. Accordingly, a first attempt to define confused and distinct perceptions goes as follows: A *confused perception* is when we are unaware of some aspects of that perception, while a *distinct perception* is the awareness of the aspects of that perception.[5] We will improve this definition later, but first it is important to explain the role of awareness and unawareness in perception. Accordingly, we should introduce another dichotomy that might be worth having at hand for the discussion:

(d) Aware – Unaware[6]

Why are there perceptions of which we are unaware? Why don't we notice certain perceptions or parts of them? In the preface of the *New Essays on Human Understanding* (1765) Leibniz tackles this issue. Here he considers at least three characteristics that make perceptions unnoticeable:

> Besides, there are hundreds of indications leading us to conclude that at every moment there is in us an infinity of perceptions, unaccompanied by awareness or reflection; that is, of alterations in the soul itself, of which we are unaware because these impressions are either too minute and too numerous, or else too unvarying, so that they are not sufficiently distinctive on their own. But when they are combined with others they do nevertheless have their effect and make themselves felt, at least confusedly, within the whole. (A VI 6, p.53/RB, p.53)

Perceptions escape our awareness if they are too small, too many or too monotonous. It is worth noticing that these three traits are properties of perceptions. Therefore, what makes us be unaware of perceptions does not depend only on our state of mind, for there are also certain traits of perceptions themselves that make it hard for us to consciously notice them,

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perceptibly with time. But since each distinct perception of the soul includes an infinity of confused perceptions which embrace the whole universe, the soul itself knows the things it perceives only so far as it has distinct and heightened [*revelées*] perceptions; and it has perfection to the extent that it has distinct perceptions. Each soul knows the infinite— knows all—but confusedly' (GP VI, p.604/AG, p.211). The passage also suggests that perceiving is knowing, which seems to imply that there is a continuum between perception and knowledge. As we will see later in this same chapter, this is a topic of much controversy among commentators.

[5] In a text from 1686, Leibniz states that 'if the perception is more distinct, it makes a sensation' (GP VII, p.317/MP, p.85). This could be taken as if for Leibniz distinct perceptions are sensations. However in the English translation of the *New Essays*, we find on more than one occasion the term 'confused sensations'. But, in this context, Leibniz originally used the words *sentiment* and *sentimens* (A VI 6, pp.54 & 113 /RB, pp. 53 & 113) more related to signify 'feelings' or 'sentiments'. In order to avoid unnecessary confusion, here we will not define sensation as distinct perception. However, we are not denying that this could be an accurate definition. For a more specific discussion about this issue see Simmons (2001) and Parkinson (1994).

[6] Leibniz not only uses the aware/unaware distinction but also refers to distinct perceptions as 'stronger in flavour' ['*plus haut gout*'] (GP VI, p.611/AG, p.216); and confused ones as not distinct 'enough for one to be aware of or to remember them' (A VI 6, p.112/RB, p.112). This suggests further distinctions such as conscious/unconscious and strong/weak. To avoid confusion we will use the distinction aware/unaware to cover all these similar distinctions.

namely; size, number and diversity. However, in the paragraph following the quoted one, Leibniz also points out that sometimes we do not notice perceptions because of particular states of minds; for example, if we are distracted we might not notice some perceptions or what is the same, we will perceive them confusedly.[7] So, in some cases, unawareness could depend only on a mental state.

Even though we are unaware of some perceptions, they do have an effect on us. In the following sentence from the quoted passage from the *Discourse*, he writes that the truly infinite variety of perceptions is 'almost like the confused murmur coming from the innumerable set of breaking waves heard by those who approach the seashore' (A VI 4, p.1583/AG, p.65). The examples of a murmur and breaking waves imply that we do perceive something, yet we do not notice the components of that perception. In *Principles of Nature and Grace, Based on Reason* (1714), Leibniz explains this issue using again the example of waves:

> It is like walking on the seashore and hearing the great noise of the sea: I hear the particular noises of each wave, of which the whole noise is composed, but without distinguishing them. But confused perceptions are the result of impressions that the whole universe makes upon us; it is the same for each monad. (GP VI, p.604/AG, p.211)

Then again in the *New Essays* he uses the same example:

> To hear this noise as we do, we must hear the parts which make up this whole, that is the noise of each wave, although each of these little noises makes itself known only when combined confusedly with all the others, and would not be noticed if the wave which made it were by itself. We must be affected slightly by the motion of this wave, and have some perception of each of these noises, however faint they may be; otherwise there would be no perception of a hundred thousand waves, since a hundred thousand nothings cannot make something. (A VI 6, p.54/RB, p.53)

The summation of these perceptions that we do not notice results in a perception that we do. Leibniz calls the former, '*petites perceptions*'. In this way, we are affected by something to which our consciousness has no immediate access: 'These minute perceptions, then, are more effective in their results than has been recognized. They constitute that je ne sais quoi, those flavours, those images of sensible qualities, vivid in the aggregate but confused as to the

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[7] For example, in the *New Essays*, Leibniz gives the following example: 'This is how we become so accustomed to the motion of a mill or a waterfall, after living beside it for a while, that we pay no heed to it. Not that this motion ceases to strike on our sense-organs, or that something corresponding to it does not still occur in the soul because of the harmony between the soul and the body; but these impressions in the soul and the body, lacking the appeal of novelty, are not forceful enough to attract our attention and our memory, which are applied only to more compelling objects. Memory is needed for attention: when we are not alerted, so to speak, to pay heed to certain of our own present perceptions, we allow them to slip by unconsidered and even unnoticed'. (A VI 6, pp.53-54/RB, p.53)

parts' (A VI 6, p.54-55/RB, p.54). With this in mind, we should reformulate our previous definition: Confused perceptions are not perceptions of which we are completely unaware of, but perceptions of which we are unaware of their components. In this sense, they are clear – we are aware of us hearing the roar of the ocean–, but confused –we are not aware that we hear all the tiny sounds that in summation result in the roar of the ocean. In some passages, Leibniz affirms that all sense perceptions are confused in this way (A VI 4, pp.1582-3/AG, p.65).

1.2 Strict dichotomies or continuum?

A more problematic claim is that sometimes Leibniz seems to suggest that the relation between what we are aware of and that which we are not aware of is a continuum, as it conforms to his law of continuity: 'Nothing takes place suddenly, and it is one of my great and best confirmed maxims that *nature never makes leaps*' (A VI 6, p.56/RB, p.56). In other words, the difference between perceptions of which we are aware and unaware (confused perceptions or *petites perceptions*) is not one of kind, but one of degrees. As we will see, there are cases where we can progressively move from confused to distinct perceptions, even when we find notions of perceptions that are essentially confused, we still can distinctly perceive some of their surrounding circumstances. As we will show later on this chapter this is what occurs in most of our experiences of beauty.

If we can progress from confused to distinct perceptions, could it be the same for confused and distinct concepts (notions, ideas or thoughts)? This question must be framed in a more general one, namely; is there any difference between distinct and confused when applied to concepts and when applied to perceptions? This second question raises a few more: is there any difference between concepts and perceptions? And is there any difference between the intellect and sensibility? In other words, are (b) and (c) really strict dichotomies or just a difference of degrees? And if the latter is the case, is there any meaning in holding (b) and (c) as dichotomies? There is no simple answer for any of these questions. So in order to reach a satisfactory agreement on the use of the terms included in the given dichotomies, we must review some aspects of the discussion about these issues.

In the *Critique of Pure Reason*, Kant famously claims that Leibniz 'intellectualised the appearances' (A 271/B 327/Guyer, p.372). Unlike his own view, Kant explains that Leibniz conflates the intellectual with the sensible, since Leibniz fails to separate the source of representations for the understanding from the source of representations for the sensibility.

According to Kant's version of Leibniz's view, the nature of things is intelligible, hence compatible with the understanding, while sensibility is just a confused representation of those things. In Kant's words:

> He [Leibniz] conceded to sensibility no kind of intuition of its own, but rather sought everything in the understanding, even the empirical representation of objects, and left nothing for the senses but the contemptible occupation of confusing and upsetting the representation of the former. (A 276/ B 332/ Guyer, p.375).

To put it in our terms, Kant is saying that for Leibniz reality and all correct representations of the external world are akin to the terms on the left side of each of our established dichotomies (distinct, conceptual and intellectual), while the terms on the right side are simply the result of misrepresentations of reality. Following this view all sensations are just confused thoughts. Consequently, the difference between an idea of the intellect and the representation of a sense perception is only determined by their distinctness or confusion. There is no lack of textual evidence in Leibniz's writings to uphold this view. For example, in a text from 1702, Leibniz refers to bodily mediated sensations as confused thoughts. He states that 'it is believed that confused thoughts are entirely different in kind from distinct ones, whereas they are merely less distinguishable and less developed because of their multiplicity' (GP IV, p. 563/L, p.580). In this text Leibniz is referring to sense perceptions as confused thoughts, which seems to confirm Kant's interpretation; thoughts and sensations are not different in kind.

Nevertheless, some commentators have argued against Kant's interpretation of Leibniz. For example, G.H.R. Parkinson remarks that Kant was wrong in considering that for Leibniz sense perception is a confused thought (1994, p.83). In a similar fashion, Margaret Wilson states that Leibniz's position in this issue even anticipated Kant's distinction between intuitions of the sensible and concepts (1999, p.322).[8] Parkinson and Wilson make their case by arguing that for Leibniz the terms of (a) do not mean the same when Leibniz uses it for each pair of (b). In other words, the meaning of distinct and confused applied to a concept/idea differs from when applied to a perception/sensation (Wilson, 1999, p.322; Parkinson, 1994, pp.80-81). Similarly, as explained above, Wilson considers that distinct and confused ideas refer to a conceptual ability, while distinct and confused perceptions are features of sensations (1999, p.322). Ideas are distinct or confused depending on whether they can be nominally defined or not. Perceptions are distinct or confused depending on whether we can notice the elements that compose a perception.

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[8] Both Parkinson and Wilson refer their views to Robert McRae, who states that for Leibniz '[s]ense perception is not confused thought' (McRae, 1976, p.129).

This distinction entails several consequences for the understanding of Leibniz's position on the analysability of confused perceptions. For example, Parkinson considers that a distinct concept is by definition analysable, contrary to sensations that are made of many confused perceptions and impossible to analyse by us (1994, p.81). Wilson agrees that confusion in the case of sensations is 'largely ineluctable', but confusion in the case of ideas is nonetheless correctable (Wilson, 1999, pp.324). If confused ideas are just our inability to provide a nominal definition of something, they are correctable by gaining the conceptual capacity to reach a nominal definition. As Wilson points out, in some passages Leibniz considers that even sense qualities can be reduced to physical-theoretical accounts. Wilson believes that if this is the case we should be able to reach nominal definitions through scientific knowledge, and hence have distinct ideas, even of ideas of sense perception:

> For if we are allowed to suppose that a *red* object, for example, is just one that reflects light waves of such and such frequency in such and such circumstances, there is no obvious reason why we could not ascribe to ourselves a distinct *notion* of red, even on the supposition that our (sense) *perceptions* are all confused. We would be able to say, for instance, that red objects differ from all others in that they reflect wave-lengths in range lx – ly. (Wilson, 1999, p.328)

Although we will never notice the elements of red by purely experiencing red, we can reach a nominal definition through a scientific account of colour. Consequently, even if the perception of red will always be confused, its idea can be distinct. Wilson here follows some of Leibniz's passages that seem to confirm this view, as when he states that 'I have no doubt that a man born blind could speak aptly about colours and make a speech in praise of light, without being acquainted with it, just from having learned about its effects and about the conditions in which it occurs' (A VI 6, p.287/RB, p.287). Or when Leibniz states 'I do not have a distinct idea of all colors, being required often to say that it is a something I-know-not-what that I sense very clearly, but cannot explain well [...] When Newton publishes his book on colours we will understand them more distinctly' (GP III, p.247/AG, p.287).

Yet, conflicting with Wilson's interpretation is the fact that Leibniz sometimes expresses the opposite view. For example he says that 'a man born blind could learn the whole of optics yet not acquire any idea of light' (A VI 4, p.2003/L, p.285). Also in the quoted passage of *Meditations*, he suggests that our ideas of sense perceptions will always be confused (A VI 4, p.587/AG, p.23).[9] In passages like these ones, Leibniz not only claims that

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[9] 'And so we recognize colors, smells, tastes, and other particular objects of the senses clearly enough, and we distinguish them from one another, but only through the simple testimony of the senses, not by way of explicit marks'. (A VI 4, p.587/AG, p.23)

confusion in sense perceptions is ineluctable, but that the ineluctable confusion in a sense perception entails ineluctable confusion in its idea. This means that, contrary to Wilson's view, essentially confused perceptions (such as the sense perception of red) cannot be reduced to (or replace by) distinct ideas (such as reflection of the wave-lengths in range lx – ly). Furthermore, in these passages Leibniz refers to these issues as if there were no differences between confusion in ideas and confusion in perceptions. Indeed, the inexorability of confusion in both ideas and perceptions suggests an equivalence and not a distinction between the allegedly two meanings of confused. In other words, Leibniz is not explicit in establishing that the nature of confusion in ideas differs from the nature of confusion in perceptions.

Wilson thinks that these conflicting statements are evidence that Leibniz was confused about the issue (1999, p.328). Thus, despite the contradictory textual evidence, she insists that a coherent account requires us to understand distinct and confused as having one meaning for ideas and another for perceptions, where confusion in the former in correctable and ineluctable in the latter. A logical consequence of persisting on this difference of meaning is that ideas or concepts are qualitatively different from perceptions or sensations. Indeed, as said, both Wilson and Parkinson consider that, contra Kant, the different meanings of confused entail that for Leibniz ideas/concepts are different in kind from perceptions/sensations.

