COMPOSSIBILITY

by

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Abstract

This thesis is a study of G.W. Leibniz’s views on compossibility. Leibniz calls substances that can be brought into existence together “compossible,” and he says that substances that cannot be brought into existence together are “incompossible.” Incompossibility and compossibility together divide substances into sets of individual substances that make up possible worlds. God then chooses from these possible worlds the best one to bring into existence. Thus without compossibility, the contingency of the world, and even God’s choice could have no rational basis. It is on these grounds that Leibniz thought compossibility was the most powerful—and perhaps, only—defense against the position that the actual world is the only possible world. This is a position that was powerfully argued for by Benedict de Spinoza. For largely theological reasons Spinoza’s position was unacceptable to Leibniz.

Since Leibniz’s own time thinkers have found it difficult to see why all the substances are not compossible with one another given certain other philosophical and theological claims Leibniz is committed to. This state of affairs has been exacerbated by the fact that Leibniz himself seems not to have been concerned with providing a clear answer to this conundrum. In an attempt to fill in this omission, and to justify Leibniz’s intuition philosophers have proposed varying accounts of compossibility. Unfortunately, all of these accounts fall short of upholding a comprehensive rational explanation of the world’s contingency based on the objective rational choice of God. My dissertation presents a picture that is multi-faceted in its sensitivity to Leibniz’s theological, physical and logical concerns while nevertheless harmonizing with other tenets of Leibniz’s overall philosophy. I seek to achieve this end by defending the view that compossibility is based on the logical properties of the complete concepts of substances understood as embedded within networks of mutual intelligibility.
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Statement of Originality

(Required only for Division IV Ph.D.)

I hereby certify that all of the work described within this thesis is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with the standard referencing practices.

(Yual Chiek)

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Table of Contents

Abstract ................................................................................................................................. ii
Acknowledgements ............................................................................................................... iii
Statement of Originality ...................................................................................................... iv
List of Abbreviations .......................................................................................................... vii
Chapter 1 Introduction ......................................................................................................... 1
Chapter 2 Leibniz’s rejection of Cartesian Mechanism: Incompatibility, and the Principle of the
The Best ........................................................................................................................................ 6
  2.1 Prelude: Cartesian Mechanism vs. Leibnizian Dynamics .............................................. 11
    2.1.1 Descartes .................................................................................................................. 15
    2.1.2 Leibniz ..................................................................................................................... 24
  2.2 Harmony, Law, and Incompatibility .............................................................................. 29
  2.3 Teleology, the PB and the Pietistic Argument .............................................................. 34
Chapter 3 The Theological Constraints, The Harmony Approach, The Logical Approach and The
Packing Strategy .................................................................................................................. 43
  3.1 Theological Constraints and the Harmony Approach .................................................. 43
  3.2 The Lawful Approach .................................................................................................. 46
  3.3 The Logical Approach ................................................................................................ 49
    3.3.1 LS1 and LS2 ............................................................................................................ 53
  3.4 Problems for the Logical Approach ............................................................................ 54
  3.5 The Packing Strategy .................................................................................................. 58
Chapter 4 The Theological Constraints Revisited .................................................................. 67
  4.1 What are the Theological Constraints? ....................................................................... 68
    4.1.1 Statement A ............................................................................................................ 70
    4.1.2 Statement B ............................................................................................................ 70
    4.1.3 Statement C ............................................................................................................ 72
  4.2 Theological Constraints and the Intercourse between Minds and the Divine. ............ 73
  4.3 The Theological Constraints in Natural Theology ....................................................... 79
  4.4 The Theological Constraints in Leibniz’s Christianity ................................................ 81
    4.4.1 Faith and Reason ................................................................................................ 82
Chapter 5 Toward a New Solution ....................................................................................... 88
  5.1 Steps toward Reform .................................................................................................. 88
5.2 How the Reformed Approach is different from LS1 and LS2 ........................................ 98
Chapter 6 Existence, Co-possibility, and Compossibility ........................................... 104
Chapter 7 The Reformed Logical Approach ................................................................. 113
  7.1 Preparing the Way for Incompossibility ................................................................. 113
    7.1.1 General Concepts and Concept Saturation ..................................................... 118
  7.2 De Risi’s LS ........................................................................................................... 122
Conclusion .................................................................................................................... 127
List of Abbreviations

Leibniz


LC  The Leibniz-Clarke-Correspondence (1715-16). G 7:352-440; cited by number of letter and number of paragraph [e.g. LC 5.2: letter 5, paragraph 2]; translation from L 675-721 (i.e. Clarke’s translation with modernized spelling and punctuation).


Malebranche


Descartes


Chapter 1

Introduction

A distinguishing feature of Leibniz’s philosophy is the precedence of possibility to what exists. For Leibniz, everything that exists is part of a larger class of things that the divine mind could have brought into existence, a set of possible worlds or universes. Possible worlds are in turn the basis for Leibniz’s justification of the goodness of God, and the perfection and nature of the physical laws. Leibniz insists that these possible worlds are ordered from best to worst. The actually existent world is the best of all the possible worlds by virtue of the fact that it was created. We know this because God—due to the goodness of His nature—will always choose the best, and hence will only choose the best of these possible worlds to bring into existence. In Leibniz’s words:

Now, since there is an infinity of possible universes in God’s ideas, and since only one of them can exist, there must be a sufficient reason for God’s choice, a reason which determines him towards one thing rather than another. And this reason can only be found in fitness, or in the degree of perfection that these worlds contain, each possible world having the right to claim existence in proportion to the perfection it contains.¹

This is a gripping image. Jostling about in the divine mind is an innumerable set of possible universes, but only one of them will be chosen to be the actual universe.² World after world asserts its claim to be the one to exist only to be silenced by another worthier than it until we reach the one that cannot be silenced: the best of all possible worlds. This is the only world that God choses.

But suppose we inquire as to what holds up this picture? Why doesn’t God just bring all of the universes into existence? After all, if God’s goal is to optimize perfection, would an infinite number of universes each

¹ M 53, 54.
² My use of the term “jostling” is not entirely elaborative. It has been subject of some debate among Leibniz scholars if he actually believed the possibilities “strove” to exist, or if he was only being metaphorical. For a good over and discussion see, Blumenfield, David. 1973. “Leibniz’s Theory of the Striving Possibles.” *Studia Leibnitiana* 163-177.
possessing different degrees of perfection not bring about an infinite amount of perfection? And why are there so many universes in the first place? What distinguishes the universes from one another so that there is not just one universe? Leibniz invokes the concept of compossibility to address these worries. Thus compossibility is even more foundational than possibility to Leibniz’s philosophy since it makes possible all the arguments that rely on possibility. Compossibility is enormously important to his philosophy. But even though this is true, compossibility is at once one of the most studied of subjects in Leibniz’s system, and yet one of the most poorly understood. There is, for instance, still no consensus on how compossibility, does the work assigned to it.

In what follows I attempt to give an explanation of this mysterious, yet most pivotal of Leibniz’s ideas. Drawing on well-known as well as more recent secondary work on the subject, I shall offer a new account of compossibility/incompossibility that, while complicated, stays very true to the aims and driving motivations of Leibniz’s system. Because compossibility is so connected to everything else in Leibniz’s philosophy, my account challenges us to think differently about many areas of Leibniz’s system in order to produce a working account of compossibility.

The thesis is divided into six chapters (not including the introduction) that as a whole analyze the concept compossibility, the function it plays in Leibniz’s overall philosophy, and what has come to be known as the puzzle of incompossibility. I shall also present and critique theories of compossibility that other scholars have proposed to solve the puzzle of incompossibility. At end of the thesis I present a novel approach to the puzzle of incompossibility that builds on an already existing approach.

Chapter 2 sets the scene for the thesis by situating Leibniz’s invocation of compossibility within the larger context of the rest of his system. It does this by showing how concerns about compossibility are intertwined with issues of teleology and physics. A large part of this chapter is dedicated to demonstrating that it is chiefly these concerns about compossibility that led Leibniz to reject much of Cartesian Mechanism, and to develop the dynamical Mechanics he is known for. One lesson that can be drawn from this discussion is that Leibniz’s system is so intricate that there is, in effect, no part that is not, in some important way connected to another. For example, we learn, in this early chapter, that modal concerns are, for Leibniz, more deeply
connected to his ruminations about physical matters than they were for most, perhaps any, of his contemporaries. Indeed, it is probably fair to say that not only was the clarity and penetration of his work into modal issues not surpassed until the 20th century, but that neither was his appreciation of the depth of the relationship between physical matters and modal ones. While this chapter cannot be a complete investigation into this topic, it does, nonetheless, introduce the topic and draws out what seem to me the most important features of this connection. My broader aim here is to magnify the importance of compossibility. I do this by showing that compossibility is not only connected to, but also informs Leibniz’s rejection of the Mechanics of his day, and his subsequent development of his novel physical theory I hope to impress upon the reader that compossibility is of supreme important to Leibniz’s system. My secondary objective is to demonstrate that the all-encompassing nature of compossibility lends itself to only one interpretation of how compossibility itself is to be explicated. This first chapter will offer evidence from a broad set of physical considerations for a certain account of compossibility. Together with the evidence gathered from other areas of Leibniz’s thought these broad physical considerations form a body of evidence that strongly suggest the interpretation that I develop in the thesis. I shall then reinforce this broad body of evidence with specific arguments for the solution I favor. To borrow a Leibnizian thought, the body of evidence is meant to incline the reader to my desired solution while the arguments are meant to necessitate the solution as their conclusion.

In Chapter 3 we begin our investigation of the views offered in the literature for the resolution of the incompossibility problem. I do not, however, deal with all the solutions that have been advanced by readers of Leibniz: I only present the major approaches. By name these approaches are: the Harmony Approach; the Lawful Approach; the Logical Approach and a relatively recent addition, the Packing Strategy. I present each approach and present reasons why it fails. To criticize the first two approaches, I introduce an interpretive tool I call the “Theological Constraints” on compossibility. The Packing Strategy will be criticized on slightly different grounds. This leaves the Logical Approach. While I shall produce the most common arguments against the Logical Approach, we will also see that these are not knock-down arguments. What is more, the Logical

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3 This is an observation recently made by Samuel Newlands. See Newlands, Samuel. Forthcoming. “Leibniz on the Ground of Possibility.” *The Philosophical Review.*
Approach is the only one that does not violate the Theological Constraints. Both of these findings, but in particular the second one, lead me to conclude that the Logical Approach is the most promising of the four approaches and is the one most worthy of further study. Further scrutiny reveals that two distinct theses are advanced in the Logical Approach, each of which has different strengths and weaknesses. These two strains of the Logical Approach cannot both be candidates for a proper solution to compossibility because each fails where the other succeeds and they are inconsistent with one another: otherwise there might be hope of combining them into a unified double-edged solution. All is not lost, however, for the investigation opens space for a third interpretation of the Logical Approach. It is this interpretation of the Logical Approach that I shall take up and defend in the thesis. So the purpose of this chapter is to funnel the material to the desired point of focus.

Chapter 4 articulates in more detail the Theological Constraints presented in Chapter 2, which, in Chapter 4 receive a full treatment. I shall, in Chapter 4, chain them to the two forks of Leibniz’s theological thinking: Natural Theology, and Revealed Theology. The end of the chapter takes up Leibniz’s sophisticated position on the relationship between Reason and Faith. Here, I shall generally understand Reason in a wider sense than is usually attributed to it, a sense that includes Natural Theology. Faith, on the other hand, is understood in a much more narrow sense having to do with Christianity as defined via the Christian mysteries. Including Natural Theology in Reason as I do is important, for it helps to uncover a tension between Natural Theology and Revealed Theology that is more in line with Leibniz’s thoughts on the question of Reason and Faith than we might otherwise grasp. For Leibniz, the most difficult problem is not so much whether one of the deliverances of Reason is that there is a God, but whether this specific deliverance (or set) of Reason is consistent with the attributes of the Christian God. Delving into this issue cannot be avoided, for in order for the Theological Constraints to constrict accounts of compossibility, the Theological Constraints must themselves be firmly established on Leibniz’s views regarding the possibility of Christian Religion.

After the Theological Constraints have been laid out, and they are used to sift out some of the proposed accounts of compossibility, I begin to introduce my own story of compossibility in Chapter 5. Since this solution is a strain of the Logical Approach, Chapter 5 begins by articulating the strengths of the Logical
Approach before it introduces new conceptual machinery. This chapter thus serves as a sort of primer for the last chapter where I present my own interpretation of compossibility.

Along the way we shall see that in order to come to a solution to the problem of incompossibility we shall have to rethink the interpretation of key features of Leibniz’s views. That compossibility would have such close connections to most of Leibniz’s view is of little surprise considering that compossibility is pivotal in determining which things come into existence. Compossibility works synchronously with possibility: possibility concerns what could come into existence, and compossibility concerns what things could come into existence together.

Given that compossibility and possibility are deeply connected, a theory about the one will shape our theory of the other. That said, two of the key concepts that we shall have to rethink in what follows are those of existence and possibility. I shall argue that there is, in fact, a way that Leibniz himself thinks about these issues that bears importantly on the analysis of compossibility. The re-thinking of existence and possibility that I am speaking of is dealt with in Chapter 6.

The last Chapter, Chapter 7, develops the account that was begun really in Chapter 3. In Chapter 3 I conclude that it is to the Logical Approach that we must look if we are to solve the puzzle of incompossibility. Chapter 7 delves into more detail about exactly what is needed for my solution to work. Because the solution I offer is a development of the Logical Approach, I call it the “Reformed Logical Approach.”
Chapter 2

Leibniz’s rejection of Cartesian Mechanism: Incompossibility, and the Principle of the Best

It is common knowledge among Leibniz scholars that one of the reasons he rejected Cartesian Mechanism (CM) is that he was convinced it led to Spinozistic Necessitarianism (SN), the view that nothing is possible that will not be realized in this world. It is equally well known that Leibniz held the doctrine that not all possible individuals are realized. In order to uphold this doctrine he draws a distinction between possibility and compossibility. Possible individuals are those individuals that possess a non-contradictory complete concept. He then makes the claim that not all possible individuals are compossible with one another, where “compossible” refers to those possible substances that can coexist together. Individuals that could not coexist were said to be “incompossible.” Leibniz employed incompossibility as a Principle of Sufficient Reason (PSR) compatible means of guarding against SN, for incompossibility enables him to offer a reason why not all substances possible per se are realized. His reasons for doing so are clear, as we can see from the following two passages.

If all possibles existed, no reason for existing would be needed, and possibility alone would suffice. Therefore there would be no God except in so far as he is possible. But such a God as the pious hold to would not be possible if the opinion of those is true who believe that all possibles exist.

It can be shown that not all things which are possible per se can exist together with other things. For otherwise there will be many absurdities; nothing can be conceived which is so
absurd that it does not exist in the world—not only monsters, but also evil and miserable minds, and also injustices, and there would be no reason why God should be called good rather than evil, and just rather than unjust.\textsuperscript{6}

On the basis of these passages it appears that Leibniz’s motivations are theological. He wanted to preserve the role of God as deliberating creator of the world in the face of the consequences of SN. The only God that could exist if Spinoza were correct would be a God that existed because its complete concept was non-contradictory, but such a God could not deliberate about what to create and why. No such God could produce a reason for bringing into existence whatever He chose to. If this were the case, the personal God of religious people would not be possible since the God in which they believe must be a reason-responsive personal being.\textsuperscript{7}

It is for this reason that Leibniz invokes the notion of incompossibility:

\begin{quote}
All possibles are not compossible. Thus, the universe is collection of a certain order of compossibles only, and the actual universe is the collection of all existing possibles, and the actual universe is a collection of all the possibles which exist, that is to say, those which form the richest composite. And since there are different combinations of possibilities, some of them better than others, there are many possible universes, each collection of compossibles making up one of them.\textsuperscript{8}
\end{quote}

Schematically, incompossibility is the doctrine that some individuals cannot be members of the same set of individuals, where any given set of individuals contains only compossibles, and corresponds to a possible world. So monads x, y and z may be members of set A, which corresponds to a possible world W. While x, y and z are the elements of A and are thus compossible with each other, k is not a member of the set A and is thus not compossible with x, y and z. Because k is not a member of x, y and z, it belongs to another set: call this B, corresponding to a world W1. From this we learn two lessons: (a) we see that compossibility performs

\begin{flushright}
\textsuperscript{6} SR 581.
\textsuperscript{7} Taken together these passages makes the claim that there is a reason for existence iff God is a personal God.
\textsuperscript{8} L 662.
\end{flushright}
the function of sorting individuals into worlds and (b) possible worlds are mutually exclusive sets of compossible individuals. That worlds can be understood as mutually exclusive sets of individuals is important for Leibniz’s modal metaphysics and for his stance on the moral rectitude of God—insofar as God would only choose the best possible set—because it offers the most powerful—and, perhaps, only—defense against the position that this is only one possible world. The meaning and the significance of incompossibility in Leibniz’s system are clear, but difficulty arises when we attempt to find a basis for it. On the basis of what we have observed so far we can conclude that Leibniz is committed to the following two claims:

I1. We can talk meaningfully of unrealized possibilities

I2. The best of all possible worlds consists in the realized set of individuals and not some other

Matters are complicated by the fact that claims I1) and I2) are themselves difficult to square with certain fundamental principles of Leibniz’s philosophy. Let’s begin with the first claim. The challenge with I1) can be articulated in many ways but the quickest and most perspicuous is to parse it as a conflict between the following two doctrines Leibniz held very strongly: (i) non-interactionism between monads (this doctrine states that there can be no metaphysical interaction between monads of any kind), and (ii) each individual is possible per se insofar as its corresponding concept is non-contradictory. The problem lies in that if each individual monad is possible per se (doctrine (ii)) and there is no metaphysical connection between monads (doctrine (i)), it is difficult to see how any two individuals could be incompossible. What sufficient reason could God have for denying existence to some individuals while granting it to others? So given Leibniz’s affirmation of the conjunction of (i) and (ii) there is a real question as to what prevents God from creating all the individuals that appear to His understanding, or that is to say, bringing every possible substance into existence. This option is forcefully raised by the looming threat of SN.

This is the standard picture. But there is a schism within this standard view. The problem is that scholars, by and large, treat Leibniz’s rejection of CM separately from his appeal to incompossibility. Thus, when treating his rejection of CM, the secondary literature pays attention only to Leibniz’s physical arguments
against CM. That is, the literature concentrates on his criticisms of Descartes’s laws of motion, the Cartesian identification of extension as the primary quality of matter, and Descartes’s conception of inertia and force.  

Conversely, the doctrine of incompossibility is treated as though it possessed little weighty connection to his physical views. Indeed, it seems to be a tacit assumption that aside from asserting the doctrine of incompossibility, Leibniz does not offer any arguments for it. In what follows I shall show that it is a mistake to treat Leibniz’s rejection of CM separately from his invocation of incompossibility. I do this by tracing the conceptual links between Leibniz’s rejection of CM and his appeal to incompossibility. My claim is that there is, in fact, a deep connection between the rejection of CM and the appeal to incompossibility. I shall, therefore, defend the thesis that the rejection of CM provides Leibniz with a reason to appeal to the doctrine of incompossibility, a doctrine that enables him to avoid SN. An upshot of this thesis is that the very same reasons that lead Leibniz to reject CM are also operative in his rejection of SN. What is more, according to this thesis the rejection of CM (and more broadly Leibniz’s physical views), and the doctrine of incompossibility are situated right where Leibniz’s physics links up with his metaphysics and theology in sensitive ways.

The thesis of this chapter is highlighted by the fact that it has gone virtually unnoticed by scholars that Leibniz’s invocation of incompossibility is preceded and supported by arguments grounded in his criticism of Cartesian Mechanism, criticisms that are independent from any explicit concerns to save contingency, even though these arguments have modal consequences that provide justification for Leibniz’s doctrine of incompossibility. In other words, while the class of arguments against CM that I am going to consider do not directly address the issue of incompossibility, they both provide grounds independent of incompossibility that give justification for Leibniz’s appeal to incompossibility, and yet are removed enough to stand on their own.