However, there are no lack of objections to Parkinson's and Wilson's view. Stephen Puryear claims that for Leibniz there are not two different meanings of confused and distinct; Leibniz means the same when he applies these terms to perceptions and concepts. In Puryear's view, when Leibniz talks about distinct or confused ideas and distinct or confused perceptions, he always means something about the nature of those ideas and those perceptions: distinct is the property of having explicit content and confused is the property of having implicit content. In other words, distinct means that the ingredients of the idea or the perception are manifested in the idea or in the perception, while confused means that they are not (Puryear, 2005, p.105). For example perceiving the colour green is confused because its ingredients are implicit: we know that green is a combination of yellow and blue, yet we cannot perceive either the yellow or the blue while we are contemplating the green. If we could separate the yellow from the blue we would see the ingredients of green, yet we would not see the green anymore (2005, p.110).

This view does not deviate much from our definition of confused perceptions, i.e. confused perceptions are perceptions of which we are unaware of their components. However, Leibniz does define distinct ideas in another manner. As said, distinct ideas are those we can enumerate their predicates or marks and confused those that we cannot enumerate their marks. According to Puryear, when Leibniz refers to distinct and confused ideas in these terms –i.e. as conceptual abilities–, he is just giving a nominal definition for those terms; he is not saying anything about the nature of ideas, but about our cognitive response to them. So when Leibniz writes about distinct and confused ideas in terms of conceptual abilities 'he is setting forth the means for recognizing when our concepts have these properties, not telling us what it means for them to be clear or distinct' (Puryear, 2005, p.105). Therefore, an idea's nature is confused just as a perception is confused, i.e. when we cannot discern their ingredients in the idea by itself. Our ability to discern the marks of an idea is just a consequence of those marks being explicit in the idea itself.

In summary, according to Puryear, a confused idea, just as a confused perception, is when we perceive something that appears to us as simple, i.e. without components, even though that something is not simple. Furthermore, even if we knew the components of the perceived something, that knowledge would not make the perception distinct. As Puryear says: 'Knowing that the ideas of yellow and blue are ingredients in our idea of green, for example, does not give us any distinguishing marks of green, for the simple reason that we can never notice any yellow or blue in our confused perceptions of green' (2005, p.109).[10] Hence, knowing the frequency of a sound or the physical-theoretical properties of a colour does not mean we have a distinct idea of the sound and the colour as perceived. It could be objected that, as we showed, there are passages where Leibniz does say that science will help us to have a clear a distinct knowledge even of sense perceptions. Puryear's response is that perceptions have more than one idea for each sensible perception. Indeed, for Leibniz, each sense perception is accompanied by certain circumstances, so 'there is a kind of redundancy [*pleonasme*] in the perceptions we have of sensible qualities' (A VI 6, p.299/RB, p.299). Some ideas that we acquire through our senses are indeed confused, such as our

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[10] Puryear bases his view on Leibniz's passages such as this one: 'I also made the point there that terms which are simple only from our point of view because we have no way of analysing them into the elementary perceptions which make them up –e.g. terms like hot, cold, yellow, green– do admit of real definitions which would explain what causes them. Thus the real definition of *green* is to be composed of a thorough mixture of blue and yellow; though green can no more be given a nominal definition, through which it could be recognized, than can blue or yellow' (A VI 6, p.297/RB, p.296). Elsewhere, Leibniz also suggests that the senses can provide us with the knowledge to recognise what a colour is, but not about its necessary causes: 'For example, even if we have experienced a million times that blue and yellow mixed together (without being altered) make green, we are not certain that this is necessary while we do not understand the reason for it. For perhaps in the universe there is a kind of yellow or blue which produces a different composition' (GP VI, p.490/LTS, pp.222-3).

representation of the colour red. However, we could also have distinct intellectual ideas of the physical circumstances that accompany or underlie that sensory idea, in this case; the physical-theoretical aspects of colour (Puryear, 2005, p.112).[11] These latter are susceptible of analysis, i.e. if they are confused, they are correctable. In Leibniz words:

> They [sensory ideas such as colours] only appear to be simple. So when they occur there are other things going on which are connected with them, although the connection is not one that we understand; and these accompanying circumstances provide something that can be explained and subjected to analysis, which gives some hope that eventually we shall be able to discover the reasons for these phenomena. So there is a kind of redundancy in our perceptions of sensible qualities as well as of sensible portions of matter: it consists in the fact that we have more than one notion of a single subject. (A VI 6, p.299/RB, p.299)

As we will see later, this redundancy also occurs in beauty and it is what explains that beauty can be perceived both confusedly and distinctly, yet for now it is important to notice that this redundancy does not mean that all aspects of our confused ideas are correctable. As Puryear remarks, not only are certain perceptions essentially confused, but so also are their ideas (2005, p.110). More specifically, our ideas of confused sense perceptions are ineluctably confused. For example, if our sense perception of the colour red is inexorably confused, our idea of the perception of the colour red is as well inexorably confused. This is the case despite the fact that the accompanying or underlying circumstance of the phenomenon of our perception of the colour red are indeed correctable, i.e. can be distinctly known.

Following Puryear's interpretation there is not always a continuum between the confused and the distinct; some sensations and some ideas are and always will be confused. This conclusion is explicitly stated by Puryear as he says that some ideas and sensations are essentially confused (2005, p.110). But does this mean that there is no continuity between the terms of (c): the intellectual and the sensitive? In other words, where do the consequences of Puryear's view leave us in relation to Kant's interpretation? If there are perceptions that will always be confused, could we agree with Kant and still call them confused thoughts? In principle it does not seem to be a problem. In fact, elsewhere Puryear himself says that 'though Leibniz does not seem to be entirely consistent in his use of 'thought', the best evidence indicates that the distinction between intellectual and sensory corresponds to that between distinct and confused thoughts, not to that between thoughts and non-thoughts'

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[11] Indeed, for Leibniz, notions as markedly distinct as numbers can be found in confused perceptions such as colours and sounds: 'But there are other *more intelligible notions* which we attribute to the *common sense*, because they do not have an external sense to which they are uniquely associated and characteristic of. Such is the idea of *numbers*, which are discovered likewise in colors, sounds, and tactile qualities' (GP VI, p.488/LTS, p.221).

(2006, p.27). The last sentence points out an important issue for this topic, which is that for Leibniz sense perceptions are, at least, not the opposite of thoughts. As we stated before, Leibniz does supply some evidence that confirms that our sense perceptions are indeed confused thoughts.[12] Yet, on the other hand, as we have seen, there are some commentators that defend the opposite view. Although we cannot solve this controversy here, it suffices to say that we agree with the notion that sense perceptions are at least not non-thoughts. In other words, there are at least some cases where there is not a strict opposition between a sensible and an intellectual experience; where they do not exclude each other. As we will see, beauty is one of these cases, since our aesthetic experience can have confused elements as well as distinct ones at the same time. Therefore, it could be at the same time an intellectual and a sensible experience.

Before we continue we should reiterate certain conclusions that we have reach thus far that will be important to the coming discussion:

1- In accordance with Puryear, confusion and distinction do not differ in meaning when applied to ideas and when applied to sense perceptions.

2- Sense perceptions are confused thoughts or at least not the opposite of thoughts.

3- Therefore, there is not always a strict opposition between the intellectual and sensitivity.

From this we can conclude that:

4- There is no reason why an approach to Leibniz's aesthetic experience (or rather the experience of beauty) should be limited just to sensitivity and ignore the intellectual.

We will further develop this last claim after exploring the opposite argument held by several commentators of Leibniz's aesthetics. Yet, before ending this section it is important to consider a practical consequence of the first three conclusions. Accepting these conclusions entails a desirable by-product: the limitation of the diverging of meanings among the terms (confused or distinct) 'perception', 'sensation', 'idea', 'thought' and 'knowledge'. Hence, from now on any reference to (confused or distinct) knowledge can be understood as

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[12] To give another example, in the *Theodicy* Leibniz writes that '[d]istinct knowledge, or intelligence, occurs in the actual use of reason; but the senses supply us with confused thoughts' (GP VI, p.288/H, 303). A few pages earlier in the same text, Leibniz claims as follows: 'What would it [an intelligent creature] think of, if there were neither movement, nor matter, nor sense? If it had only distinct thoughts it would be a God, its wisdom would be without bounds: that is one of the results of my meditations. As soon as there is a mixture of confused thoughts, there is sense, there is matter' (GP VI, p.179/H, p.198). Here Leibniz seems to invert the relation between sense and confused thoughts, he is not saying that we have confused thoughts because we have sense perceptions, but that there are sense perceptions because we can have confused thoughts. He even goes further to claim that there is matter also because we can have confused thoughts. This sort of passages confirm Kant's interpretation that for Leibniz reality is intellectual and when something does not seem as such is just the product of confusion.

interchangeable with (confused or distinct) perception, (confused or distinct) idea, (confused or distinct) thought and (confused or distinct) cognition. So, unless we explicitly point it out, these terms will be used without any significant difference in meaning.

2. The confusion about Leibniz's aesthetics

2.1 Confused perceptions as a requirement for aesthetics

Some of the few commentators that have written about Leibniz's aesthetics have painfully struggled to identify where the experience of beauty stands regarding the mentioned dichotomies. The most evident mistake that most commentators commit is to fall in the trap of the anachronistic application of the definition of the term 'aesthetics'. As is well known, the term 'aesthetic' with its contemporary meaning was first coined by Alexander Baumgarten. 'Aesthetics' is defined in the §1 of Baumgarten's *Aesthetica* (1750) as a 'lower theory of cognition' (*gnoseologia inferior*) and the 'science of sensory cognition' (*Scientia cognitionis sensitivae*), which is analogous to reason (*ars analogi rationis*), hence not reason (2007, p.10). Furthermore, in §3 of *Reflections on Poetry* (1735), Baumgarten identifies sensory cognition with confused representations (1954, p.38). These definitions check all the boxes of the left term in each of the three dichotomies: since it is analogous to reason, aesthetic experiences do not pertain to the intellect; because its object of study is sensory cognition, aesthetics is focused on sensations and not ideas; and as sensations are derived from confused representations, aesthetics is related to confusion.

In this sense, it is not surprising that some commentators have gone back to read Leibniz's aesthetics as exclusively related to the confused, sensations and sensibility. In *The Aesthetic as the Science of Expression and of the Linguistic in General* (1902), Benedetto Croce clearly recognises the issue: 'The facts now called æsthetic were identified by Leibniz with Descartes' *confused* cognition, which might be clear without being *distinct*' (1964, p.207). Here Croce is in fact indirectly considering the anachronism of the word. He is not saying that Leibniz thought that the aesthetic experience is confused, but that what we now understand as aesthetic experience is what Leibniz had described as confused knowledge. In this sense, Croce is not wrong; 'aesthetics', as defined by Baumgarten, excludes distinct representations. Yet, as we will argue, this definition of aesthetics falls short on describing all the dimensions of Leibniz's view on the experience of beauty.

A more crucial mistake is the one found in some later commentators, who assume that Leibniz himself thought that the experiences of beauty, art and taste are derived exclusively

from confused knowledge. For example, Clifford Brown writes that for Leibniz 'the source of our pleasure in aesthetic experience is our clear but confused (i.e., non-conceptual) perception of the perfection of a unity in variety' (1967, p.73). Similarly, Jose Maria Ortiz identifies clear but confused knowledge as the ground for aesthetic experience and the inexplicability of the aesthetic taste in Leibniz's philosophy (1988, p.156). Javier Villanueva is even more categorical as he states that 'what is particularly Leibnizian is to unite beauty to clear and confused knowledge' (1984, p.143).[13] In *Diotima's Children*, Fredrick Beiser exceptionally notices that for Leibniz beauty is also related to intellectual pleasures.[14] Furthermore, he observes that in some passages Leibniz suggests that distinct and intellectual knowledge are the ground for true beauty and aesthetic pleasure, making intellectual pleasure the paradigm of all pleasure (2009, pp.37 & 40). Beiser also states, however, that for Leibniz confused perceptions are a constitutive aspect of aesthetic experience and its pleasure. Hence, he concludes that 'Leibniz seems to make the confusion of the senses both a necessary condition and obstacle of aesthetic pleasure' (2009, p.40). Despite the fact that Beiser recognises intellectual beauty, the idea that confusion is a necessary condition for aesthetics seems to guide much of his interpretation of Leibniz's view, since on many occasions he treats aesthetics as completely equivalent with confused perceptions.[15]

The origins of the idea that Leibniz makes confused knowledge the source of all aesthetic experience seems to come from a very specific interpretation of a few passages. In these passages, Leibniz mentions certain phenomena related with aesthetics to illustrate confused knowledge. In the last four aforementioned works, the commentators seem to consider that Leibniz is not using aesthetic phenomena just as examples to illustrate something about confused knowledge, but making a necessary connexion between aesthetics and confusion. The most commonly referenced passage is found in *Meditations on Knowledge, Truth, and Ideas*. In this text, where Leibniz explains the dichotomies of distinctness and confusion, he also considers the example of aesthetic judgements, more specifically in the form of judgements about works of visual arts:

> Likewise we sometimes see painters and other artists correctly judge what has been done well or
> badly; yet they are often unable to give a reason for their judgment but tell the inquirer that the-

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[13] Author's translation. In the original Spanish: '*Lo propiamente leibniziano es unir la belleza al conocimiento claro y confuso.*' (1984, p.143)

[14] According to Beiser, Leibniz 'maintains that there are purely intellectual pleasures, specifically those that come from the contemplation of the harmony of the universe' (2009, p.37).