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10 In keeping with the sensitivity and subtleties of the connection of ideas at this level, there is a lot that I shall simply not have enough room to deal with in this chapter. Thus, I shall, naturally bracket off many interesting and worthwhile questions. One of these questions—nuanced enough to require a full article—is the idea that Leibniz’s physics can be read as incorporating an epistemology of contingency. According to this modal epistemology he asserts that conceivability is the basis for our access to the truth of modal concepts. Descartes’s physics, on the other hand, denies the modal import of conceivability. Because of the deeply intertwined nature of this subject with other related ones (even with the thesis I will advance in this chapter), there are parts of this chapter in which I allude to these other connections.
This yields the beneficial upshot that incompossibility is interestingly intertwined with Leibniz’s arguments against CM. So if Leibniz’s rejection of Cartesian Mechanism is to be understood properly, it must be connected to his doctrine of incompossibility in particular. The converse is also true. That said, the aim of this chapter is to illuminate Leibniz’s views on modality by looking at his criticism of Descartes’s physics, principally Descartes’s doctrine of intrinsic force and the laws of motion. It is to this end, that I will present and analyze an argumentative strategy Leibniz employs quite frequently in these matters. I call this strategy the “Pietistic Argument” (PA). This argument supports Leibniz’s criticism of Cartesian Mechanism in two ways. The first way is by utilizing the Principle of the Best (PB) to defend God’s disposition to bring about the best, and the second is by helping to make conceptual room for the doctrine of incompossibility. Thus the overall argument of the chapter is: (1) PA leads to the rejection of CM, and (2) the rejection of CM leads to Incompossibility.

I begin by first characterizing CM and Leibniz’s Mechanism (LM) with the aim of highlighting how their differing views on the relationship between mathematical representation of physical phenomena give rise to quite different modal doctrines: possibilism for Leibniz, and a weak form of necessitarianism for Descartes. This will comprise Part 1. I should like to make clear that my use of “possibilism” refers to the idea that there is a strong metaphysical distinction between being and existence. The distinction consists in the claim that while everything that is included in the category of being may come into existence, not everything that may come into existence exists. The category of being is broader than the category of existence; and those entities that are not in the category of existence but are in the category of being are called possibilia.11 In part 2 I will analyze Leibniz’s comments on Part 3 of Descartes’s Principes of Philosophy and use these to launch the discussion of PA in the last part of the chapter.

2.1 Prelude: Cartesian Mechanism vs. Leibnizian Dynamics

So we can better hone in on the reasons for Leibniz’s rejection of CM I want to begin by considering the respects in which CM and LM differ. This is not meant to be a thorough examination of the numerous and often subtle divergences between these views: I wish only to focus on the major differences between the two in order to help frame the Pietistic Argument. There will, therefore, be many differences between LM and CM that I shall not delve into here, but I do not believe that these omissions will blunt the overall point of the chapter.

Descartes’s mechanism is differs in several key respects from Leibniz’s. For one, in Descartes’s system matter is inert, unable to generate the energy required for movement of a body from one position to another. And with regard to the basic properties of matter, Descartes held that these can be completely captured by the application of geometry to the natural world. In fact, all of matter’s defining qualities are geometrical. This is significant because Descartes also held that the nature of space was completely captured by the mathematical structure of geometry, so there is an interesting sense in which Descartes reduces the properties of matter to the properties of space, especially in defining extension as the basic property of matter. While this is interesting, I shall not address this issue in this chapter. For Leibniz, on the other hand, each piece of matter is endowed with its own active principle. Moreover, the key quality of matter is not extension as it is for Descartes but force. Thus for Leibniz, the properties of matter are not reducible to the properties of space. Space is instead, understood in terms of matter: as the complete set of relational facts about bodies.

What Leibniz and Descartes do share is a basic commitment to the thesis that explanation of natural phenomena must be Mechanical: i.e., the interaction of pieces of matter according to exceptionless laws of nature. Their principle points of divergence can then be summed up as an internecine conflict between two Mechanists. These points of disagreement lie in the fact that Descartes thinks that physics, construed as Mechanical explanation, is continuous with geometry. For instance, in a letter to Marin Mersenne, he wrote:

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13 This comes out clearly in sections 5-11 of De ipsa natura GP IV, 506-511.
“My whole physics is nothing but geometry.”14 The philosophical consequence of this position is that it facilitates not only the derivation and subsequent identification of the fundamental properties of matter, as those that are representable in geometrical relations, but also the derivation of natural laws. I focus in this chapter primarily on the natural laws and their modal status.

By focusing on the laws of nature we will see that Descartes’s profession of a purely geometrical physics is not at face value a full disclosure of the metaphysical underpinnings of his view, underpinnings that are situated at the heart of his conception of God’s goodness and ultimately get to the core of his use of the PSR, although I will, for the most part, bracket this issue for the purposes of this chapter. In other words, my aim here is to show that Descartes is unable to build a bridge between his geometry and his account of the natural laws without violating the PSR. By contrast, Leibniz doesn’t have this problem. Not only are his metaphysical commitments more transparent, but he also connects the gap between his geometry and his account of the natural laws by linking them to modal considerations. Supporting this link to modal considerations is an appeal to God’s disposition to bring about the best. This brings us to a consideration of Leibniz’s use of teleological explanation in his physics. This is an important step in the argument because Leibniz’s teleological approach not only enables him to generate many viable laws, but also helps him mark out a feature of the actual laws. This enables him to argue that there are other conceivable possible ways the world could have been fashioned, but that has in fact not. The fact that it is this way is because this way is the best, and God is disposed to create the best. Because the derivation of natural laws depends partly on Descartes’s conception of the properties of matter, it is necessary to look at Descartes’s postulates about the basic properties of matter prior to looking at his conception of natural laws. The same will hold true for our discussion of Leibniz. Looking first at the basic properties of matter will help to illuminate the interaction between Descartes’s geometry, the properties of body, and the metaphysical justification for the properties of matter; and by so doing, the metaphysical presuppositions about the laws of nature. From here, these metaphysical presuppositions will be compared with Leibniz’s.

For Descartes, the need for a link to modality is still felt but the consequences are different from Leibniz’s. I think Descartes’s modal reasoning leads to a species of necessitarianism that, while perhaps not as thoroughgoing as Spinozistic Necessitarianism, constrains modal talk enough that there is little recognizable as a possibilist metaphysics. In light of this qualification, I will settle with highlighting the fact that Descartes’s views on modality are as dependent upon his physical views as Leibniz’s are on his own. The vital difference is that Leibniz’s use of the PB enables him to develop a theory of modality that affirms possibilism while Descartes’s negligence of this principle does not. So the point is that Descartes’s negligence of the PB leads to the denial of possibilism. Working through the evidence for this claim affords us an avenue to set up a proper juxtaposition between Descartes’s system and Leibniz’s that will enable us to see how the PB functions in both systems with respect to this issue.

In fact, Leibniz argues that Descartes’s failure to accept the principle of the best is self-defeating. His argument from the PSR is that if Descartes holds (as he did) that for God willing and understanding are the same such that something is, say, good because God wills it, and not because God understands it to be good, then there can be no conceptual priority between God’s willing, say F, and God’s understanding that “F.” If willing and understanding are the same for God, then the goodness or badness of F, cannot be a motive of God’s will; God’s willing F would then be without reason, since the goodness (perfection) of F would be the reason for God’s willing it to be the case. The problem with this is that it makes F an arbitrary decree of God; this is tantamount to unnecessarily truncating the chain of explanation. Descartes cannot say that F is willed because it is an object of God’s understanding since that would make the understanding prior to the Will. Parkinson puts it this way:

When discussing Descartes’ views about God’s will and the good, he [Leibniz] appeals to the principle of sufficient reason. He says that if things are good or bad only by virtue of being an effect of the will of God, then the good is not a motive of God’s will, which will be a kind of absolute decree, without reason. So “the will of God will be a mere fiction.”

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Parkinson gets us closer to understanding Leibniz’s position, but as it stands, Parkinson’s explanation is less than satisfying. For we might still wonder how it follows from the fact that the will is an absolute decree devoid of reason that the will of God is a fiction. I think we can arrive at an answer to this question if we note something about how “will” as a verb behaves in appropriate sentential contexts. In keeping with this suggestion, a clearer way of expressing Leibniz’s point is that since “will” is a transitive verb that typically takes its object with the assistance of a that-clause, willing-statements must take the following form:

G wills “that <x>”

With this in mind, the general thrust of Leibniz’s criticism is that anything that is a proper substitution instance of the variable x is a token of propositional knowledge. Thus an agent can only will what it first subsumes under the category of propositional knowledge. But the only way something could be subsumed under propositional form is in virtue some cognitive faculty. Thus, it is necessary that there first be a consideration of the object under the faculty of cognition before it can be treated by the will, thereby making it necessary that there is a conceptual distinction between the will and the understanding. But notice that we have arrived at this conclusion by building upon the logical form of willing statements. It follows therefore that any conception of the will that does not countenance the necessary interconnection between understanding and willing cannot be a proper conception of the will. For this reason, Leibniz asserts that if Descartes’s views are accepted there would not—properly speaking—be anything identifiable as God’s will. In other words, God could not rightfully call a will.

Ultimately, Leibniz concludes that willing and understanding need to be actually distinct. But his work is not done. Leibniz still needs to show that the PB has got to be true for God to have a reason to make a choice. To do this he has to appeal to the perfections of each thing that appears in the divine understanding.

223. New York: Cambridge University Press. 211.
The individuals with the highest comparative levels of perfection according to a particular design are willed by God to exist; thus comparative perfections are the most basic of reasons. So God’s understanding must be able to have access to these reasons so as to choose the best in order for anything to be possible at all. But we might ask why the principle requires that God choose the best? Why is it not that God choose the worst/least perfect? While this will not be a focus of this chapter, an answer to this question is based on the position (not peculiar to Leibniz) that perfections correspond to different levels of reality, so that the more perfect a thing is, the more reality it possesses, and hence the more right it has to exist. So for God to be disposed to choose the worst would be the same as requiring God to choose non-reality over reality.

2.1.1 Descartes

The inveterate Mechanist, Descartes believes that the correct picture of the world is that it is generally a great machine. The parts of this machine—like gears of a machine of human artifice—are in constant motion and are controlled by exceptionless laws. These parts are composed of matter whose intrinsic qualities coincide with the mathematical properties used to characterize them in Euclidean space. So the two elements that are needed to generate the Cartesian universe are motion and three dimensional extension. The general laws that govern the interaction of bodies and thus the development of the system are the same in all the possible arrangements of matter. To be sure, the identification of extension with the essential properties of body does not originate with Descartes, for the Scholastic thinkers were also keen to make the distinction between a substance’s essential features and its accidental features. For instance, when I imagine a red ball, it is essentially an extended spherical object, I cannot but think of it as a spherically extended object insofar as I am to think of it as a ball, but the redness is clearly something added to the sphericalness of the ball. This analysis is taken up by

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16 There is a connection here to the literature on the notion that every possible entity has a tendency to exist. Here the problems revolve around whether God has an active part in deciding what to create or if things really do have a tendency to exist on their own. I am inclined to think with most commentators that the striving-possibles metaphor is just a metaphor, but I also think that there are deeper problems that the perfections theory of existence generates. In particular, one connection pertinent to the explanation I have given above is that if God did have an active part in deciding which beings come into existence, what is the extent of this involvement? There are several options here that all pose significant difficulties, difficulties that can be solved only if we accept a certain view of compossibility.
Descartes, as is demonstrated by his remarks in *Le Monde* that he conceives of matter, “its extension, or the property it has to occupy space not as an accident, but as its true form and its essence.” This is not to say that the Scholastics saw extension as the essence of body in the same way Descartes did. The Scholastics held that accidents could be attached to a substance without having to be understood through the essence of that substance. Descartes, on the other hand, held that all accidents of a substance have to be understood through its essence, in the case of body, all its accidents have to be understood through extension. So, as Dan Garber puts it,

[W]hen he [Descartes] claims that the essence of body is extension, he is not saying that all bodies have extension and necessarily so, as his scholastic contemporaries might have meant such a claim; he is saying something stronger, that everything that can really be attributed to body as such must be some way or another of being an extended thing.\(^{17}\)

The Scholastics distinguished between accidents that were essential and those that were not essential to a substance. Bereft of its essential accidents a substance could not be the substance it is. Among the non-essential accidents there was a further distinction: *propria* (properties) and *accidentia propria* (proper accidents). These two kinds of accidents have to be conceived through the essence of the substance in question. Garber gives the example of risibility (the capacity for laughter) for *propria* and the very act of laughing for *accidentia propria*.\(^{18}\) Even though risibility is found in all humans by virtue of their nature, it is not essential to being human-being. The very act of laughing, while not found in all humans, at all times, are found only in things with a human nature. Thus both *propria* and *accidentia propria* bear a connection to the essence of the substance they are attached to. However, the Scholastics allowed for accidents that while being in a substance did not have to be conceived through the essence of the substance they were attached to. This is antithetical to Descartes’s view because he wants to make all the properties of body geometrical, so for him all accidents of body are to be


\(^{18}\) Ibid., 68.
conceived through extension. All the accidents attributed to body must, therefore, be either *propria* or *accidentia propria*. The accidental features could be understood separately from the substance under investigation. Thus Descartes’s departure from the Scholastic picture is the reduction of the essential properties of matter to geometrical facts. This conviction is repeated in *The Meditations* and eventually becomes his declaration that matter is essentially geometrical.\(^{19}\)

In conjunction with his identification of the essence of matter with geometric extension, it appears that Descartes posits two kinds of laws from which a world as rich in phenomena as our own maybe derived. The first kind consists of the familiar laws of motion:

1. Each and every thing insofar as it is simple and undivided always remains in the same state as far as it can, nor does ever change except by external causes. Thus, if a particular part of matter is square, we can be sure without more ado that it will remain square forever, unless something coming from outside changes its shape. If it is at rest, we hold that it will never begin to move unless it is pushed into motion by some cause. And if it moves, there is equally no reason for thinking that it will ever cease this motion of its own accord and without being checked by something else. Hence we must conclude that whatever moves, so far it can, always moves.\(^{20}\)

2. Each and every part of matter considered separately never tends to continue moving in any oblique lines but only in straight lines… It is manifest that everything that moves is determined in the individual instants which can be

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\(^{19}\) Garber shows that throughout his works, Descartes utilizes different terminology but that they, for the most part, map onto the same concept. See, Ibid., 64-65.

\(^{20}\) *Principles of Philosophy*, 37; AT viii. 62.
specified as it moves, to continue its motion in a given direction along a straight line, and never along a curved line.\textsuperscript{21}

3. When a moving body comes upon another, if it has less force for proceeding in a straight line than the other has to resist it, then it is deflected in another direction, and retaining its motion, changes only its determination. But if it has more, then it moves the other body with it, and gives the other a much of its motion as it itself loses.\textsuperscript{22}

The second kind of laws comes from mathematics and geometry. While the first set depends on the immutability of God, for it is God who imputes the first motion into the plenum and conserves the same quantity of motion thereafter, the second set arises out of the application of analytic geometry to extended bodies in motion. It is this second set that he is referring to when he writes:

I. The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them.\textsuperscript{23}

II. In addition to the three laws [the laws of motion] I have explained, I do not wish to suppose any others, except those which follow infallibly from those eternal truths on which the mathematicians are accustomed to base their most certain and evident demonstrations, those truths, I say, according to which God himself has taught us

\textsuperscript{21} Ibid., 39; AT viii. 63.
\textsuperscript{22} Ibid., 40.
\textsuperscript{23} Ibid., 64.
that he has disposed all things in number, weight and measure, and whose knowledge is so natural to our souls that we cannot but judge them to be infallible when we conceive them distinctly, nor doubt that if God had created several worlds, they would be as true in all of them as they are in this one.\textsuperscript{24}

And even more strongly, he adds,

\textbf{III.} I would think I knew nothing in physics if I could say only how things could be, without demonstrating that they could not be otherwise. This is perfectly possible once one has reduced physics to the laws of mathematics. I think I can do it for the small area to which my knowledge extends.\textsuperscript{25}

Important for our purposes is the fact that Descartes wants the mathematical principles of his physics to be so certain to us that we could not but take them to obtain in every world. He expresses this in the second passage when he writes that these principles are so clear that we don’t “doubt that if God had created several worlds, they [those principles which follow from mathematical truths] would be as true in all of them as they are in this one.” In the third passage this thought is linked to the requirement for something to count as a token of physical knowledge when he writes that he would not count himself to know anything about physics if he could not demonstrate (with mathematical rigor) that things could not be otherwise. In the second sentence of this passage he explicitly states that this high epistemic standard is only possible if physics is reduced to mathematics.

Assimilating physics to mathematics in this way enables Descartes to make the further modal claim that the physical laws would obtain in any world God decided to make since they would obtain with the same

\textsuperscript{24} \textit{Le Monde}, AT xi. 47.
\textsuperscript{25} \textit{Letter to Mersenne}, 11 March 1640, AT iii. 39.
certainty that mathematical truths do. This is surely the correct reading of the second half of the second passage. So leaving out the three laws of motion, Descartes’s system is a mixture of two related claims: (a) the properties of matter are geometrical, and so are (b) governed by eternal necessary mathematical-physical laws. None of this should be surprising since for him bodies are just geometrical objects made concrete; this alone would seem to guarantee that he be a mathematical physicist in this especially robust sense. So for him the generation of physical phenomena that we observe in this world is as necessary as the mathematical truths, since he would not think himself to have come to any knowledge (passage III) if he could not demonstrate the piece of knowledge in question. With this in mind, let us turn to an intriguing passage from the Discourse on Method (as he summarizes the results from Le Monde). Descartes writes,

I showed that the laws of nature were, and without basing my arguments on any principle other than the infinite perfections of God, I tried to demonstrate all those laws about which we could have any doubt, and to show that they are such that, even if God created many worlds, there could not be any in which they failed to be observed. After this, I showed how, in consequence of these laws, the greater part of the matter of this chaos had to become disposed and arranged in a certain way, which made it resemble our heavens; and how, at the same time, some of its parts had to form an earth, some planets and comets, and others a sun and fixed stars.

An important part of this excerpt is the claim that according to these necessary laws, matter had to take the forms that it in fact did; that is to say, the forms corresponding to those constitutive of the heavens and the earth. This passage clearly states that the current mathematical-cum-physical laws when applied to a plenum of Cartesian bodies will always produce a world like ours. Indeed, I am inclined to say that it would in

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26 A reading in the same spirit as my own is given by Edwin Curley. Curley writes: “In Le monde Descartes classes the fundamental laws of physics together with the principles of mathematics as necessary or eternal truths … Here Descartes assimilates principles of physics—principles of inertia and of the conservation of motion—to mathematical truths.” See, Curley, E.M. “Descartes and the Creation of the Eternal Truths.” In The Philosophical Review. vol. 93:4, 573

27 Discourse on Method, AT v. 43.
fact be this very world. But the question is whether Descartes is making a modal claim here, and if he is, what is doing the modal work: the laws of nature, or the mathematical-physical laws? The fact is both the laws of motion and the eternal truths have their basis in the immutability of God's free will, but God could have chosen a different set. Descartes famously announces this doctrine in a letter to Mersenne writing, “The mathematical truths, which you call eternal, have been established by God and depend on him entirely, just as all other creatures do... he has established these laws in nature as a king establishes laws in his kingdom.” Moreover, “You ask also what necessitated God to create these truths; and I reply that just as he was free not to create the world, so He was no less free to make it untrue that all the lines drawn from the center of a circle to its circumference are equal.” The picture emerging here is that God could have chosen other eternal laws. Thus it is, in this sense, possible that there could be other worlds in which different eternal truths and therefore different mathematical-physical laws obtain. More strongly, only worlds with different mathematical laws count as real possibilities. And it is unlikely that Descartes thought that different starting conditions could get different genuine possibilities, i.e., a world with the same mathematical-physical laws but with different starting condition. For him once we assume the same mathematical-physical laws any change in the initial starting conditions has no bearing on genuine possibility, they are “modally inert.” He writes,

In fact it makes very little difference what initial suppositions are made, since all subsequent change must occur in accordance with the laws of nature. And there is scarcely any supposition that does not allow the same effects (albeit more laboriously) to be deduced in accordance with those same laws of nature. For by the operations of these laws matter must successively assume all the forms of which it is capable; and, if we consider these forms in order, we will eventually be able to arrive at the form which characterizes the universe in its present state. Hence in this connection we need not fear that any error can arise from a false supposition.  