[15] For example, at one point, when Beiser is explaining the value of aesthetic experience as knowledge, he states that 'although Leibniz did give aesthetic experience some cognitive significance, it was of a very diminished kind: confused intellectual cognition' (2009, p.40).

work which displeases them lacks 'something, I know not what' [*nescio quid*]. (A VI 4,p.586/L, p.291)[16]

The aesthetic judgement of painters is here presented as an example of confused knowledge, as the painter is unable to give a reason for why some aspects of the painting were done 'well or badly'. Just as we cannot explain the colour red to a blind man these painters cannot explain why something in a painting is good or bad. Also interesting here is the use of the notion of 'I know not what' (*nescio quid*), better known in French as '*Je ne sais quoi*', which is a recognisable phrase used in Leibniz's time in reference to art criticism (see Jeffrey Barnow, 1993). This phrase fits perfectly with Leibniz definition of confused ideas as ideas of something of which we cannot provide a nominal definition of its ingredients, which results in our inability to give any reason about why something is as such.

The last four commentators give especial importance to the notion of 'I know not what' and this passage from the *Meditations* in their description of Leibniz's aesthetics. For example, Ortiz's statement about the confused perceptions as the ground of aesthetic experience is justified with a footnote that quotes the aforementioned passage from the *Meditations* (1988, pp.154-55 & 156). Also, at the beginning of his essay, Villanueva paraphrases the same passage to illustrate that something is beautiful when it possesses an 'I know not what' (1984, p.139). Brown quotes three similar passages from Leibniz including the one from the *Meditations*, from where he derives the guiding idea that Leibniz's aesthetics is related to confused knowledge (1967, p.71). At the beginning of his book, Beiser introduces the 'Je ne sais quoi' as a significant notion to understand rationalist aesthetics, including Leibniz. Beiser does not quote the mentioned passage, but makes reference to a very similar one from the *Discourse*:

> When I recognize one thing among others but cannot say in what its differences or properties consist, my knowledge is confused. In this way we sometimes know *clearly*, and without having a doubt of any kind, if a poem or a picture is well done or badly, because it has certain 'something, I know not what' which either satisfies or repeals us. (GP IV, 449/L, pp.318-19)

Although Beiser notes that for Leibniz there is a version of aesthetic experience that is intellectual, he is very persistent about the importance of the 'I know not what' in aesthetics,

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[16] Here we prefer Loemker' translation of *Meditations* instead of Ariew's and Garber's version, which has been used throughout this thesis. The reason is that the expression *nescio quid*, translated in the former version as 'I know not what', is translated by the latter version as 'unknown something' (AG, p.23). We think that Loemker's phrasing captures much better the idea of *nescio quid* as well as of its French version; *Je ne sais quoi*, which was a very common expression in Leibniz's time.

as he explains 'Leibniz's recognition of the 'Je ne sais quoi' is significant because it amounts to an admission that reason finds some limit in sensible aesthetic experience' (2009, p.40).

It is worth noticing that in both quoted passages (the one from the *Meditations* and the one from the *Discourse*) Leibniz is not talking explicitly about a judgement over all sorts of beautiful objects, just paintings and poems. He is also not referring to all aesthetic experiences, but about the quality of paintings in the *Meditations* and about our taste on paintings and poems in the *Discourse*. Furthermore, an attentive reading of Leibniz's writing indicates he is not necessarily saying that all judgements about art are limited to confused knowledge. We suggest that in these passages the mentioned aesthetic phenomena should be considered in its specificity, as a particular example about only some cases. Indeed, the passage from the *Discourse* includes the adverb 'sometimes', seemingly expressing this latter meaning; 'we *sometimes* (*quelques fois*) know clearly, and without having a doubt of any kind, if a poem or a picture is well done or badly'.[17] Also the fragment from the *Meditations* presents an equivalent to 'sometimes'; 'yet they are *often* (*saepe*) unable to give a reason for their judgement'.[18] Therefore, Leibniz is only saying that sometimes (not always) we cannot give reasons to justify our taste, and often (not always) painters cannot give reasons to justify the quality of a painting. Under this consideration, both passages do not seem to be hard theoretical claims establishing some sort of necessity between the 'I know not what' –as the inability to give reasons– and the judgements about artworks, but just mere contingent examples. Hence, it is not right to conclude from these paragraphs that confused knowledge is in anyway a kind of requirement for art criticism or taste, much less a requirement for all other aesthetic phenomena. As we will see, discarding a relation of necessity between the confused and aesthetics facilitates a more coherent interpretation of Leibniz's views on the topic. But for now we can conclude from the consideration of these passages that Leibniz's remarks about art and taste are just examples and not theoretical claims.

Nevertheless, it is worth considering couple of other passages that some of these commentators quote to defend their view. Firstly, from *On Wisdom,* Brown shows a statement where Leibniz relates the experience of beauty with the 'I know not what':

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[17] My Italics. In the original French: '*C'est ainsi que nous connoissons quelques fois c l a i r e m e n t , sans estre en doute en aucune façon, si un poëme ou bien un tableau est bien ou mal fait, parce qu'il y a un j e n e s ç a y q u o y qui nous satisfait ou qui nous choque.*' (GP IV, p.449)

[18] My Italics. In the original Latin: '*Similiter videmus pictores aliosque artifices probe cognoscere, quid recte, quid vitiose factum sit; at judicii sui rationem reddere saepe non posse, et quaerenti dicere, se in re quae displicet desiderare nescio quid.*' (A VI 4,p.586). However, it must be noticed that the fragment from the *Meditations* in the original Latin does not explicitly include a term equivalent with 'sometimes' at the beginning, as Loemker's English translation does in the first sentence: 'we *sometimes* see painters and other artists correctly judge what has been done well or badly' (L, p.291).

We do not always observe wherein the perfection of pleasing things consists, or what kind of perfection within ourselves they serve, yet our feelings (*Gemüth*) perceive it, even though our understanding does not. We commonly say, 'There is something, I know not what, that pleases me in the matter' (GP VII, p.86/L, p.425).

This fragment refers not only to our relation to art, but to beauty in general, since he is talking about the pleasure derived from perfection. Yet, similarly to the aforementioned paragraphs, Leibniz starts the sentences with a qualifier that encloses the content of the statement, namely; 'not always' (*nicht allezeit*).[19] This passage clearly states that pleasure from perfection does not always require understanding, hence not all pleasure comes exclusively from distinct knowledge. But it does not say that all pleasure comes exclusively from confused knowledge either. Indeed, Leibniz is suggesting that while sometimes we are able to explain pleasure, sometimes we cannot, since some pleasure comes from confused perceptions. Furthermore, in the sentence that follows from this one, Leibniz clearly states that the understanding has a role to play in this matter: 'But those who seek the causes of things will usually find a ground for this and understand [*begreiffen*] that there is something at the bottom of the matter which, though unnoticed, really appeals to us' (GP VII, p.86/L, p.425). This latter quote shows that for Leibniz we can understand why something gives us pleasure by identifying the source of that pleasure. This is the exact opposite of the meaning conveyed by the phrase 'I know not what'. In fact later on in the same text, Leibniz explicitly says that the element, which is the source of our pleasure, is 'a regular though invisible order' (GP VII, p.87/L, p.426), hence showing an understanding (an 'I do know what') of what constitutes the core of our experience of perfection or beauty.

There is one more quote that Brown and Villanueva use to argue the constitutive relation between confusion and aesthetics. In one paragraph of the *Remarks on Shaftesbury's Characteristics of Men, Manners, Opinions, Times* (1712), Leibniz does establish a distinction between taste and understanding, relating the former with confused perceptions and labelling as a 'sort of instinct':

Taste as distinguished from understanding consists of confused perceptions for which one cannot give an adequate reason. It is something like an instinct. Tastes are formed by nature and by habits. To have good taste, one must practice enjoying the good things which reason and experience have already authorized. (GP III, pp.430-1/L, p.634)

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[19] In the original German: '*Man mercket nicht allezeit, worinn die Vollkommenheit der angenehmen dinge beruhe, oder zu was für einer Vollkommenheit sie in uns dienen: unterdessen wird es doch von unserm gemüth, obschohn nicht von unserm Verstand, empfunden. Man sagt ins gemein: es ist, ich w e i ß n i c h t w a s , so mir an der sach gefället.*' (GP VII, p.86).

This fragment, taken by itself, genuinely seems to convey that for Leibniz we cannot give reasons to justify our taste, because it is exclusively grounded on confused perceptions. Yet there are mitigating circumstances surrounding this statement that should be considered. Firstly, it is a short paragraph that does not develop the argument further, since the surrounding paragraphs are about significantly different topics. Secondly, as Leibniz indicates, he is commenting on a specific chapter (Miscellany 3, chapter 2) of Shaftesbury's book, which is about taste in morals, manners, politeness and types of personalities in politics. In this chapter, Shaftesbury barely mentions anything related to taste in something that we would associate with aesthetics (such as the arts or nature's beauty), since he talks mostly about what he frames as a sort of inner beauty –as moral principles– and outward beauty –manners. Thirdly, when Shaftesbury does mention the arts, he does not consider taste as something completely apart from reason or knowledge. In fact he starts the chapter defending the critics' ability to provide an explanatory account of their taste.[20] This is reflected in the last sentence from Leibniz's remark, where he says that good taste should be practised by enjoying the good things that reason and experience have authorised. Therefore, although at the beginning of the passage Leibniz says that we cannot give reasons to justify taste, since is based on confused perceptions, later he vindicates the significance of reason to determine the things that good taste should enjoy. Leibniz is not saying that the understanding and reason are completely divorced from taste, but that if we do examine taste by itself, divorced from the understanding, then it is only based on confused perceptions. It is obvious that taste with no understanding is only confused knowledge, since there cannot be distinct knowledge without understanding. But according to Leibniz, taste can be –and should be– supported by the understanding; taste can be –and should be– justified by reason. As we will see, this convergence between taste and understanding is key for Leibniz's view about the experience of beauty.

So we can conclude that neither this nor the other quoted passages support the thesis that for Leibniz confused knowledge or confused perceptions constitute a necessary requirement for aesthetics: Confused perceptions are neither a necessary requirement for our judgements about art nor for our experience of perfection. It is true that Leibniz leaves an open space in his theory for taste without understanding, based on confused knowledge and

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[20] In his words: 'For this reason we presume not only to defend the cause of critics; but to declare open war against those indolent supine authors, performers, readers, auditors, actors, or spectators; who making their humour alone the rule of what is beautiful and agreeable, and having no account to give of such their humour or odd fancy, reject the criticising or examining art, by which alone they are able to discover the true beauty and worth of every object'. (Shaftesbury, 1790, p.137)

lack of reason. But there is not much evidence to argue that the lack of understanding and the inability to give reasons are a constitutive and necessary aspect of the aesthetic phenomena. Furthermore, as said, Leibniz seems to promote those aesthetic experiences that tend towards an inclusion of both the understanding and rational justification.

2.2 The apparent tension between distinct knowledge and the aesthetic experience

There is, however, an issue standing against our claim that aesthetics can be related to confused perceptions as well as to distinct knowledge. This issue has two types of objections: on the one hand, if the intellect and sensitivity are to be understood as an excluding and opposing dichotomy, the experience of beauty cannot integrate both sides of each pairing at the same time without becoming more than only one experience. On the other hand, if there is a continuum between the intellect and sensitivity, and aesthetic experience is only defined by confused perceptions, our relation to beauty is just a failed attempt to perceive distinctly and gain intellectual knowledge.

According to the first position, since the intellect is the opposite of sensibility, any experience is either intellectual or sensitive, but not both. Therefore, either the experience of beauty is based on distinct ideas or on confused perceptions, but not both. This view constitutes a background that helps to justify the idea that everything related with aesthetics must be exclusively related to confused perceptions or confused knowledge. Indeed, this strict opposition of the intellect and sensitivity seems to be at least implicit in some of the commented works about Leibniz's aesthetics. Villanueva, however, is very straight-forward about this opposition being a strong reason why aesthetics must be related only with confused knowledge or perceptions. He affirms that for Leibniz the cause of aesthetic pleasure is the rationality of perfection, yet this rationality remains hidden from aesthetic contemplation. This rationality can be grasped by the intellect as true, good and useful, but not as pleasurable or delightful. These latter values belong to the faculty of taste which is instinctive and immediate and 'intuitive'.[21] In this sense, taste is the faculty to experience perfection as beauty. Villanueva is very clear that taste and rationality are two diametrically opposed ways to approach reality.[22] Villanueva attributes to Leibniz the idea that the role of instinctive and intuitive knowledge is to provide us with a unified version of reality, contrary to the

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[21] Villanueva's use of the term 'intuitive' here differs from Leibniz's definition in the *Meditations*, where 'intuitive' is a form of distinct and adequate knowledge opposed to symbolic (A VI 4, pp.587-8/AG, p.23). Here Villanueva seems to have in mind a more colloquial use of the term related with instinctive and confusion.

[22] Villanueva does not provide any textual evidence that backs up these particular statements. A few lines before he refer to the previously quoted passage from Leibniz's *Shaftesbury's Remarks*. Thus it seems that he is relying on that passage that we already discussed.

fragmentary and analytic nature of reason. In this context, beauty appears to us only when reality is synthetically grasped (1984, p.140).[23] Villanueva remarks that Leibniz insists on aesthetics being exclusively related to this intuitive knowledge because Leibniz's goal is to maintain the autonomy of the faculty of taste and aesthetics in general. The only way to save this autonomy, according to Villanueva, is by giving each faculty different types of ideas (1984, p.145). Hence, in order for taste (i.e. the faculty to experience perfection as beauty) to preserve its autonomy from the intellect, the former faculty must be based only and exclusively on confused ideas. Although we could agree on this last statement –namely that the autonomy of taste, and the autonomy of aesthetics in general, would require an exclusive source of representing reality–, there is no textual evidence to support the rest of Villanueva's interpretation of Leibniz's aesthetics. As discussed before, it is not clear that Leibniz establishes a strict opposition between the intellect as reason and sensibility as taste. And there is no evidence to date that Leibniz had any interest in preserving the autonomy of taste from reason or the autonomy of aesthetics in general.