28 This letter is dated May 27, 1630, AT i. 144-145.
29 Letter to Mersenne, 27 May 1630, AT i. 152.
30 Principles of Philosophy, 47, AT viii. 103, CSMK i. 258.
So the only genuinely possible worlds are worlds in which the eternal truths are different from the ones that hold in this world. But do we have access to these worlds? Can we deduce what these worlds are like? The answer for Descartes as got to be no. In order to be able to deduce what these worlds must be like, we must possess the ability to think in terms of the eternal truths at that world, but this is beyond our ken as creatures of this world. The best we can do is intimate that there are such things; but they must forever be immersed in dark waters to us, “impossible possibles” impenetrable to our minds. In a letter to Arnauld, Descartes writes,

I do not think we should ever say of anything that it cannot be brought about by God. For since every basis of truth and goodness depends on his omnipotence, I would not dare to say that God cannot make a mountain without a valley, or that one and two should not be three. I merely say that he has given me such a mind that I cannot conceive a mountain without a valley, or an aggregate of one and two which is not three, and that such things involve a contradiction in my conception.

Because our conceptual abilities cannot run the full gamut of God’s power, we cannot conceive of other possible worlds in the truest sense. So for Descartes there is no practical sense in which possibilism could be true because its truth requires us to be able to think in a manner consistent with a set of mathematical truths other than the ones that obtain. In fact, we would have to be able to think in a manner consistent with all the different sets of impossible possibles. But to do so requires nothing short of thinking as God thinks. It is on these grounds that Descartes thinks that possibilist talk is impious and even blasphemous. He asserts that if

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33 The modality associated with impossible possibles is different from the modal possibility that is defined in terms of obtaining at some but not all worlds, where all the worlds possess the same eternal truths. Let this characteristically Cartesian possibility be denoted by “$P_C$” and the more bounded Leibnizian possibility denoted by “$P_L$.” The members of $P_C$ are worlds with different eternal truths, while the members of $P_L$ all have the same eternal truths but may vary in local physical laws and/or initial starting conditions.
“men really understood the sense of their words they could never say without blasphemy that the truth of anything is prior to God’s knowledge of it.”

The interpretation I have given of the above passage from *The Principles* runs counter to Edwin Curley’s reading of the same passage. Curley writes that “Descartes here anticipates an idea usually credited to Leibniz, that necessary truths are those which are true in all possible worlds.” While Curley is right to point out that Descartes anticipates the idea that a necessary proposition is one that obtains in all worlds, he fails to make the observation that the sense in which Descartes uses the term “world” cannot be a modally sensitive one, because for him there is only one possible world, one set of eternal truths we have access to. So Curley is mistaken in his further claim that it is important for “the methodology of Cartesian physics that the laws of nature should be true in all possible worlds; only if they are, can physics be a priori to the extent that Descartes thinks it is.”

As we saw above, Descartes’s conception of the necessity of the natural laws cannot even allow for more than one possible world in the sense that we are not cognitively equipped to satisfy the access conditions for these other worlds. The upshot is that Descartes’s conception of the necessity of the natural laws cannot be the same as the Leibnizian one for in Leibniz’s scheme, we have access to all the worlds.

So even though the intriguing passage from the *Discourse on Method* initially seems to lend credence to the view that Descartes’s physics is amenable to a possibilist reading, it is a mistake to draw such a conclusion because for him there is no substantive difference between this world, and other worlds that we can think about given that the laws would all be the same. A strong consequence of this view is that different things could not happen in a world with the same laws. Here is why: the only way this could happen in a world with the same laws as this one is if the initial starting conditions were different, but Descartes says that for whatever suppositions we make about the initial starting conditions of the plenum; it would eventually arrive at the current state of the world. All of this follows, for the most part, from his voluntarism about the eternal truths.

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34 *Letter to Mersenne*, AT i, 145.
36 One might appeal to Lewisian miracles, but Descartes’s general Mechanistic framework would not allow for a state of the world that had no physical basis in antecedent states. What is more, such a request would seem to violate the immutability of God’s will.
2.1.2 Leibniz

For Leibniz there is no one-to-one mapping between mathematical structure and the properties of matter. This bars off the possibility of being able to read all the qualities of mathematical structure directly into the world of nature. Instead, he thinks that there is conceptual space between mathematical structure and the properties of matter. But this gap is not unbridgeable; he thinks that the gap is mediated by the nature of metaphysical explanation.\(^\text{37}\) We can see this gap in one of Leibniz’s criticisms of the understanding of matter and motion in CM. He observed that the problem with CM lay in the concepts of matter and motion it employed. So a consequence of Leibniz’s rejection of the Cartesian picture is that he also rejected the Cartesian notion of matter as being essentially extended. Instead he conceived of matter as having an active force, not inert as did Descartes. As a result of this Leibniz’s system became a dynamical system as opposed to the purely kinematic systems. Challenging the Cartesian view that the ultimate feature of matter is extension and solidity, Leibniz, in a letter to De Volder, writes:

The Cartesians think that some substance can be constituted by extension alone because they conceive of extension as something primitive. But if they undertook to analyze the concept, they would see that extension alone cannot suffice for an extended being, any more than number suffices for the things that are enumerated. I agree with you that just as the concept of the number 3 is not adequate to understand three particular things, so the concept of diffusion is adequate to understand the nature of what is diffused. This is itself the very nature into which I think we ought to inquire. And I leave it to your judgement whether this can be anything but a force from which activity and passivity follow.\(^\text{38}\)

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\(^{37}\) It is this space that is the space for the contingency of the natural laws, and thus ultimately the thesis that matter cannot successively take on all the forms of which it is capable.

\(^{38}\) *Correspondence with De Volder*, L 527.
Because he thinks that extension is inadequate to capture matter, in particular motion, Leibniz proposes that the concept be filled in; he makes his suggestions as to how in the same correspondence:

I do not think that substance is constituted by extension alone, since the concept of extension is complete. Nor do I think that extension can be conceived in itself, but I consider it an analyzable and relative concept, for it can be resolved into plurality, continuity, and coexistence or the existence of parts at one and the same time. Plurality is also contained in number, and continuity also in time and motion; coexistence really applies to extension only. But it would appear from this that something must always be assumed which is continuous or diffused, such as the white in milk, the color, ductility, and weight in gold, and resistance in matter. For by itself, continuity (for extension is nothing but simultaneous continuity) no more constitutes substances than does multitude or number, where something is necessary to be numbered, repeated, and continued. So I believe that our thinking is completed and ended in the concept of force rather than in that of extension. And we need seek no other concept of power or force than that it is the attribute from which change arises, and whose subject is substance itself. 39

What I want to highlight in these texts is that by not buying into the idea that extension is the fundamental quality of matter, Leibniz creates a conceptual gap between the mathematical representation of physical phenomena and the laws governing matter on the one hand, and the concept of matter on the other. There is, naturally, much to be said here about Leibniz’s realization that the active force needed to move matter if not located in matter itself must be located in something like a *deus ex machina*, a charge he made against CM and Newton’s suggestion that the active force required for motion could be located outside of matter. In opposition to these views, Leibniz insisted that this active force be located within matter. To justify this insistence, Leibniz claimed that he could produce physical considerations like the need for resistance to require more than passivity.

39 Ibid., 516.
to “prove that the body contains something dynamic by virtue of which the laws of power are observed. It therefore contains something besides extension and antitypy, for no such thing can be proved from these two alone.” Because the laws of power, cause and effect cannot be proved from extension and passivity alone, Leibniz advanced the position that the concept of extension itself needed to be closely scrutinized. Upon closer scrutiny Leibniz finds plurality of substances is conceptually prior to extension, leading him to conclude that extension is a relation between individual substances, aggregates of which form extended bodies: “Extension is itself, for me, an attribute resulting from many substances existing continuously at the same time.” He says the same thing about motion. In fact, it is arguable that considerations about necessary revision to the concept of motion played an integral part in his revision of the concept of matter.

Because Descartes associated matter so closely with extension, not only was there no room for the impetus for motion to arise from within matter in his Mechanics, it was difficult to give a palatable account of continuous motion, one that is commensurate with our experience. This is because in CM motion was understood as change of place, and along with extension as a fundamental part of matter, was thought to be an ontologically primitive concept. The question became how a body could transition from one position to another by going through intervening locations when there is no force inherent within matter that could continuously transition it from one location to another. The problem as Leibniz realized was that extension and solidity were taken as ontological primitives; this mistake would eventually lead Cartesian thinkers to posit God as the active force responsible for the locomotion of bodies. But the issue, more accurately, is that if matter is identified with extension, continuous motion could only be understood as position at a time, but this leaves motion discrete and discontinuous. What is more, since the extended body is moved from outside, the body must be produced at one place and then at another place in successive moments. The task for Leibniz was to account for motion without invoking God as the sole active force responsible for the locomotion of bodies.

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40 Ibid., 520.
41 Ibid.
42 Garber argues that the issues of continuity or discontinuity of time was not important to Descartes, and was thus non-committal on this issue. See Garber, Daniel. 1992. Descartes' Metaphysical Physics. Chicago: University of Chicago Press. 266-272.
But how does locating force within matter help Leibniz? It helps because by building force into the body, he thereby incorporates the impetus for motion into the body itself and is thus able to understand motion in terms of the body and not body in terms of motion. That is to say, motion is something body does, not something that is done to body. Thus the issue is not merely about whether the force comes from outside or inside, it is intimately linked to the concept of movement. To solve the problem of discontinuous motion and avoid accounting for motion in terms of God’s continuous recreation, Leibniz argued that like extension, the concept of motion could also be broken down further. Employing the principle of continuity Leibniz contended that because there can be no leaps in the motion of a body A from position y to position x. Instead motion must be conceived as a relation between the body A and its place y, and the place y to the place x. He writes,

This is the axiom that I use -- no transition is made through a leap. I hold that this follows from the law of order and rests upon the same reason by which everyone knows that motion does not occur in a leap; that is, that a body can move from one place to another only through intervening positions. I admit that once we have assumed that the Author of things has willed continuity of motion, this itself will exclude the possibility of leaps.

I have been focusing on the development of Leibniz’s dynamics because it provides Leibniz the means of creating the gap between necessity and possibility. This is accomplished by showing that in order to understand continuous motion we have to first posit that active force is within matter, matter is not inert. This step already divorces matter from geometrical representation since it recognizes something within the concept of matter that cannot be a property of a mathematical entity. Thus it cannot be that every property of matter is

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43 Malebranche brings out this doctrine in *Entretiens sur la metaphysique* and the *Rabertbe*. This is not to say that Leibniz rejected the continuous recreation doctrine, he merely refused to understand motion in terms of it. Otherwise, he in fact accepted a strong form of the thesis, but he did reject Occasionalism. See *Theodicy*, Sec. 27; Sections. 382-385. An extended discussion of this and related issues can be found in: Lee, Sukjae. 2004. “Leibniz on Divine Concurrence.” *The Philosophical Review* 204-248.

44 *Correspondence with De Volder*. L 515.
geometrical and thereby holds with geometrical necessity. This makes it so that the laws that govern matter are not necessary.

The upshot of all of this is that the conceptual space I am speaking of is composed chiefly of modal considerations in Leibniz’s dynamics. He concurs. For example, in a letter to a correspondent in 1699, he says:

My dynamics requires a work to itself... you are right in judging that it is to a great extent the foundation of my system; for it is there that we learn the difference between truth whose necessity is brute and geometrical, and truths which have their sources in fitness and final causes.45

And reiterating this same view nearly half a decade before his death, he writes:

This great example of the laws of motion shows us in the clearest possible way how much difference there is among these three cases, first, an absolute necessity, metaphysical or geometric, which can be called blind and which depends only on efficient causes; in the second place, a moral necessity, which comes from the free choice of wisdom with respect to final causes; and finally in the third place, something absolutely arbitrary depending on an indifference of equilibrium which is imagined, but which cannot exist, where there is no sufficient reason either in the efficient or in the final causes.46

It is clear from this passage that for Leibniz there can be no geometrical necessity, for if there is the current laws would obtain with the same kind of metaphysical necessity. This would leave no room for the free choice of God in choosing this world, a choice that underpins the moral necessity “which comes from the free choice of wisdom with respect to final causes,” thus undermining Leibniz’s possibilism.

45 GP iii. 645.
2.2 Harmony, Law, and Incompossibility

Our discussion so far has been confined to the laws of motion and their modal properties. We saw that Leibniz does not think that the laws of motion obtain with geometric necessity, and so it was possible, in the deepest metaphysical sense, for them to have not held. He does think, however, that they hold with moral necessity. And the moral necessity with which they hold hangs on the fact that God could not choose anything but the best. This is the entrance of the principle of the best (PB). I will speak specifically, and in more detail about the PB in the next section. For now suffice it to say that the PB is required for us to move from consideration of the laws of motion to the doctrine of incompossibility. So in this section I briefly attempt to trace a connecting thread between the physical laws, the PB and incompossibility. Key to making this work will be the dual concepts of harmony and law. That said, I take the application of harmony and law to the problem of incompossibility as illustrative uses of the Pietistic Argument (PA). So my aim here is not to present a solution to incompossibility, I wish only to give a sketch of the possible interaction between PA, harmony, law and incompossibility.

God (thanks to His wisdom and the constraints of His nature) could not but freely choose these best of all laws. This view can be found through Leibniz’s works. For example in De Materia, De Motu, De Minimis, De Continuo, while criticizing Descartes for attempting to ground the conservation of motion on the immutability of God rather than God’s wisdom, he writes:

We have assumed, by a kind of prejudice, that a greater body is moved with more difficulty, as if matter itself resisted motion. But this is contrary to reason, for matter is indifferent towards any place whatsoever, and therefore to change [of place], i.e., motion [adeoque et ad mutationem loci, sive motum]47. Descartes takes refuge in the immutability of God; but he should have appealed to the harmony of the works of God [harmonium rerum Dei], for the wisest being chooses the simplest means to achieve the greatest results.48

47 This is the original Latin. Parkinson does not translate “loci” into “place”. I have done this in the first square brackets in the text.
48 SR 466.
We learn from this passage the idea that Leibniz grounds the conservation of motion in the harmony of the world-system, and this is in turn grounded in a choice made by the divine wisdom. But how is any of this connected to the doctrine of incompossibility? There are two ways: (i) the first of these approaches subsumes the physical laws under the contribution they make to the harmony of the whole. According to this approach harmony is understood as arising from the individuals that compose it, so that the harmony of the world depends on God’s choice of individuals that will together form the world. Thus the compoisibility of individuals will be a function of the harmony of the world they would together compose: incompossible individuals are those that would produce an inharmonious world.

The second route (ii) defines incompossibility in terms of law without emphasis on harmony. Under this approach individuals are incompossible if they cannot be brought under some over-arching law. It is not a stretch to see that both of these approaches can claim the above passage and others as textual evidence. Donald Rutherford defends the first of these approaches. According to Rutherford’s interpretation compoisible substances are those that stand in appropriate relations of temporal and spatial harmony. Incompossible substances, on the other hand, are those that do not stand in such harmonious relations. What is more, because compoisibility is the mechanism by which individuals sort themselves into worlds, and he understands harmony to be the relevant factor in determining incompossibility, Rutherford concludes that “universal harmony is a necessary feature of any possible world.” So according to this interpretation incompossibility is completely understood in terms of harmony: individuals are incompossible iff they are not harmoniously related to each other.

The second of the two approaches, the compoisibility-as-law approach was originally taken up by Bertrand Russell. According to Russell every possible world must have a law that binds all the individuals in it. These laws vary from world to world and “determine the connection of contingents [in that world] just as in

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50 Messina and Rutherford refer to this approach as the “lawful” approach. See, Messina, James, and Donald Rutherford. 2009. “Leibniz on Composibility.” *Philosophy Compass* 962–977.
the actual world, it is determined by the laws of motion and the law that free spirits pursue what seems best to them."\textsuperscript{51} Again,

\[\text{W}ith\text{-}out\text{ the need for some general laws, any two possibles would be compossible, since they cannot contradict one another. Possibles cease to be compossible only when there is no general law whatever to which both conform. What is called the “reign of law” is, in Leibniz’s philosophy, metaphysically necessary, although the actual laws are contingent. If this is not realized, compossibility must remain unintelligible.}\textsuperscript{52}

And in sum:

\[\text{T}wo or more things are compossible when they belong to one and the same possible world, i.e. when they may coexist. All possible worlds have general laws, analogous to the laws of motion; what these laws are, is contingent, but that there are such laws is necessary (G. ii. 51; cf. also G. ii. 41). Hence two or more things which cannot be brought under one and the same set of general laws are not compossible.}\textsuperscript{53}

I will return to these approaches in the next chapter. Rutherford and Russell are not the only scholars to advocate these approaches.\textsuperscript{54} I have cited them as representative accounts. And I chose these two approaches because in them we can see most clearly the unique position the concept of incompossibility occupies in Leibniz’s philosophy. Beyond providing a justification for non-existent possibilities, incompossibility serves a mediating role between Leibniz’s physical views and his thinking about modality. The harmony and law approaches generally serve to illustrate this well because they attempt to construe incompossibility in terms of

\textsuperscript{52} Ibid., 67.
\textsuperscript{53} Ibid., 66.
the concepts of harmony and law respectively. While the concepts of law and harmony both have important roles in Leibniz's physics, in the section to follow I will focus on harmony.

Leibniz defines harmony as diversity in unity. Harmony shows up not only as a metaphysical principle, it also makes appearances in Leibniz's discussion of physical problems. For example, in a 1690 letter to Huygens, he objected to Newton's proposal of the law of universal gravitation according to which bodies attract each other with a force directly proportional to their masses and that is inversely proportional to the square of the distances between them. Newton offered universal gravitation as an explanation for planetary motion, but his explanation was unacceptable for a Mechanist like Leibniz because it did not explain planetary motion in terms of the communication of motion from one body to another. As an alternative to Newton's explanation Leibniz offered Descartes's vortex theory of planetary motion. To account for the proportion that Newton embedded in the gravitational force, Leibniz appealed to the theory of harmonic circulation. He writes,

> When I worked out my arguments about harmonic circulation, that is to say, [circulatory motion in which speed is] inversely proportional to distances, and encountered Kepler's rule (of times proportion to areas), I perceived the excellent advantage of this kind of circulation: it alone is able to conserve itself in a medium that also circulates, and to bring into lasting accord the motion of a solid body and that of the ambient fluid. This was the physical explanation which I once claimed to give for this circulation, bodies having been determined in this way the better to be harmonized with one another.⁵⁵

So far as the links between incompossibility and Leibniz's approaches toward physical problems is concerned, accounts of incompossibility that emphasize the roles of harmony and law look to be more promising than those that do not. Moreover, such approaches also stand the chance of helping us to better understand the unity of Leibniz's physics and his modal metaphysics. So it seems to me generally true that the doctrine of incompossibility helps to unify Leibniz's system. In light of this unifying function of incompossibility,

⁵⁵ AG 309-310.
we are well within reason to reject theories that do not in some way incorporate harmony, and to a lesser extent, law as an important feature of a solution to the problem of incompossibility. The difficulty is to designate the places these concepts should occupy in a successful theory of incompossibility. Let us take harmony as an example. Ultimately, I think that harmony appears at every level of Leibniz’s philosophy, so one might well give an account of compossibility that relies on a kind of harmony at, say, the level of predicational facts about monads. To be sure, in such an approach harmony is not going to be cashed-out in spatio-temporal terms, as it is in Rutherfordian harmony, but it must at minimum take seriously the task of uncovering mechanisms by which the rendering of plurality in unity is achieved. Harmony at the level of predicational facts can properly be said to provide the bases for spatio-temporal harmony. In this chapter I confine myself to tracing the connections between Leibniz’s physics and his modal philosophy in general, and his physics and compossibility in particular. In the latter case, spatio-temporal harmony acts as a nexus for the connections and associations I am speaking of. Naturally, a full account would commence investigation from this nexus and proceed to the level of individual substances. Such an account will not be offered in this chapter.