Despite this, Villanueva raises a considerable objection as he notices an incoherence between, on one hand, founding beauty on the rationality of perfection and, on the other, founding our relation with beauty on non-rational grounds (i.e. taste). As he explains, it is paradoxical that we are condemned to miss the beauty of a thing, as our knowledge of the perfection of that thing improves in its perfection and becomes more distinct. Villanueva accuses Leibniz of espousing a somewhat incoherent way of thinking when he says that beauty is ultimately grounded on the rationality of perfection (1984, p.146).

Villanueva is not alone in this criticism: although Beiser explicitly acknowledges that for the Rationalist –including Leibniz– there is a continuum between confused and distinct perceptions,[24] he questions that the experience of beauty could incorporate both confused perceptions and distinct knowledge. Hence, Beiser expresses a view of Leibniz that is very similar to Villanueva's: 'That special 'Je ne sais quoi' of a poem or picture comes from our incapacity to define its sense qualities. If we were to analyze these qualities into their

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[23] Although there seems to be no evidence that Leibniz held this view, Beiser attributes a very similar idea to Baumgarten: 'Still, despite such lingering rationalism, Baumgarten also seems intent on revalorizing the term, giving it a more positive connotation, making a virtue out of what would have been a vice to Leibniz or Wolff. This seems to be the whole point behind defining confusion in terms of extensive clarity. If the virtue of intensive clarity is analysis, the virtue of extensive clarity is synthesis, the power to unite what the intellect would divide' (Beiser, 2009, p.128).

[24] In Beiser's words: 'Where they [the rationalist] differ from Kant and Schopenhauer is in denying that these subconscious perceptions are distinct in kind from those of our self-conscious intellect; they hold instead that there is a continuum between all perceptions, which are distinguished from one another solely in the degree of their clarity and distinctness' (Beiser, 2009: p.21)

components, they would lose their aesthetic appeal entirely' (2009, p.40). Beiser bases his claim on a passage from the *New Essays*:

> [I]t is self-contradictory to want these confused images to persist while wanting their components to be discerned by the imagination itself. It is like wanting to enjoy being deceived by some charming perspective and wanting to see through the deception at the same time—which would spoil the effect. (A VI 6, p.404/RB, p.403)

This passage seems to suggest that there is an enjoyment in illusions, understood as effects that are enjoyed only when we have no distinct knowledge of their causes. Hence if we approached reality through distinct knowledge and the intellect, it would destroy the illusion, as well as its ability to give us pleasure. What Beiser insinuates is that this enjoyment is indeed aesthetic pleasure, which is strictly confused and unreachable by the intellect. This case perfectly illustrates Villanueva's objection and the notion that the use of reason interferes with the aesthetic experience.

Both Villanueva's and Beiser's views are grounded on the supposition that within an aesthetic experience there is no point of encounter between the confused and the distinct, since they mutually exclude each other. As we have seen Villanueva is explicit about the cause of radical separation being the opposing nature of the relation between the intellectual and sensibility (or reason and taste). Although Beiser is not so explicit about this matter, the same assumption seems to be implicit, as he treats separately the cases of intellectual beauty and sensitive beauty. Since Beiser acknowledges that Leibniz writes about both types of beauty, but not that they can be mixed, he concludes that Leibniz's account expresses a tension between sometimes accepting the 'Je ne sais quoi' as a requirement for aesthetic experiences and sometimes denying it in favour of the intellectual structure of beauty (2009, p.40). In Beiser's and Villanueva's interpretations the result of reading Leibniz's aesthetics as (sometimes or always) opposed to the intellect is that any approach to reality guided by the understanding and reason is a threat to our experience of beauty, and since Leibniz always promotes such approaches of the intellect, aesthetics is deemed as a less desirable good.

In the few paragraphs dedicated to Leibniz in *Aesthetics*, Croce reaches a similar conclusion, but by following a different interpretation of Leibniz. For him, unlike Beiser and Villanueva, Leibniz does not propose a stark opposition between the intellect and sensibility, but rather a continuum. Croce backs this by pointing out Leibniz's law of continuity. According to this law, reality is continuous and therefore our perception and knowledge of things is also continuous. Hence the distinction between clear and obscure is not one of kind

but one of quantitative degrees. Although he does not say so explicitly, Croce seems to suggest that for Leibniz the difference between the intellect and sensibility is also one of degrees. According to Croce's interpretation of Leibniz, there is only one type of knowledge. Thus, unlike Villanueva, for Croce confused and distinct knowledge are not two different approaches to reality. Knowledge is one and the same that only differs in degrees; from obscurity to clarity and from confusion to distinctness. The adequate progression of knowledge is towards clearness and distinctness and far away from obscurity and confusion. Thus, obscurity and clarity are quantitative grades of a single form of knowledge, the distinct or intellectual, toward which they both tend (1964, p.208).

Croce's view seems to be following Kant's idea that for Leibniz reality is in itself intellectual. Under this consideration confused knowledge is just a degraded state of knowledge, since knowledge is a better reflexion of reality when it is distinct and intellectual. Croce states that what we now would consider as an 'aesthetic fact' is for Leibniz neither completely sensual nor intellectual: these facts are not sensual because they possess their own clarity, hence differing from pleasure and sensual emotion, yet they are not intellectual either, since they do not reach distinctness (1964, p.208). Aesthetic facts are the result of a clear and confused stage of knowledge.

For Croce, however, the Leibnizian law of continuity and the view that reality is intellectual are not compatible with aesthetic facts being an autonomous source of knowledge. As said, for Croce confused and distinct knowledge are different degrees of the development of the same knowledge; confused knowledge is of lesser excellence than distinct knowledge. The bottom line is that if intellectual knowledge is the same as confused knowledge, but better, there is no specific value in confused knowledge when compared with distinct knowledge. Croce goes further to say that, not only for Leibniz, but also in Baumgarten's view, confusion in knowledge is not a positive quality, but a negative one (1964, p.214). According to Croce, since for Leibniz aesthetics in general is exclusively limited to confused knowledge, aesthetics is not based on a positive quality. From this point of view, the whole project of Leibniz's aesthetics is grounded on what results from the shortcomings of the intellect. Consequently aesthetics cannot be consider an autonomous dimension of knowledge in Leibnizian philosophy, but just a passing stage of degraded knowledge.

Within Croce's view it is also possible to consider Villanueva's and Beiser's objection regarding the end of the aesthetic experience once we reach intellectual knowledge, yet for different reasons. The arguments can be summarised as follows:

1. Villanueva's position (and also implicitly Beiser's):

- Sensibility/taste and intellect/reason are opposed to each other, so they cannot converge together in one experience.

- The experience of sensible beauty is given by approaching reality through sensibility and taste (confused perception).

- Hence, either we approach reality through sensibility/taste (confused knowledge) and experience beauty or we approach through the intellect/reason (distinct knowledge) and not experience beauty.

2. Croce's position:

- Sensibility/taste and the intellect/reason are different degrees of knowledge. Knowledge improves when it tends towards reaching the latter. Thus confused knowledge is an inferior state of knowledge, where intellectual knowledge still hasn't been reached or has failed to reach.

- The experience of beauty is always and only given by having confused knowledge of reality.

- Hence, the experience of beauty disappears once an intellectual (distinct) knowledge had been reached.

Since both positions limit aesthetics to confused knowledge, both conclude that intellectual knowledge is not only unrelated to our aesthetic experience, but also irreconcilable. The difference is that, in Villanueva's position, aesthetics for Leibniz is an approach to reality that can be valued in its particularity. It provides specific knowledge that is just different from the one provided by the intellect. Therefore, it allows the autonomy of aesthetics as an area of human experience. In Croce's position, aesthetics for Leibniz is a deficiency of knowledge that not only has less value compared with intellectual knowledge, but also is to be overcome, as knowledge tends to improve towards distinctness.

Here we reject both positions. In what follows we will argue that there is no incoherence or paradox in Leibniz's account, since it does not postulate that perceivers must either experience beauty or gain distinct knowledge, as Villanueva and Beiser claim. Contrary to Croce, we will show that for Leibniz the experience of beauty is not an effect of downgraded confused knowledge. Our main claim is that for Leibniz the experience of

beauty is not confined to confused perceptions or knowledge. Furthermore, we will explain that distinct perception or knowledge is better suited than confused perceptions to experience beauty. Afterwards, we will show how the experience of beauty can be distinct and confused at the same time.

3. Beauty and distinct knowledge

3.1 Beauty and intelligibility

The experience of beauty for Leibniz is not always and only given by having confused knowledge of reality. We could show this just going through the many passages where Leibniz suggests that the experience of beauty is also intellectual, but this method seems less satisfactory than showing the logic of Leibniz's view. Therefore, although we will show some textual evidence, our main interest here is explaining the latter.

From what has been said in the previous chapters, it must be clear by now that for Leibniz beauty is neither a sensation nor a feeling. Beauty is the formal structure of harmony as unity in variety. Nevertheless, since a formal structure only expresses itself through certain content, beauty can be expressed through the sense perceptions that we experience when we contemplate an object. In this case, beauty is the harmonic order of the sense perceptions, but not the sensations themselves. Accordingly, beauty is not the result of any sort of subjective internal sense, but an expression of a formal structure. As we will argue, a formal structure is better experienced by the intellect than through sensibility. Since beauty, as harmony or unity in variety, is a formal structure it is better experienced through distinct ideas and the intellect.

In the first chapter we established that one of the features of beauty is to be intelligible in its disposition. As Leibniz writes '[p]erfection is the harmony of things, or the state where everything is worthy of being observed, that is, the state of agreement [*consensus*] or identity in variety; you can even say that it is the degree of contemplatibility [*considerabilitas*]' (GW, p.172/AG, p.233). We said that contemplatibility refers to an order that is cognitively intelligible. In other words, perfection, as the harmony of things, is coherent for the intellect. Since beauty is harmony, it is the case that beauty is also intelligible. For example, as said in the previous chapter, the harmony of the world and its beauty is in itself a rational order. Therefore, as Leibniz claims, the beauty of the world is better contemplated through the understanding:

> precisely because we discover in numbers, figures, forces and all measurable things of which we
> have an adequate conception, that they are not only just and perfect but also quite harmonious and

beautiful […] Indeed, we cannot see such an order so long as we do not enjoy the correct point of view, […] It is only with the eyes of the understanding that we can place ourselves in a point of view which the eyes of the body do not and cannot occupy. (DS, p.51/W, p.572)

For Leibniz 'the eyes of the understanding' give us the correct point of view to enjoy the order of things. By 'eyes of the understanding' he clearly means non-sensible knowledge, since it is not a knowledge given by 'the eyes of the body'. It must be a knowledge that provides an adequate conception of measurable things. The intellect or understanding is our most suitable faculty for grasping measurable things. Since the eyes of the understanding refers to intellectual and distinct knowledge, it follows that Leibniz considers these faculties as better suited for experiencing the beauty of the world.

It is also important to note that Leibniz says that measurable things are harmonious and beautiful. In the quoted passage, by measurable things he refers to those things that we can understand adequately. To have adequate knowledge is not only to have clear and distinct knowledge, but to have knowledge of something in its entirety. As he explains in the *Meditations*: 'When everything that enters into a distinct notion is, again, distinctly known, or when analysis has been carried to completion, then knowledge is *adequate*'. Subsequently, Leibniz confesses that he doubts whether it is possible for humans to reach this kind of knowledge about anything except numbers. Afterwards, he includes algebra, arithmetic and geometry as examples of 'symbolic' or 'blind' adequate knowledge (A VI 4, pp.587-8/AG, p.23). In a passage from *Elements of Natural Law* (1671?), he expresses a similar idea, yet this time including movement. He states that '[w]hat is beautiful is that whose harmony is clearly and distinctively understood [*intelligitur*], of such a kind that it [harmony] is that which is perceived in figures, numbers and movement' (A VI 1, p.484).[25] So the experience of beauty is in the perception of the harmony found in formal entities –such as numbers and geometrical figures – or primary measurable qualities –such as movement or force. The perception of these entities is not only related to distinct knowledge, but also to adequate knowledge, which is even more intellectually exhaustive than distinct knowledge.