None of what I have said in this section would be possible in Leibniz’s system without the role that he accords to God’s disposition to choose the best, i.e., the PB. If the PB were not playing an important role, neither the Harmony Approach nor the Lawful Approach could even qualify as solutions to incompossibility. One reason for this is that there is nothing about the concepts of harmony or law (construed here as the lawfulness of a world) themselves that tells us whether there are more than one harmoniously ordered system, or more than one set of individuals that fall under a general law; much less that God chooses one of these sets. Without the PB God would have no reason to choose any one set over another; of course, a choice might be made but it would violate the PSR. This would produce the upshot that there is no reason for existence. But Leibniz’s claim is that there is a reason why the actual set was chosen, and that reason is grounded in the PB. Hence the concepts of harmony and law offer no principled means of closing off all but one of the sets they generate. That is, they offer no reason why, say, set $S_1$ should be realized over $S_2$ to $S_n$. Clearly this begins to take steps toward SN. Ultimately, this means that without the addition of something else the invocation of harmony or lawfulness alone cannot support the uniqueness of the best of all possible worlds doctrine. It is
for this task that the PB is required in this connection. What is more, Leibniz closely connects the PB with existence and harmony writing, “So for things to exist is the same as for them to be understood by God to be the best, i.e., the most harmonious.” And, “it follows also that matter is actually divided into an infinity of points. But this is true, provided that it is possible, for it increases the multitude of existents and the harmony of things, or the admiration of the divine wisdom.”

2.3 Teleology, the PB and the Pietistic Argument

In the last section we saw that the gap between the laws of motion and the doctrine of incompossibility could be filled in with the concepts of harmony and law. In keeping with this conclusion I presented the approaches of Russell and Rutherford as ways this might be accomplished because they incorporate the notions of law and harmony respectively. We also saw that even with harmony and law linking incompossibility with LM, without the PB as a means of sorting between different sets of lawfully admissible, or harmonized individuals, the approaches of Russell and Rutherford would fail to uphold Leibniz’s possibilism. In this part of the chapter, I want to extend these lessons to Leibniz’s rejection of CM proper. It is here that we will see that central to Leibniz’s rejection of the modal consequences of CM is the Pietistic Argument.

The Pietistic Argument relies on Leibniz’s adherence to teleological explanation. Leibniz maintained that teleological explanations are indispensable for understanding nature, and that insofar as it denies teleology, CM could not lead us to real understanding of the natural world. He, therefore, sought to combat the weak form of necessitarianism I have attributed to Descartes by saying that the world could have been made many different nomically conceivable ways, but is in fact made the way it is owing to the free choice of God motivated by a disposition to bring about the best. But God could only choose the best way if God’s will is directed to implement the best among a series of genuinely nomically possible options. Leibniz is thus able to shift the discussion to questions pertaining to modality and divine goodness.

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56 SR 598.
57 SR 474.
Leibniz’s brand of teleology is a departure from the Aristotelian/Scholastic teleology that was objected to by most philosophers of Leibniz’s day. Leibnizian teleology differs from Scholastic teleology in the latter’s two main theses. First, Leibnizian teleology does not follow with the first thesis of Scholastic, the thesis of the immediacy of teleological explanation according to which the entity under study desires, or intends to arrive at a prescribed end based on the relevant forms of the phenomena in question. The second part of Scholastic teleology involved an appeal to God’s ends. It was, perhaps, this second part of Scholastic teleology that most deterred the Mechanists. Descartes for instance, makes explicit his desire to purge physical explanation of teleology in 1:28 of the *Principles of Philosophy*:

> When dealing with natural things we will, then, never derive any explanations from the purposes which God or nature may have had in view when creating them <and we shall entirely banish from our philosophy the search for final causes>. For we should not be so arrogant as to suppose that we can share in God’s plans. We should, instead, consider him as the efficient cause of all things; and starting from the divine attributes which by God’s will we have some knowledge of, we shall see, with the aid of our God-given natural light, what conclusion should be drawn concerning those effects which are apparent to our senses.58

McDonough points out an example of the type of “arrogant” suppositions Descartes wishes to banish.

A striking example of teleology used in this way [in a plain manner] is provided by Abrade Reconis’s account of the saltiness of the sea, which he explains in terms of “the two most important ends to which the sea is instituted,” namely, “first, that it should be the common domicile of fish, and second that in it there should be navigation to provide commerce and necessary goods” both of which are promoted by salinity “since saltiness keeps the sea from putrefying and makes it stronger and denser so as to hold the greater weight of ships.” For many seventeenth century mechanical philosophers, such teleological explanations not only

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58 CSMK i. 202.
smacked of the idle and non-confirmable speculations that plagued Scholastic philosophy in general, but also involved presumptuous speculation concerning God's ends.59

Scholastic teleology held sway until the advancements in mathematical physics brought about by the Mechanists, of whom Descartes was, at least in principle, a contributor.60 And as we just saw from Descartes's statement in The Principles, advocates of the new philosophy dispensed with teleological explanations because they wanted mechanical explanations to monopolize explanation in the natural realm. This is not true of Leibniz who, because of his dual commitment to mechanism and the principle of goodness, straddles the lines between these two views. For Leibniz teleological explanation should not attempt to explain the behavior of some system by reference to the outcome of that event. Thus he does not take the scholastic line all the way, for he, like the Mechanists, did not approve of many of the teleological explanations of the Scholastics. He nevertheless warned against complete rejection of teleological explanation. And so in the Discourse on Metaphysics, he writes that consideration of final causes may be “useful not only for admiring the ingenuity of the great workman, but also for discovering something useful in physics and medicine.”61 Instead Leibniz held that every physical happening can be explained by use of principles that are ultimately rooted in God's goodness, as it is applied to the solutions of various physical problems. A paradigm case of this view is his derivation of the laws of reflection and refraction in the “Tentamen Anagogicum: An Anagogical Essay in the Investigation of Causes” (TA) Leibniz's method of derivation of Snell's law involves tracing out the possible paths that the ray of light moving from one point A hitting a reflective surface at point B and heading toward point C.62 While these laws had


60 I use the qualifying phrase “in principle” because although Descartes seems to accept the general spirit of the mathematization of physics (properly completed by Huygens, Newton et al.) He did not produce a mathematico-physical work. Garber points out that despite Descartes's claims that the only principles he requires in his physics are “those of geometry and pure mathematics” he never managed to produce a work on physics which contained explicit mathematical reasoning. See Garber, Daniel. 2000. “A different Descartes: Descartes and the programme for a mathematical physics in his correspondence.” In Descartes's Natural Philosophy, edited by Stephen Gaukroger and John Sutton, 113-130. New York: Routledge.

61 DM 22.

been derived by Descartes by means of efficient causes, Leibniz’s derivation is simpler and more elegant. What this derivation shows is that Leibnizian teleology is based primarily on the production of principles like the “most determined path principle,” (MDPP), from the resolution of physical problems.

One of the clearest admissions of final causation by Leibniz is in the 1686 Discourse on Metaphysics. It is worth quoting him at length. The first of these quotes begins with Leibniz distinguishing himself from contemporaries that he fears do not afford enough of an importance to final causation. He writes,

Since I do not like to accuse people wrongly, I make no charge against our new philosophers who claim to banish final causes from physics, but I am nonetheless obliged to confess that the consequences of this opinion seem to me to be dangerous, especially if I combine it with the view which I refuted at the beginning of this discourse, which seems to go the length of denying final causes entirely, as if God in acting had proposed no end or good whatever, or as if the good were not the object of his will. I hold on the contrary, that it is exactly in this that the principle of all existences and of the laws of nature is to be thought, for God always aims at the best and the most perfect.63

The idea that God always aims at the best expresses Leibniz’s general approach to final causes. That said, my aim here is not to give a detailed and substantive account of final causes,64 rather, I only wish to show that Leibniz’s position is simply that of an approach toward the question of ends. According to Leibniz, in saying that God always works for the best end we are not pushed to assume that we have to know the ends of God, or even His purposes in each particular circumstance, this is, perhaps, the work of enquiry, conceptual and empirical. Indeed, difficulties arise with this picture only when we attempt to confine God’s end to one particular end, when God has many ends in view at the same time. In fact what we might call God’s general

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63 DM 19./L 316-317.
end is the entire universe. Combine this with principles Leibniz sets forth prior to this section of the *Monadology*, he ends up arguing that the fact that God has many ends in view simultaneously is why it is wrong to say that God has created the world for us, even though “it is very true that [H]e made it in its entirety...” for us. The creation of the world for human being is only one particular end, so in terms of functional end, it is true that the world was not created just for human beings. However, with respect to the moral end the world is created with human beings in mind. This would seem to imply that Leibniz thinks God has human beings in mind as observers of His works, albeit observation is not their sole purpose.

Evidence of the world being made for us is the fact that everything affects us some way or other and this is because everything is connected. The fact that everything affects us might seem strange as a reason to think that the whole was made with us in mind; after all, everything affects everything else too. Why then would the world be made for human beings and not also for the animals? The answer is that human beings are able to see that all things are connected in their capacity as rational observers of the workings of the universe; beings that are able to be fully convinced of the beauty of The Maker’s purposes. In this sense (a sense as robust as any other) the world is made with human beings in mind. Since all the happenings in the universe comply with the regard that God has for human beings, Leibniz writes,

> [W]hen we see some good effect or some perfection which occurs or which ensues from the works of God, we can say with certainty that God has purposed it, for He does nothing by chance and is not comparable to us, who sometimes fail to do what is good.

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65 DM 19./L 316-317.
66 This has led commentators to view the creation of rational creatures as necessitating an order of harmony different from the harmony that God designs for the inanimate creation. For example Christia Mercer thinks there are two distinct strains of harmony in Leibniz’s thought, *Emanative* and *Reflective* harmony. The latter pertains to human beings, the former to the rest of creation. See Mercer, Christia, and Robert C. Sleigh, Jr. 1995. “Metaphysics: The Early Period to the Discourse on Metaphysics.” In *The Cambridge Companion to Leibniz*, edited by Nicholas Jolley, 67-124. Cambridge: Cambridge University Press. 218-220.
67 I will not say much more on this thought other than to point out that the ability of humans to understand God’s creation fits them for the type of relationship we see at the end of the *Discourse on Metaphysics*: the City of God in which God rules rational souls as a King does his subjects, or a Father his children.
68 DM 19./L 316-317.
One intermediary conclusion Leibniz draws from this is that we need not worry about reading too much complexity, or multiplicity of functional purposes into the designs of God, we ought only to worry about avoiding making suppositions that limit what God can do by assuming that a given physical phenomenon can have only one, or perhaps, even a finite set of designs. That is, when we think that God “has in view only one particular thing, when in fact he at the same time takes into consideration the whole.”

The picture of teleology arising here can be couched in Leibniz’s two-kingdom approach:

[T]here are, so to speak, two kingdoms even in corporeal nature, which interpenetrate without confusing or interfering with each other – the realm of power, according to which everything can be explained mechanically by efficient causes... and the realm of wisdom, according to which everything can be explained architectonically.