But, why is the perception of formal entities related to the experience of beauty? An immediate answer is found in what was already said: formal entities and measurable qualities can be intellectually understood through distinct and even adequate knowledge, and this knowledge is more suitable to experience beauty. Thus, the intellect mediates the relation between formal entities and their beauty. Yet this answer raises a more fundamental question:

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[25] Author's translation. In the original Latin: '*Pulchrum est cuius harmonía claré distincteqve intelligitur, qvalis sola est qvæ in figuris numeris et motibus percipitur.*' (A VI 1, p.484)

why is intellectual knowledge (distinct and adequate) more suitable for experiencing beauty?[26] The answer is that for Leibniz intellectual knowledge is in itself beautiful, since it mirrors the structure of unity in variety. In *Résumé of Metaphysics* (1697) Leibniz states that '[d]istinct cogitability gives order to a thing and beauty to a thinker. For order is simply a distinctive relation of several things; confusion is when several things are present, but there is no way of distinguishing one from another' (GP VII, p.290/MP, p.146). In this passage Leibniz defines order as a 'distinctive relation' between the ingredients that compose one thing. Also, order is opposed to confusion, as lack of distinction between those ingredients.[27] This view of order as distinctness implies the reproduction of the formal structure of beauty in the cognitive representation of things, since it implicitly refers to unity and variety. Let us explain this. Here the definition of confusion can be paraphrased as an inability to conceptually represent variety. Therefore distinctiveness, as the opposite of confusion, is the conceptual representation of variety. Indeed, in the paragraph previous to the quoted one, Leibniz himself makes the connection between distinctness and variety, as he explains that since the actual world has as much variety as it can, it allows 'the greatest amount of what is distinctly thinkable' (GP VII, p.290/MP, p.146). In other words, distinctness in thought is grounded on the world's variety. In the quoted passage we can notice that unity is also related to distinctness. As we explained, unity is a principle of order among the ingredients that compose a thing and for Leibniz order is a distinctive relation among those ingredients. Distinctness shows elements that are otherwise implicit if perceived confusedly. These elements relate to each other or express certain sort of connections among themselves. The

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[26] There is another question implicit here: considering that we have said that beauty is objective, is the intellect necessary for formal entities to be beautiful? The answer is no. For Leibniz there is a direct relation between formal entities and beauty, independently of any participation of the intellect. This is the case because of the mathematical nature of harmony and reality itself. In a letter to Sophie, the Electress of Hanover, Leibniz writes that there are two sort of truths; truths of the senses and truths of the understanding. These latter ones –related to formal entities and measurable properties– are the necessary eternal truths that even God followed in the creation of the world: 'These eternal truths are the fixed and immutable point on which everything turns. Such are the truths of numbers in arithmetic and those of figures in geometry and those of motions or weights in mechanics and in astronomy. It is for this reason that it is rightly said that God does everything by number, measure and weight' (A I 13, p.11/LTS, p.123). The truth of number, measure and weight are not only immutable truths of God's understanding, but also the subjacent structure of the universe. This description of mathematic entities is very similar to what we have said about harmony, which is also an eternal truth in God's understanding and the inherent structure that relates all things. Hence it is no surprise that in the following paragraph Leibniz equates both and states that 'it is right to consider that order and harmony are also something mathematical which consists in certain proportions' (A I 13, p.11/LTS, pp.123-24). Therefore, since beauty is harmony it must be concluded that beauty is also something mathematical. Yet, as we said in chapter I, beauty is not only mathematical. As we will see, all beauty is grounded on a mathematical structure, beauty is not always entirely mathematical.

[27] It is worth noticing that this definition of confusion is similar to the definition of 'obscure' given in the *Meditations*, as there he define obscure as a notion that is not enough to recognise what it represents. Yet it also coincides with our definition of confused as something which content is implicit. In both cases there is lack of distinction between elements. But in the context of the quote Leibniz refers to the order of an individual thing, therefore confusion here refers not to our ability to distinguish a thing from other things, but to the undistinguished content of one thing that we already clearly distinguish from other things.

representation of elements and their connections explains the ordered structure of one thing. Hence, more distinctness is more order observed.

In this sense, a distinctive relation introduces a principle of order between components, therefore it constitutes the conceptual unity of a thing. In simpler terms, if we have distinct knowledge of something we know each of that thing's components and their relations, thus we represent a thing as an ordered unity. Accordingly, the structure of distinct knowledge mirrors both unity and variety. If this is the case, it follows that not only objects that present unity and variety are beautiful, but also the structure of distinct thought itself is beautiful, since it conceptually reproduces unity in variety. Indeed, in *Elementa Veræ Pietatis, Sive de Amore Dei Super Omnia* (1677), Leibniz explicitly states that: 'Harmony is the perfection of thinkability' [*Harmoniam esse perfectionem cogitabilitatis*]. In that text the argument goes as follows: Something is more perfect when it has more reality in it. Harmony is the reduction of many things and their relations into one. Harmony is perfection since it is a unity of a variety of elements of reality. There is more harmony when greater variety is reduced to unity. If greater variety means the unity of more elements of reality, it follows that greater harmony is greater perfection. The intellect embodies the structure of harmony when one act of thought takes many things of reality simultaneously as one. Thus a thought is more perfect when a thought includes more things (A VI 4, pp.1359-60/SLT, pp.191-2). In other words, a thought is more perfect when it has more harmony.

3.2 The beauty of science and mathematics

According to what has been said, the beauty of things is firstly and mostly perceived in those formal entities or measurable properties. This is so because these sorts of entities and properties can be distinctly –and even adequately– grasped by thought and this act of thought reproduces the structure of unity in variety, which is beauty. This view explains Leibniz's insistence on the beauty of science and mathematics.

As he explains in a letter to Sophie (1691), one of the purpose of mathematics is reaching beautiful thoughts:

> Nevertheless we must acknowledge that it is important that one have some general insights on mathematics, not as craftsmen have for the accuracy of their works, but because of the openings that one finds in it for elevating the mind to thoughts that are beautiful and sound in equal measure. (A I 7, pp. 49-50/LTS, pp.91-92).

The idea that mathematical thoughts are beautiful is perfectly coherent with what we said about the intellect in the previous subsection. Distinct and adequate knowledge is beautiful as it reproduces the structure of unity in variety, since formal or mathematical entities are the paradigm of objects of distinct and adequate knowledge, it is only natural that mathematical thoughts 'are beautiful and sound in equal measure'.

In the case of scientific theories beauty is mainly predicated on the fact that the structure of unity in variety is reproduced in the relation of hypotheses and the phenomena they render intelligible. For example, Leibniz mentions Copernicus' theory as an example beauty and truth by merit of its intelligibility:

> But since, in explaining the theory of the planets, the Copernican hypothesis wonderfully illuminates the soul, and beautifully displays the harmony of things at the same time as it shows the wisdom of the creator, and since other hypotheses are burdened with innumerable perplexities and confuse everything in astonishing ways, we must say that, just as the Ptolemaic account is the truest one in spherical astronomy, on the other hand the Copernican account is the truest theory, that is, the most intelligible theory and the only one capable of an explanation sufficient for a person of sound reason. (C, pp.591-2/AG, p.92)

A good scientific theory is an idea that provides unity through a hypothesis to a variety of phenomena.[28] If true, this idea would coincide with the unity provided by an objective natural law, thus the theory and the law would be describing the same unity. Since the hypothesis mirrors a natural law that unites a variety of phenomena, scientific theories not only discover these laws, but also the structure of beauty expressed by the world, i.e. unity in variety. Even without considering their relation with natural laws, scientific theories also reproduce the structure of unity in variety. Therefore they are beautiful in themselves. As Herbert Breger says, for Leibniz, there is beauty in the agreement of a hypothesis with the phenomena it explains (1994, p.133).

That said, the capacity of a hypothesis to show the intelligibility of natural laws is directly related to its beauty. In other words, a more correct scientific theory is also more beautiful. For Leibniz, one theory is more correct than another theory when the former offers a simpler hypothesis to explain a larger variety of phenomena than the latter. This is the case because a simple hypothesis offers greater intelligibility and, hence, truth:

> the truth of a hypothesis should be taken to be nothing but its greater intelligibility, indeed, that it cannot be taken to be anything else, so that henceforth there would be no more distinction

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[28] As Bertoloni Meli states, in the philosophical systems of Kepler and Leibniz 'phenomena assume a new dignity and the true hypothesis becomes the instrument for binding them to the laws of knowledge' (1993, p.19)

between those who prefer the Copernican system as the hypothesis more in agreement with the intellect, and those who defend it as the truth. For the nature of the matter is that the two claims are identical; nor should one look for a greater or a different truth here. (C, p.592/AG, p.92)

As the quote shows, a hypothesis' truth is dependent on its intelligibility. An intelligible hypothesis is more likely to be true than a less intelligible one, because nature itself is intelligible. Nature is intelligible because it has simple laws that can be explained distinctly and hence mathematically. And for this same reason both nature and science are beautiful. As Herbert Breger explains, for Leibniz beauty is not only a property of a theory –as is the case of contemporary physics–, but also a property of nature itself: nature is beautiful because nature has laws and these laws are mathematically comprehensible (Breger, 1994, p.133). In other words, mathematically comprehensible laws can be understood distinctly as hypotheses that constitute unity for a diversity.

Nature's laws are not only simple in the sense that they are intelligible, but also because there are only as many of them as is necessary to regulate or explain the whole variety of phenomena. This parsimony is for Leibniz a rational principle; 'reason requires that we avoid multiplying hypotheses or principles, in somewhat the same way that the simplest system is always preferred in astronomy' (A VI 4, p.1537/AG, p.38). Since parsimony is preferable, a world created by a perfect Being cannot but follow the same canon: 'God has chosen the most perfect world, that is, the one which is at the same time the simplest in hypotheses and the richest in phenomena, as might be a line in geometry whose construction is easy and whose properties and effects are extremely remarkable and widespread' (A VI 4, p.1538/AG, p.39). The result is that the world is already made from design to be compatible with the intellect, which means compatible with science based on mathematics. This is indeed another replication of harmony, since a world with few laws entails the unification of many phenomena. Hence following Breger, we can affirm that '[s]implicity in diversity means harmony and therefore beauty', accordingly '[i]n the best world, there exists precisely what is harmonious or what pleases the intelligent' (1994, p.134).

3.3 Dissonance and distinct knowledge

There is, however, one apparent problem with these descriptions of beauty and harmony based on intelligible hypotheses and simple laws: they do not seem to explain dissonances, which is one of the elements of beauty that we have been considering in previous chapters. We will argue that there is a solution to this issue, but first we will explain the arguments that

maintain the incompatibility between dissonance in harmony/beauty and distinct knowledge. Frédéric de Buzon notices this issue and concludes that Leibniz defends two types of harmony: on one hand, there is the harmony of things, which is the inherent metaphysical relation of all things; and, on the other, the harmony of minds (*l'harmonie des esprits*), based on the harmony produced by the intellect, distinct knowledge and science. The first one refers to Leibniz's metaphysical idea that all things constitute a variety of things, not only quantitative, but also qualitative, as things differ from each other as much as to even establish dissonant relations. Yet, at the same time, they are all ontologically related conforming to a unity (e.g. the unity of the world). This is the notion of harmony that values the variety offered by infinitely many possible worlds, as well as infinitely many possible things and events. Indeed, the more quantity of things and the more difference between those things, the more harmony, the more beauty. This is rather similar to the notion of harmony that we have developed in previous chapters, especially in chapter 2. The second notion of harmony is the harmony of minds and is fairly similar to the harmony of aggregates that we discussed in chapter 3, yet it would be preferable to first understand it by following Buzon's argument.

In *Elementa Veræ Pietatis*, the *Discourse* and other texts, Buzon notices a shift in Leibniz's notion of harmony, where harmony is not so much the inherent harmony of things, but a harmony articulated through the notions of mind, expression, representation and cogitability. If the first notion of harmony focuses on the degree of variety and diversity, this second one centres mostly on the degree of unity given by cogitability. Commenting on the previously paraphrased passage from the *Elementa Veræ Pietatis*, Buzon states that

> Now Leibniz introduces here degrees into unity itself […] All the interest in the application of harmony to cogitability lies precisely in this capacity to introduce degrees within the capacity of representation. Harmony is thus oriented towards the general problem of expression, through the notions of relation and its species. If the degree of reality is a function of the degree of relation, and of the degree of cogitability, then the harmony is all the greater when thought is more able to represent things with the least amount of acts. The most thinkable is therefore the most harmonic. (1995, p.109)[29]

Unlike the harmony of things, the harmony of minds introduces degrees of unity as degrees of cogitability as well as variety. Yet, variety here is mainly understood as quantity of

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[29] Author's translation. In the original French: '*Or Leibniz introduit ici des degrés dans l'unité même. […] Tout l'intérêt précisément de l'applica- tion de l'harmonie à la cogitabilité tient dans cette capacité à introduire des degrés dans la capacité de la représentation. L'harmonie s'oriente donc vers le problème général de l'expression, par le biais des notions de relation et de ses espèces. Si le degré de réalité est fonction du degré de relation, et celui-ci du degré de cogitabilité, alors l'harmonie est d'autant plus grande que la pensée est plus capable de représenter les choses avec le moins d'actes. Le plus pensable est alors le plus harmonique.*' (1995, p.109)

elements of reality that are united in one thought. The main difference with the first model of harmony is that the celebration of variety as qualitative diversity and dissonance does not have a place in this second notion of harmony. Buzon claims that the presence of dissonances in perception is a sign of incomplete –or unaccomplished– (*inaccomplissement*) cogitability or observability of what is perceived. In his view, the appearance of dissonances is discontinuities, which impede thought itself and its conformity to rules. For this reason dissonance in perception is related to confusion (1995, p.115). Buzon seems to have in mind Leibniz's letter to Wolff (1715), where he writes as follows:

> Imperfections are exceptions which disturb general rules, that is, *general observations.* If there were many rules, there would be nothing worthy of observation [*observatione dignum*], but only chaos. In my *Theodicy* I noted that wisdom always acts through principles, that is, through rules, and never through exceptions, […] And so one can also say that that which is *more perfect* is that which is more regular, that is, that which admits of more observations, namely, more general observations. […] However, a multitude of regularities brings forth variety. So uniformity, that is, generality, and variety are reconciled. (GW, p.163/AG, p.231)

In this passage, perfection is defined through observability, as many things conformed to general rules. Also, perfection is related to harmony, since harmony is grounded on the general laws or generalities that can be observed in a variety of things, while imperfections are the exceptions to these general rules. Buzon seems to consider dissonances as equivalent to these imperfections as discontinuities or exceptions to comply with general rules. It follows that, for the harmony of the mind, dissonances are not a positive value, but a negation of observability, since dissonances, as discontinuities, are problematic for the observation of general rules. Because perfect observability is distinct thought and dissonances are imperfections for thought, dissonances are also identified with confusion, as they do not fit well with the intelligibility of things given by conformity to laws. The same is true for science and mathematics, since both rely on distinct knowledge that is only possible through the observation of general rules and dissonances are the opposite of general rules. As Buzon explains, while for the harmony of things dissonance is a mark of variety and universal perfection, in science dissonances are to be rejected as signs of errors and aberration. He concludes that it is necessary to make a distinction between two types of beauty: an intellectual beauty based on equations and signs; and a clear and confused beauty that includes dissonances and applies to art and nature taken as a spectacle (1995, p.115). In this sense, the result of Buzon's interpretation of Leibniz's notion of harmony points in the same

direction as Beiser's account, as both of them establish a divide between intellectual beauty and sensitive beauty and deem both sorts of beauty incompatible with each other.

Buzon's harmony of minds is similarly defined as what we considered to be the harmony of aggregates in chapter III. Both his harmony of minds and our harmony of aggregates are expressions of harmony understood from the perspective of a subject's mind. Also, in both cases perfection is equivalent to the degree of unity given to variety. In chapter III, we said that the degree of unity generated by aggregates depends on how strong are the relations among the variety of elements that the subjective idea unites. The strength of these relations is in turn determined by the facility with which certain relations are more easily disposed to be perceived or understood by the mind. This facility is possible when there are simple laws that explain a variety of phenomena. In other words, when a variety is subsumed in conformity to rules. Things that conform to rules are intelligible and therefore easier to understand or perceive distinctly. Accordingly, the highest degree of unity of an aggregate's harmony is reached when a subjective idea explains more phenomena with fewer exceptions. This should occur when that subjective idea coincides with a general law of nature, since laws of nature are the perfectly designed divine principles of order that explain more phenomena with fewer exceptions. And this is indeed what scientific hypotheses or theories do, which according to Leibniz results in beauty. If in this model we include Buzon's account of dissonances, we will find that they are detrimental to our notion of degree of unity, just as for Buzon's harmony of minds. If dissonance are discontinuities that do not conform to laws and degree of unity is the facility of perception given by general laws, it is clear that dissonances are opposed to unity. Hence, following Buzon's view, we could conclude that the harmony of aggregates, as well as the beauty given by scientific theories or hypotheses, should exclude dissonance and, therefore any model of harmony that values dissonance. Yet contrary to Buzon, we think that the exclusion of dissonance from the harmony of the mind is neither desirable nor completely right.

Although Buzon presents a coherent interpretation of this matter and we can agree with many of his statements, we think that settling in the position that there are two irreconcilable models of harmony in Leibniz's philosophy is to rush to a conclusion. This account has not only the unwanted result of assuming two mutually exclusive models of harmony and beauty,[30] but also fails to recognise the distinction between unity and variety, as

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[30] Indeed it seems unlikely that Leibniz would see this as a desirable outcome. It would be ironic that a philosopher such as Leibniz –who believed that there is perfection in the parsimony of laws, hypotheses, scientific theories and their phenomena– would have two different and irreconcilable explanations of harmony and beauty.

well as the roles they play in the constitution of harmony. It is true that a model of harmony that includes dissonance seems at odds with a harmony generated by distinct knowledge, hypotheses and scientific theories. Yet this is so only when we lose perspective of the process and elements that constitute beauty in Leibniz's account. Here we claim that harmony –and therefore beauty– is always one and the same structure, and these two types are rather two moments of the same structure. What De Buzon takes to be the harmony of the mind – including the harmony of hypothesis and science– does not account for an analytical distinction between unity and variety, as it explains harmony mostly from the side of only one of its structural aspects; unity. In our version of the harmony of aggregates, harmony is constituted by two elements: firstly, a subjective idea that is what unites a variety; and secondly, a variety that is objectively given and hence something other than the idea. In other words, unity is not the same as variety. Accordingly, variety is not defined only through unity. Hence it is important to make an analytical distinction between unity and variety. Likewise, the harmony of a scientific theory is not just the hypothesis that describes a law of nature, but also the phenomena that it explains. The phenomena are the variety, while the hypothesis is the unity and both must be analytically distinguished. For example, the theory of general relativity postulates a law-like hypothesis that explains (and also predicts) multiple phenomena, among them the curvature of space-time, the existence of black holes, gravitational waves, etc. These phenomena are the variety, while the theory by itself is the unity. If there weren't any theory capable of explaining these phenomena in relation to the rest of explained phenomena, they would be for us a variety without unity, which means unrelated exceptions or discontinuities for thought, just as Buzon describes dissonance. In this context, dissonances refer to phenomena that do not conform to the rules given by laws that has been described by a scientific theory. When this variety is seen through the general law established by a theory it is subsumed to a rule, just as in music dissonances are resolved in the final unity of harmony. When Buzon points out that dissonances in science are a sign of error and are excluded from the model of the harmony of minds, he would be right if the harmony of minds in the form of a scientific theory did only consist in the account of the law that the theory postulates, without considering the previously unrelated and dissonant phenomena. Yet for Leibniz the harmony of minds does include a dissonant variety, even if it is meant to be resolved by unity. This is explicitly established by Leibniz in the same paragraph of *Elementa Veræ Pietatis* also commented by Buzon:

Harmony is when many things are reduced to a kind of unity. For where there is no variety, there is no harmony, […] In turn, where variety is without order, without proportion, without concord, there is no harmony. From this it is evident that however much greater is both the variety and the unity in variety, so much greater is the harmony. Hence the dissonances themselves increase the loveliness, if they are unexpectedly reduced to concord with other dissonances. Symmetry is the same. Now from this it is clearly evident that harmony is the perfection of thinkability [*cogitabilitatis*]. (A VI 4, p.1359/SLT, p.191)

In this passage Leibniz explains the role of dissonances in harmony and in the following sentence postulates harmony as thinkability or cogitability [*cogitabilitatis*]. In other words, it does not seem to make any distinction between one harmony with dissonances and another harmony of the mind without dissonances. More importantly, however, we need to understand the subtle references to temporality in the language used by Leibniz. He is suggesting that dissonances are like moments of a harmonious whole before they are reduced to agreement. Pauline Phemister notices that for Leibniz our perception of the perfection of the world is in its unfolding (2016, p.88). Likewise our experience of the world's beauty takes place in the unfolding of our understanding of it; we perceive its nature through a process. Along the same lines Breger claims that for humans the beauty of nature can only be limited and at least only gradually recognised (1994, p.133). In a text entitled *Reflections on the Common Concept of Justice* (1702?), Leibniz states the world is

too great and too beautiful for spirits with our present range to be able to perceive it so soon. To try to see it here is like wishing to take a novel by the tail and to claim to have deciphered the plot from the first book; the beauty of a novel instead, is great in the degree that order emerges from very great apparent confusion. The composition would thus contain a fault if the reader could divine the entire issue at once. But what is only suspense [*curiosité*] and beauty in novels, which imitate creation, so to speak, is also utility and wisdom in this great and true poem, this word-by-word creation, the universe. (L, pp.565-66)

Part of the beauty of nature discovered by sciences, hypotheses or distinct knowledge is that it does not reveal itself all at once, but that it is a process that starts from observing an unintelligible, unrelated and inexplicable variety of phenomena and advances towards the formulation of hypotheses of general laws. These latter allows us to understand those phenomena by establishing explanations and connections among them. In this case it is not contradictory to state that there are dissonances or discontinuities in the variety that are resolved under a general law that unites this variety of phenomena by explaining its order. This view does not reject dissonance, it just postulates its eventual resolution.

The role of dissonance in harmony can be better understood from its definition. As we explained in chapter II, dissonances are a relative disorder or less immediate order in some

parts of an overall ordered whole. In other words, dissonances express, for example, a local or momentary mismatch between two or more things, yet from a wider perspective those things do conform to the same general rule. This final conformity to rule, is indeed what we refer to as the resolution of dissonances, which is necessary in order for there to be beauty. Buzon's interpretation depicts dissonances as incompatible with harmony at the moment of integrating a variety under the same general law, since his view of dissonances as discontinuities expresses exactly that lack of conformity to rules. Yet if dissonances cannot ever be integrated under the same rule, they are not dissonances, but incompossibilities. Since dissonances are not incompossibilities, they do eventually conform to some rule. It is not wrong to consider dissonances as discontinuities or exceptions to some laws, what is wrong is to assume that dissonances are exceptions to absolutely any general rule and, consequently, that dissonances impede thought itself. Moreover, it is clear that in the universe, according to Leibniz, there is no incompossibility, as he says 'I see everything to be regular and rich beyond what anyone has previously conceived; with matter everywhere organic –nothing empty, sterile, idle– nothing too uniform, everything varied but orderly' (A VI 6, pp.72-73/RB, pp.72-73). Therefore if a scientific theory encounters dissonances, as absolute exceptions to all laws (or what is the same, absolute disorder), it is the case that that theory is wrong or at least incomplete.

However, it must not be understood from this that dissonances are only a temporal issue that disappears at the moment of resolution. Dissonances could still be there whenever we approach them and examine them 'up close'. For example, as it is well known, Einstein's theory predicted that light will follow certain curvature of space-time when it passes near a star. In other words, light bends its trajectory. If it weren't for a theory that established a law that explains light's behaviour and the gravity field of the stars, this bending would be inexplicable. This is the case because light travel through space-time in a straight line. So light's bending is a dissonant phenomenon that can only be explained if we consider something else beyond the laws of light itself, which in this case is the bending of space-time. But even after knowing this explanation the fact that light does not always appear to be moving in a straight line would still be experienced as a dissonant phenomenon, since light's bending constitutes an exception from the law that light always travel in a straight line. It would be much simpler and ordered (and we could add more consonant) if light's trajectory always appeared to be the same. Yet this exception or low degree of order is beautifully explained (and hence ordered) with a theory that describes something broader than just light's

properties, namely; gravity and space-time. From the perspective of scientific theories we could then give a second definition of dissonances, as those phenomena that do not fit in a law and hence required a further, more general, law to be explained. Accordingly, contrary to Buzon, we can conclude that even in the most distinct possible knowledge about the world, which is the one provided by scientific theories, there can be dissonance.

4. Beauty and confusion

4.1 Sympathy

As we have seen Leibniz's notion of beauty is far from being restricted to confused knowledge. Indeed, distinct knowledge provides us with formal entities and measurable properties which are a source of beauty. Leibniz goes as far as to say that harmony itself is mathematical, from which we can infer that beauty is a mathematical structure. Moreover, if distinct knowledge is how we experience mathematical and formal entities we could infer that we experience beauty only through distinct knowledge. Yet, this is not the case according to Leibniz. There is indeed more than just a mathematical structure in our experience of beauty. Although beauty is a formal structure, it is perceived through non-formal things whenever there are formal entities underlying the non-formal ones. For example in *Principles of Nature and Grace*, Leibniz exemplifies this with the relation between music and mathematics.

> Music charms us, even though its beauty consists only in the harmonies of numbers and in a calculation that we are not aware of, but which the soul nevertheless carries out, a calculation concerning the beats or vibrations of sounding bodies, which are encountered at certain intervals. The pleasures that sight finds in proportions are of the same nature, and those caused by the other senses amount to something similar, even though we might not be able to explain it so distinctly (GP VI, pp.605-6/AG, p.212).

The beauty of the ordered succession of sensible sounds is provided by the calculations and harmonies of numbers underlying music. Furthermore, it could be said that beauty consists only in these formal elements that we experience even if we are not aware of them and we only notice the series of sensible sounds. However, at this point, we have to remember that Leibniz is a nominalist, hence he does not accept Platonic abstract entities separated from things, such as universals. This means that there is no entity of pure beauty in itself separated from things. The same can be said about formal entities such as mathematical entities and formal structures, such as harmony or unity in variety. In simpler words, there cannot be variety if there is not a plurality of actual or possible things, there cannot be unity if there is

nothing to unite and there cannot be measurable qualities if there is nothing to measure. Accordingly, we only perceive beauty when the structure of harmony is expressed through something. We could go as far as to apply the same principle to mathematical theorems and state that the beauty of mathematical entities is only manifest when theorems are expressed through signs. Indeed, in an unpublished fragment of 1675, Leibniz himself seems to be saying this, as he writes that '[t]he beauty of the theorems consists in the beautiful arrangement of their characters' (quoted by Breger, 1994, p.139).[31] The notion that the beauty of theorems is expressed through their notation is highly problematic if we assume that by 'arrangement of their characters' Leibniz only means the physically written expression of theorems and excludes the mental idea of them. But, if the mental representation of the notations is also accepted as part of what Leibniz is saying, it is not so hard to admit that the beauty of a theorem requires some form of expression. At least it should be granted that no one can think about mathematical theorems without imagining some things, even if those things are signs or symbols.

In the case of mathematics, the object through which beauty is expressed is a formal entity and allows us to experience beauty with no, or very little, confusion. Indeed, as said earlier, Leibniz considers that mathematical entities can be distinctly, and even adequately, known.[32] Yet, this is not the case for other ways in which beauty is expressed. Take the quoted passage about music, where we fail to know distinctly the mathematical and harmonic structure of beauty. In that example we only notice a succession of sounds with no awareness of its implicit structure, nonetheless we still experience beauty. In *On Wisdom*, Leibniz calls this phenomenon 'sympathy':

> We do not always observe wherein the perfection of pleasing things consists, or what kind of perfection within ourselves they serve, yet our feelings (*Gemüth*) perceive it, even though our understanding does not. We commonly say, 'There is something, I know not what, that pleases me in the matter. This we call 'sympathy' (GP VII, p.86/L, p.425).

Leibniz further explains that everything that emits a sound and proceeds in order, but with certain variation, is pleasing: 'Drum beats, the beat and cadence of dance, and other motions of this kind in measure and rule derive their pleasurableness from their order'. He says that when we hear sounds and beats following an invisible order, 'this creates a sympathetic echo

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[31] Author's translation. The complete passage, as quoted by Breger*: 'Les theoremes ne sont intelligibles, que par leur signes ou caracteres. Les images sont une espece des caracteres. Quand les caracteres peuvent estre semblables aux choses, tant mieux. La beauté des theoremes consiste dans le bel arrangement de leur character.'* (Breger, 1994, p.139)

[32] It is hard to tell if Leibniz thinks that mathematical theorems expressed through notations can be distinctly perceived in their totality or there is always a residue of confusion in them. Here we will not propose a solution, as it falls outside the scope of this thesis.

in us, to which our animal spirits respond' (GP VII, p.87/L, p.426). When confronted with something that expresses an ordered variety, our feeling of pleasure is triggered as a sort of automatic response to a structure of which we might not even be aware. This is not just limited to music, Leibniz extends this explanation to sensations experienced through other senses: 'There can be no doubt that even in touch, taste, and smell, sweetness consists in a definite though insensible order and perfection or a fitness, which nature has put there to stimulate us and the animals to that which is otherwise needed' (GP VII, p.87/L, p.426). These passages show that for Leibniz beauty is indeed grounded on a formal structure, such as an ordered variety, which in itself is insensible, but can be expressed through things that we can perceive with our senses in such a way that we experience beauty, even if we are completely oblivious of that structure.

But how could we experience beauty without being aware of what is beautiful in something? How can we experience the effects of a structure that we fail to notice? The answer to these questions lies in a fundamental idea of Leibniz's metaphysics: 'Each soul knows the infinite—knows all—but confusedly' (GP VI, p.604/AG, p.211). As said at the beginning of this chapter, Leibniz's doctrine of universal harmony establishes that everything is related to everything else and, in the case of monads, this connection is constituted by each monad's perceptions of the whole universe. So when we hear a beautiful musical piece, but we are unaware of its formal structure, it is not the case that we do not grasp such structure. We do perceive it, in fact, we know it, yet we do so confusedly. Despite the fact that we fail to notice the principle of order that unites the variety of sounds and constitutes the beauty of that piece of music, that order is still perceived by our soul.[33] As said, perceiving or knowing something confusedly means that we are not aware of the implicit ingredients of something, which in this case would be the formal structure of unity in variety while hearing a piece of music. But since everything is connected, even the implicit and unconsciously perceived ingredients of something can, and indeed do, affect us. So the result is that although we do not distinctly perceive or have no awareness of the structure that makes something beautiful, we nonetheless experience beauty. This might sound a bit paradoxical, but it is perfectly consistent with Leibniz's metaphysical doctrine. Moreover, in the case of beauty Leibniz specifies how his metaphysical doctrine works for this particular case. As have said, he even gave a name to the application of his doctrine to the particular case of beauty, i.e. 'sympathy'.

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[33] A perception of the soul in this case can be understood as opposed to a sense perception. In other words, a perception of the soul is not a perception mediated by our sense organs. In this sense, it is more like what we colloquially mean with the word 'thought' or 'knowledge'.

4.2 The relation between the distinct and the confused

The insensible order or formal structure of beauty is one of those things that we can experience, while not distinctly perceiving or noticing. In other words, we can experience beauty confusedly. Yet, from all that has been said here, it should be clear by now that confused knowledge or perception is not a requirement to experience beauty. Indeed, beauty is not experienced because of confusion, but despite confusion. Since the source of beauty in things is an intelligible formal structure, the intellect, concepts and distinct knowledge are our best way to experience the beauty of things. Confused knowledge –such as sense perceptions– is only related to our experience of beauty when something we know confusedly implicitly expresses this intelligible structure. This explains why in the *Principles of Nature and Grace, Based on Reason* (1714) Leibniz writes that 'even the pleasures of the senses reduce to intellectual pleasures known confusedly' (GP VI, p.605/AG, p.212). For example, the pleasure we experience from hearing a series of ordered sounds is our confused perception of the intelligible structure of ordered variety expressed through sounds.

However, according to Beiser, the quoted passage from the *Principles* shows that sometimes Leibniz advocates that there is no place for confused knowledge in the experience of beauty. Beiser further supports his claim asserting that in *De Affectibus* (1679) Leibniz affirms that 'true beauty would be that which remains after analysis, when all its elements are clearly and distinctly perceived' (Beiser, 2009, p.40). It must be said that the passage that Beiser seems to be paraphrasing does not conform to his statement. Leibniz's text reads as follows: '[W]hat is beautiful is something whose contemplation is pleasant in itself, namely when a ratio is rendered with pleasantness, either when it is clearly and distinctly perceived, or when it is pleasant to understand [*intelligere*]' (A VI 4, p.1415).[34] Contrary to what Beiser says, the passage does not define beauty as what is left after confused perceptions are gone. It does suggest, however, the intimate relation between distinct perceptions or intelligibility and beauty. Indeed, as it is conveyed in the *Principles*, Leibniz thinks that pleasure from confused knowledge, such as sense perceptions, can be reduced to intellectual pleasure. This means that our aesthetic pleasure perceived through confused perceptions can be traced back to its source that is the intelligible structure of beauty, which can be reached more directly through the intellect. But we should not think that this reduction of sensible perceptions to the intellectual mandates an exclusion of the former in order to experience beauty. We claim that

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[34] In the original Latin: '*[P]ulchrum est cujus contemplatio per se jucunda est, cum scilicet reddi ratio potest jucunditatis, seu clare distincteque percipitur, seu cum intelligere jucundum est.*' (A VI 4, p.1415)

both the confused and the distinct coexist in the experience of beauty, just as shown in the example of music.

The fact is that in most cases confusion and distinctness are integrated in the same experience. Furthermore, our experience of beauty benefits from a progression from confused to distinct knowledge, even though confusion is never completely overcome. As said, for Leibniz our experience of the world's beauty is at some extent the progress of our knowledge of it from confused to distinct; just as the beauty of a novel, the beauty of the world is in a great degree found in the emergence of order from confusion.[35] Yet, even though we never get to know the whole universe distinctly, and confused thoughts always accompany our distinct thoughts of the world (GP IV, pp.563-64/L, p.580)[36] –otherwise we would be God (GP VI, p.179/H, p.198)–, we still can experience the beauty of the cosmos. Indeed we always experience the beauty of most if not all things as a mix of confused and distinct perceptions.

But, what would happen if there is a case where our experience from distinct knowledge cancels out our experiences from confused knowledge? Indeed, this question is implicitly posed by Beiser's analysis of Leibniz's passage about the cogwheel:

> The wheel's rotation makes the teeth disappear and an imaginary continuous transparent [ring] appear in their place; it is made up of successive appearances of teeth and of gaps between them, but in such rapid succession that our imagination cannot distinguish them. So the teeth are encountered in the distinct notion of this transparency, but not in that confused sensory perception of it. It is the latter's nature to be confused and to remain so; for if the confusion ceased (e.g. if the motion slowed down enough for us to be able to observe the parts in succession) it would no longer be this same perception, i.e. it would no longer be this image of transparency. […] [F]or it is self-contradictory to want these confused images to persist while wanting their components to be discerned by the imagination itself. It is like wanting to enjoy being deceived by some charming perspective and wanting to see through the deception at the same time—which would spoil the effect. (A VI 6, pp.403-404/RB, p.403)

Here there is an experience that is given by a confused perception of a spinning cogwheel – namely, the image of a continuous transparent ring– that can no longer persist after we have a distinct perception of the wheel. Beiser suggests with this example that there is no coexistence of confused and distinct knowledge in our aesthetic experience. But, this is not

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[35] There are also non-temporal examples of this process, such as the one given about the theory of general relativity; there is dissonance and confusion when we contemplate the effect light's trajectory bending instead of moving in straight line, yet we can distinctly understand it from the broader perspective of the light's relation to gravity.

[36] It could be the case that there are distinct thoughts completely free from confusion, such as thoughts of abstract or mathematical entities. But as we said earlier, it is not clear whether Leibniz characterises them as such or he still thinks that they present a low degree of confusion.

exactly what the example illustrates. It is not our aesthetic experience of the confused perception that is ruined by distinct knowledge. What disappears is the state of being deceived by the illusion of a transparent ring. It is true that Leibniz says that the illusion of confused perceptions does not persist, but that doesn't seem to be right. It is more likely that Leibniz means that the illusion of the ring as a deception does not persist, yet as a phenomena, the ring undoubtedly persists. If we knew distinctly that there is actually a cogwheel where we confusedly perceive a transparent ring, we would still experience this transparent ring, even though we would know that it is actually a spinning cogwheel. Hence both the confused and the distinct knowledge integrate our aesthetic experience of the spinning cogwheel.

In fact Leibniz offers a theoretical explanation of this with his notion of redundancy [*pleonasme*] in our perception. As we explained at the beginning of this chapter, Leibniz states that there is a redundancy of notions and circumstances when we perceive something (A VI 6, p.299/RB, p.299). As Puryear explains each perception has more than one idea and some of these ideas could be confused and others distinct (Puryear, 2005: p.112). Thus we can experience the beauty of something through distinct perceptions, while still having confused ones. For example, even if we distinctly knew all the calculations and formal order of a musical piece, we would still know only confusedly the timbre of those sounds. The same could be said about the colours of a painting; we could distinctly know all the formal aspects of its harmonic structure, yet still we could never have a distinct knowledge of the sensation of its colours. In both cases our perception of the objects is accompanied by many notions, some we perceive confusedly and others distinctly. Furthermore, some notions are susceptible to be perceived distinctly, such as the harmonic order of a musical piece, while others are just essentially confused, such as colour and sound timbre. Hence, sometimes our knowledge of some of these notions can progress from confused to distinct, such as the order of a novel that emerges from confusion as we keep reading it, while other notions are just not distinctly accessible for us.

Contrary to Villanueva's interpretation we can have both sort of perceptions in one aesthetic experience. Nevertheless, it seems clear that Leibniz held distinctness in higher regard. In other words, having more distinct perceptions, or a higher degree of distinctness in our overall perception, results in a better experience of beauty. This entails that for Leibniz there should not be any sort of downgrading of the experience of beauty in the progression from confused perceptions to distinct knowledge. Thus the enjoyment of being deceived

cannot be higher than the enjoyment of understanding the trick. In contrast with Brown's view that for Leibniz the source of our pleasure in aesthetic experience is confused perceptions (1967, p.73), there is enjoyment in distinct knowledge or intellectual pleasure, as Leibniz states in the *Principles* (GP VI, pp.605-6/AG, p.212). This also applies to art, as Leibniz comments that 'a painting of Raphael affects him who understands it' (GP III, p.387/L, p.422). Phemister observes that Leibniz's claim reminds us that the true appreciation of the painting's beauty demands some effort on our part, it is not enough only to sense perceive it, but we should also understand it (2016, p.85). Differing from the comments of the aforementioned works on Leibniz's aesthetics, there is a role for the understanding in art. Although artist and art audiences do not need to distinctly know why they like a work of art, it is nonetheless possible, and desirable, that they achieve distinct knowledge and understand their own taste. As Leibniz's comments on Shaftesbury suggest, taste alone cannot justify itself, but we can –and should– provide reasons to explain it if we use the understanding to distinctly know the objects of our liking. Even if artists and audiences sometimes fail to reach distinct knowledge or understanding of their taste, it is not the case that this is an impossible task. Since beauty is an intelligible structure in something, it must be that our experience of a beautiful thing allows us, at least in principle, to reach a certain degree of distinct knowledge of the things that we fancy. Distinct knowledge entails that reason and explanations are possible. Hence, contrary to Ortiz's statement about the inexplicability of taste (1988, p.156) and Beiser's comment that reason finds its limit in sensible aesthetic experience (2009, p.40), it is the case that taste can be explicable. Furthermore, the explicability of taste –i.e. the understanding or the distinct knowledge of taste– is something that adds aesthetic value. Indeed, in agreement with Shaftesbury, Leibniz proposes that good taste should be educated through reason, as he states that 'one must practice enjoying the good things which reason and experience are already authorized' (GP III, pp.430-1/L, p.634). He says something not very different about artistic creation. Artists can at some moment let imagination run free from consulting reason, as manner of 'enthusiasm', yet afterwards they must bring back reason to examine, correct and polish the work of imagination (A VI 4, p.710).[37]

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[37] In the original French: '*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 réussir 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 aurait eu de 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 nécessaires pour donner quelque chose de fini et d'excellent.*' (A VI 4, p.710)

Since aesthetic phenomena are optimally experienced when the confused is accompanied by the understanding, reason and distinctness, we could agree with Croce that the confused provides an inferior experience. We could even go further and assume that he was right in thinking that the confused has no specific value –or comparative advantage– when compared with the distinct. But contrary to Croce, we claim that this also applies to the experience of beauty. While in Croce's interpretation of Leibniz, beauty is to be left behind, bond with confusion, in the progress of knowledge towards distinctness, we have seen that this progression also takes place within the experience of beauty. Hence the experience of beauty is not a by-product of the failure of the intellect to reach distinct knowledge, but it can be an instance of the intellect's achievement of distinctness. Although it seems that for Leibniz confusion is to some degree found in almost all objects of our aesthetic experiences,[38] there is often the possibility of a progression towards reason, understanding and distinct knowledge.

5. Conclusions

Here we have argued that the experience of beauty can include confused and distinct perceptions, sensations and thoughts, thus it can be intellectual as well as sensitive. Furthermore, in most cases our aesthetic experiences are of this sort; they are seldom purely intellectual or completely sensorial. The former occurs almost exclusively when we experience the beauty of formal objects. On the other hand, an aesthetic experience consisting in completely confused perceptions often has the potential to be upgraded by noticing distinct elements in it.

As we have shown, there is not only textual evidence that refutes the idea that for Leibniz confused perception is a requisite for experiencing beauty, but also his theory of beauty is incompatible with that claim held by some of the commentators here considered. Leibniz's assertion that objects from the intellect –such as formal entities– are beautiful, endorses the view that in some cases we can experience beauty through thoughts that are mostly distinct. We also argued that distinct thought mirrors the structure of beauty, presenting greater unity and greater variety, thus greater beauty, than confused perceptions. But more importantly, if, as we claim in this thesis, beauty is the formal structure of unity in variety, it must be the case that our best approach to experience beauty is through distinct

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[38] Maybe with the exception of formal entities such as mathematical ones.

ideas, because any formal entity is insensible, therefore intellectual in itself. This complies with our claim, made in chapter I, that the structure of beauty must be intelligible.

Even though the formal structure of beauty is intellectual, it normally expresses itself through sensible elements. That is why there are also confused perceptions in most of our experiences of beauty. Indeed, it can be the case that we experience beauty only through confused perceptions, unaware of the structure of unity in variety. This is what Leibniz refers to as 'sympathy'. Yet, as said, this is not a requirement for aesthetic experiences. Furthermore, it is not only possible to gain distinct knowledge from a confused experience, but also desirable in order to improve our experience of beauty.

The assumption that in Leibniz's philosophy there is no strict opposition between the intellectual and the sensitive or between thoughts and perception means that the confused and the distinct do not exclude each other. As we seen in the case of scientific theories, some phenomena that seem unrelated and confused become ordered and distinct when approach with a better hypothesis. Indeed, we showed that this progression from confusion to distinctness or from chaos to order illustrates the idea of beauty in some of Leibniz's examples.

Even when some elements of our aesthetic experiences are inherently confused, those elements entail 'circumstances' that can be distinctly perceived, as is the case of the phenomenal representation of colour, which although is essentially confused, its circumstances include physical properties that are amenable to be distinctively known. Thus the idea that each perception is accompanied by circumstances explains why even in the case of experiencing essentially confused entities there is the possibility of engaging with distinct knowledge. But, in most cases we experience the beauty of objects that include more than just confused elements. For example, our experience of a piece of music is composed of timbres that are inheritably confused, but music also possess a structure of order that can be distinctly known, like rhythm or the system of tonality. Also a painting presents us with the inherently confused phenomenal representation of colours, yet also a structure of composition that offers order and distinct knowledge. Accordingly, these experiences necessarily involve both sensible and insensible perceived properties.

In this sense, beauty is experienced from the contemplation of a much wider variety of entities than just those we perceive through our senses. The idea that almost all kind of entities, even formal ones, can be experienced as beautiful is coherent with Leibniz's ontological view that all beings are based on harmony (of properties or parts). Since beauty is

harmony and the degrees of essence of all beings are grounded on harmony, it is reasonable that they all present beauty that is disposed for us to experience it, even if it is not sensible.

CONCLUSION

As we have shown in the first part of this thesis, the ontological structure of beings is their degree of essence or perfection, which in turn is harmony or unity in variety (harmonically united things, parts or properties). Beauty is an expression of this same structure that grounds all beings. Thus beauty is an expression of unity in variety. Unity and variety corresponds to an intelligible order that unites many things as a whole, which has the potential to give pleasure. An entity is beautiful when that entity achieves these requirements. Hence, beauty is not something in itself, but it is in things that comply with the formal structure of unity in variety (with which every being complies) and the other formal features entailed by unity in variety (wholeness, order, intelligibility and potential for pleasure). On the other hand, since beauty *is* when something possesses this *formal* structure and complies with these *formal* features, things do not need to have any specified content or element to be beautiful. Rather, a united variety of any elements whatsoever –that are united in an intelligible order and forms a whole– can be beautiful. This is what we mean when we said that beauty, for Leibniz, is a formal property.

For example, what complies with variety can be many things/parts (as in the case of composed beings) or many properties (as in the case of simple partless beings), independently of what those particular things/parts and properties actually are. However, variety in Leibniz's notion of harmony is not just a mere summation of many things or properties, but also the degree of difference between those things or properties. The result is that greater beauty is achieved when something expresses a harmonic whole that includes not only perfectly consonant and similar elements, but also conflicting and dissonant elements. As we argued, the inclusion of dissonances introduces variety and enhances beauty. Yet, in order for there to be beauty, dissonances require resolution. For Leibniz, beauty follows the structure of a tonal musical piece that mixes dissonances with consonances, yet in the end, and as a whole, it always resolves dissonances in perfect harmony. In the same way, beautiful things can exhibit a sort of complex diversity that appears as disorder, but truly there is always an underlying order that guarantees beauty.

As we saw, order is indeed an essential requirement for beauty. We claimed here that the notion of 'unity' in the formula of harmony (unity in variety) is a principle of order. In other words, what unites a variety and effects beauty is not one entity imposing over many, but a principle of organisation of the many. This principle is understood as a wide term that encompasses many forms and functions such as a law, a rule, a design, a program, a purpose, an algorithm, alongside criteria of organisation, coordination, inclusion, exclusion,

succession, among others. A principle of order produces unities, constitutes identities and determines the agreement of multiplicities. Since this principle is the unity that the postulated formula of harmony/beauty manifests, two or more things (or properties) are united when they share a common principle of order. This sorts of cases can be found in all of the entities accepted as unities in Leibniz's ontology; from possible worlds, to any individual that inhabits those world, monads and aggregates. Therefore, harmony's unity, interpreted as a principle of order, universally extends beauty to every ontological level, where principles of order overlap each other: the unity of the universe includes many united corporeal substances and these, in turn, many other corporeal substances and so on. Leibniz's account presents types of unities that result in different levels of harmony and beauty. There are objective unities, such as the principle of order that constitutes individual substances and God's design of the universe. Yet, there are also subjective unities, where the principle of order that unites a variety is given by subjective ideas. These latter are conceived under the notion of aggregates and are less capable of providing a higher degree of unity to a greater variety than the objective unities. Hence, objective unities such as the world, substances and biological beings are able to offer more unity in greater variety, which is a higher degree of harmony and, therefore, more beauty than subjective unities, such as artworks.

Despite the acceptance of subjective unities, for Leibniz, beauty is radically objective. The objectivity of beauty as a property consists in its independence from three factors: subjective recognition, existence and God's will. Something is beautiful as a possible thing before it gains existence or even if it never exists. Therefore, something is beautiful before it can be empirically recognised by any finite subject. Indeed, its beauty is determined only by its compliance with the formal structure and requisites mentioned above, even if that thing *is* only in the mind of God (and every possible being is in the mind of God). These rules of beauty are not created by God, i.e. they do not depend on his will, but they are in his intellect just as mathematical truths. In this sense, something beautiful is as such, independently not only from subjective recognition (even divine recognition), but also independently from any criterion of beauty imposed by God's will.

Furthermore, the aesthetic value of the universe is also objective. This means two things; firstly, that beauty is not only valuable when appreciated by perceivers, and secondly, that nature's aesthetic value is not given by its instrumental relation with subjective pleasure and happiness. For Leibniz, value in itself is perfection and, in turn, perfection is a rational order in the form of unity in variety. Hence, the value of any world is neither just given by

our enjoyment of it nor even by God's happiness. Something is valuable for its own sake by complying with the formula of unity in variety. Although value is only given by unity in variety or harmony, this does not entail a disconnection with pleasure. Indeed, for Leibniz, harmony is the only source of pleasure for us and for God. Since the aesthetic value of any world is grounded on a rational order that corresponds to the notion of harmony, our access to the pleasure given by the world's beauty is fully achieved by the convergence of our capacity to exercise reason and the rational structure of the world (and the individual things that constitute the world).

Since beauty is the formal structure of harmony, beauty in itself is abstract and insensible. Hence, our ability to experience beauty is at its best when we have intellectual distinct knowledge. However, this structure of beauty is, in most cases, expressed through material and sensible elements that we can experience through confused sense perceptions. It might be the case that sometimes we can only experience a beautiful thing through confused perceptions. If this occurs we still can experience beauty, since we still experience the structure of unity in variety even if we are not aware of it. However, Leibniz suggests that the best way to appreciate beauty is through an experience that progresses from confused perceptions to distinct ones, from sense perceptions to intellectual knowledge.

In this sense, Leibniz's notion of beauty is characterised as a formal, objective and fundamentally valuable property, based on the ontological structure of perfection and being itself. Beauty is a nominalist notion grounded on a formal structure, which is the formula unity in variety or harmony. This formula extends throughout Leibniz's metaphysics, from his ontology to his epistemology. It is the grounding structure of many notions in Leibniz's thought, for example, unity in variety is the ontological structure of beings, ideas, knowledge and the rational order of the world, but also the measure of perfection and value. Therefore, Leibniz's notion of beauty can be extended to all these domains, entities and concepts.

Since for Leibniz beauty is grounded on the formula of harmony, and harmony permeates throughout his philosophy, beauty is a rather general and ubiquitous notion. Conceptually, this ubiquity is explained by the general applicability of the formula of unity in variety. However, this generality does not come without its problem. For one, it makes it harder to establish the specificity of beauty in order to distinguish it from other values or concepts such as goodness, power, rationality, knowledge, and such like. In Leibniz's philosophy, all of these concepts can also be conceived (or at least partially conceived) through unity in variety. Although establishing a fundamental unique grounding for diverse

concepts constitutes an advantage when founding a metaphysical system, it might be problematic if the intention is to develop a theory about one concept in particular, such as a theory of aesthetics based on the notion of beauty. This is why, as said in the introduction, here we built our theory of beauty moving towards Leibniz's general metaphysics and the aforementioned concepts. Yet the opposite movement, one towards the specification of the notion of beauty beyond metaphysics, seems complicated within Leibniz's philosophy.

This relates with another issue: thusly conceived, beauty does not allow us to consider aesthetics as an autonomous field of philosophy. The pervasiveness of the grounding formula of harmony allows beauty to spread to every aspect of philosophy, further beyond than mere sensation or taste. As suggested in chapter VI, the problem is that the autonomy of aesthetics requires an exclusive type of source or object of study. As also mentioned in the introduction, Baumgarten's account established this source to be sensory cognition as a dimension within phenomenological subjective experience. Yet, if beauty is grounded on a common metaphysical ground –shared with notions such as reason, knowledge, power or goodness– and not in sensory cognition or something equivalent, it lacks an exclusive source that would allow it to become an autonomous discipline. It is for this reason that, on this point, we fully agree with Croce and affirm that Leibniz's philosophy by itself cannot offer enough theoretical guarantees for aesthetics to be conceived as a truly autonomous discipline within philosophy.

Another related issue is that, since Leibniz grounds beauty in his particular metaphysical doctrine, the doctrine itself becomes necessary to justify many (but not all) of his views on aesthetics. For example, the idea that beauty is everywhere requires to accept the claim that unity in variety is the foundation of every being; or the idea that beauty is objective because it is independent of existence requires to conceive that there are possible not-actual things. In other words, Leibniz's arguments to defend some of his views on aesthetics depend on accepting his views on ontology and metaphysics in general. This could be a problem to establish a dialogue with contemporary aesthetics and in general with any aesthetic theory outside the Leibnizian tradition.

Nevertheless, these issues aside, Leibniz's views on beauty can be articulated as an interesting and coherent theory that, although rather implicit, seems to be consistent through all his writings. Furthermore, his idea that beauty is harmony constitutes a persuasive take on the matter of beauty. Indeed, it is hard to deny that everything that we regard as beautiful can be understood in terms of unity in variety, especially if unity is understood as a principle of

order and variety as many and different things. In this sense, it is a flexible formula easily applicable for a wide range of cases, extending from artworks, passing through nature, to mathematical theorems and even everyday objects. It can also justify evaluative aesthetic judgements, such as why is one thing more beautiful than other, since the degree of beauty of an object depends on the measure of the degree of unity and the degree of variety that an object possesses.

However, this does not mean that Leibniz had in mind the possibility of generating a mathematical formula to give an exact measure of unity and variety for any object. That said, it is in principle possible that some abstract entities present a countable degree of unity and variety, such as geometrical figures or mathematical axioms. But, in the case of most non-formal or material objects, unity and variety are too complex to be objectively measured by us. Indeed, the measures of the degrees of qualitative variety or degree of order in a non-formal object are hardly conceivable as translated into countable variables. For example, we cannot imagine how to quantify the qualitative variety between the circular brushworks of the sky and the geometrical lines delineating the shape of the houses in Van Gogh's 'The Starry Night'. These are notions that can be intellectually conceived, but not always mathematically measured by us. Hence, this rules out the idea to simply reduce the degree of a material object's beauty to a countable measure or at least makes it an extremely complex task.

Even though the complexity of the formula of unity in variety situates beauty outside the reach of scientific or mathematical reductionism, beauty is not an essentially irreducible subjective phenomenon that escapes reason, like a passion or pure emotion. Leibniz's notion of beauty constitutes the perfect example of a rationalist account of beauty, as it is not characterised in opposition to the intellect. Beauty stands in a metaphysical middle ground between a reductionist conception and an inexorably irreducible notion like the one associated with Romanticism. So, on the one hand, a physical object's beauty resists being known by finite beings with complete distinctness and certain aspects of it remain confused, or at least confused enough to the point that they cannot be reduced to a specific quantity. While on the other hand, the formula of beauty can be intellectually understood and the beauty of objects can be partially grasped by reason.

Beauty is also far from being a subjective phenomenon since Leibniz's notion of beauty suggests a realist account of aesthetics. Beauty is not a mere feeling or illusion, but a real component of the universe, including the physical universe. Furthermore, beauty is in itself an expression of the same structure that grounds every entity in the universe, as unity in

variety is the structure of the degree of essence, i.e. harmonising properties. Thus beauty is inextricable from the very essence of every being, actual or possible. This is why Leibniz's philosophy does not contemplate ugliness or absolute lack of beauty. Some things can present low degrees of unity and variety and therefore a low degree of beauty, but not negative beauty or absence of beauty, since this would mean no essence and essence is the fundamental requirement for being. Hence, Leibniz's account suggests a pancalist universe, i.e. the cosmos –all there *is*– is beautiful to some degree. This constitutes the metaphysical explanation of why harmony and thus beauty pervades throughout his philosophy: in Leibniz's metaphysics, beauty, as unity in variety, is ubiquitous.

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