This modified teleology enables Leibniz to hold—following Aristotle—that superordinate final causes govern the subordinate causes. Added to this is the elaboration that the subordinate causes are themselves governed by the PSR and the PB. Leibniz’s approach here is both metaphysical and methodological. It is metaphysical because it appeals to ends ultimately grounded in the divine mind and it is methodological insofar as the model makes possible the derivation of Mechanical laws that deal with subordinate causes. In this regard, the arguments of TA are more philosophical than theological. And what is more, by virtue of their relatively more philosophical bent they are necessary to grasp the pragmatic bases for final causes in Leibniz’s metaphysics.

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69 Ibid. Notice that this is an answer to Descartes’s insistence that we cannot know what God could have done. Leibniz is making the same claim as Descartes, except in reverse.

70 Ibid.

71 DM 19.

72 Nicomachean Ethics, i, 1. Aristotle calls these subordinate final causes “master ends”: “But where such arts fall under a single capacity – as bridle-making and the other arts concerned with the equipment of horses fall under the art of riding, and this and every military action under strategy, in the same way other arts fall under yet others – in all of these the ends of the master arts are to be preferred to all the subordinate ends; for it is for the sake of the former that the latter are pursued. It makes no difference whether the activities themselves are the ends of the actions, or something else apart from the activities, as in the case of the sciences just mentioned.” See Aristotle. 1984. The Complete Works of Aristotle. Edited by Jonathan Barnes. Translated by W.D. Ross and revised by J.O. Urmson. Princeton, NJ: Princeton University Press.
Working within the confines of these broadly theistic themes Leibniz warns of Materialism (albeit Materialism in its Mechanistic manifestation). One of the warnings that stems from this is that we ought to be wary of views that attempt to explain physical phenomena by reference only to matter. That is, without appeal to teleology. The worry is that when matter becomes the sole basis of explanation no appeal to ends becomes needful since in these cases only concepts that can be gleaned from matter can be used. He writes,

And I advise those who have any feeling of piety, and indeed of true philosophy, to keep away from the phrases of certain would-be freethinkers who say that we see because we happen to have eyes but that eyes were not made for the purpose of seeing. If one seriously accepts these opinions which ascribe everything to the necessity of matter or to a certain chance (though both of these views should seem ridiculous to anyone who understands what we have explained above), it is difficult to acknowledge an intelligent Author of nature. For the effect must correspond to its cause and is even known best through a knowledge of its cause. It is unreasonable to introduce a sovereign intelligence as the orderer of things, and then, instead of making use of [H]is wisdom, to employ only the properties of matter in explaining phenomena.\textsuperscript{73}

The key idea here is that when only the properties of matter are used to explain physical phenomena there is no conceptual need for God in such a scientific project. In this way this sort of Materialism undermines the belief in The Deity by removing the intentions of God from the explanatory picture. The intentions of God in this context are expressed in the general principle of proper function that Leibniz freely employs and that seem to govern localized applications of the PB. As far as there is purpose in the loose sense of proper function, Leibniz looks to be in good shape with respect to maintaining final causation.\textsuperscript{74} He iterates several times that

\textsuperscript{73} DM 19.

\textsuperscript{74} There is also an important link between proper function and modal properties of objects that Leibniz could just as easily have appealed to. A great benefit of this approach is that it can very easily be shown to fill the gap with design thus connecting very naturally with the method of final causes. In a recent book, Michael C. Rea traces the relationship between various forms of naturalism, intuitionism and design in explaining the modal properties of objects. While Rea’s work is not directly applicable to the interpretation of Leibniz, he does, nevertheless, correctly point out that
Mechanism (here we can read CM) ultimately leads to atheism; this he expresses in the last two sentences of the excerpt we just read. To sum up, the thought is that given God’s goodness there must be teleological explanation. CM, however, rejects teleology so CM must be rejected.

We have seen that starting from a general apprehension of CM on theological grounds; Leibniz argues in the same spirit with more technical, metaphysical and physical detail that Mechanism rubs against commonly held intuitions regarding modality. Even Leibniz’s finding Mechanistic philosophy both modally and physically wanting are connected. Not surprisingly, this is what is going on in his claim that it is in his dynamics that we learn the difference “between truths whose necessity is brute and geometrical, and truths which have their source in fitness and final causes.” Notice the pairing between necessary truths and brute geometrical facts on the one hand, and the pairing between truths that have their source in fitness and final causes on the other. I am assuming that the second pair of truths is contingent. It is, of course, an option to say that the second pairing represents necessary truths as well, say, necessary truths that are grounded in the fact that they make possible various processes that appeal to fitness and that are understood in terms of final causes. An important reason this would make a difference is that we might claim that if these are considered necessary truths then there remains nothing stopping the world from being necessary, if all its truths including ones that have to do with the truths (natural laws) that determine the operations of the world-machine are necessary. There are two reasons why this route would be mistaken: the first is that even if this second set of truths were necessary, in virtue of their possessing basis in their fitness for the production of the desired end (final cause), there is a strong conceptual need for the free yet necessary choice of the divine mind. That is, God chose the second set of truths because they are the best fit for the performance of the best ends, and the best ends comprise the best world that God—thanks to His nature—will freely choose. In this way, the truths can be necessarily true because God will always choose them. The other truths have their reality in the very nature of God and so enjoy the same necessity as God’s existence, these are truths God comes to know through His understanding, which here amounts to self-understanding.

The lesson to learn from all of this is that there is a sense, in which all truths are necessary for Leibniz, but this sense is tempered by his recognition of at least two sources of necessity, and the difference for him is in the sources of these necessities. There are many places in which Leibniz makes the same pairing with respect to the truths that have their necessity in geometrical facts and those that have their necessity in moral facts. Truths of the first kind derive their necessity from being products of God’s understanding, while truths of the second kind have their necessity in being truths of God’s volition. The important thing to take away is that the volition in this case is one that is informed by God’s immutably good will; one that is governed by the principle of the best.
Chapter 3

The Theological Constraints, The Harmony Approach, The Logical Approach
and the Packing Strategy

3.1 Theological Constraints and the Harmony Approach

The considerations outlined in Chapter 2 enabled us to make our first criticism of views in the literature on incompossibility. These considerations form a web of ideas that have a common origin in Leibniz’s theology. They set constraints on what can count as a permissible solution to the problem of incompossibility. These “Theological Constraints,” as I shall refer to them, provide us with a powerful tool to evaluate and criticize the Harmony Approach. But before I move to the criticism, it is important to motivate this approach. Now to be clear, I think the motivation is faulty, but it does present some insight into why the proponents of this view might be drawn to it. It will become clear in my criticism just why I think this motivation is faulty.

75 Catherine Wilson points to a number of theses Leibniz was dedicated to preserving, and that she identifies as forming the criteria for the creation of a Leibnizian world. Wilson proposes that we think of these as rational constraints on Leibniz’s creation story. The key point on which my Theological Constraints differ from Wilson’s “Rational Constraints” is that Wilson’s Rational Constraints do not deal directly with compossibility; they are instead, proposed as the guidelines by which Leibniz’s God creates a world. In fact, compossibility is presupposed in the Rational Constraints. The Theological Constraints, however, are guidelines for how to think of compossibility itself. Here are Wilson’s Rational Constraints:

(1) A given substance exists in only one world-apart
(2) Our world is the richest and fullest of all possible worlds
(3) Our world does not contain every possible substance.
(4) If and only if substances A...n can (all) exist together in some possible world, they are compossible.
(5) Substances A...n are compossible if an only if each perpetually represents (all) the others.
(6) If A...n are compossible, and if any element of that set is compossible with any member of the compossible set B...k, then A, B...n...k are (all) compossible and conversely.
(7) Our world is morally-aesthetically optimal.
(8) Our world is the only actual world.

Notice that theses 4-6 presuppose compossibility a very general and uninformative notion of compossibility. One can accept all of 4-6 and be devoid of an account of incompossibility, or compossibility since 4-6 stipulate only what must true of the individuals of a world, and not what must be true of the compossibility relation itself. For this reason, Wilson’s Rational Constraints are not competition for the Theological Constraints. See Wilson, Catherine. 2000. “Plentitude and Compossibility in Leibniz.” The Leibniz Review 1-20. 10
The motivation begins with its would-be proponent yielding to the temptation to resolve the composibility problem by making an appeal to the broadly aesthetic considerations of God: considerations like the harmonious correspondence of all the perceptions of the individuals that would make up a world. The inference is then made to the conclusion that the compossibility of individuals would also be a function of the harmony of the world they would together compose: incompossible individuals would produce an inharmonious world.

According to the Harmony Approach—most clearly defended by Donald Rutherford—compossible substances are those that stand in appropriate relations of temporal and spatial harmony with one another. Conversely, incompossible individuals are those that do not stand in such harmonious relations to one another. Furthermore, because compossibility is the mechanism by which individuals sort themselves into worlds (as is recognized by all Leibniz scholars), and he understands harmony to be the relevant factor in determining incompossibility, Rutherford concludes that “universal harmony is a necessary feature of any possible world.” In summary, according to this interpretation incompossibility is comprehensively understood in terms of harmony: individuals are not compossible iff they are not harmoniously related to each other. So “...All and only those individuals are compossible that are conceivable by God as connected (in the appropriate manner) within a single world.” Due to Leibniz's tendency to speak often of harmony, and to associate it with perfection and beauty, it is understandable that the Harmony Approach has been so popular among commentators, but it, nevertheless, possesses flaws that become apparent when we examine it through the Theological Constraints.

The problem with the Harmony Approach is that it moves the conditions for compossibility from the individuals to the preferences, or as I prefer to put it, aesthetic considerations of God. The difficulty is that as a

77 Ibid.
78 The naming is not entirely idiosyncratic. It is actually grounded in the fact that Leibniz was following in a long line of thinkers that hails all the way back to the Pythagoreans, and extends to Augustine. These thinkers took harmony to be the paradigm of beauty. Leibniz's contribution is to expand this concept considerably more than others had done by linking it to the creation of reality, and by giving it a more rigorous, even mathematical spin. A very good example
result of making this shift the Harmony Approach ends up weaker than a viable account ought to be, precisely because it depends not on objective logical principles but on extra-logical preferences that—however well-defined they might be—do not treat the question of compossibility at the right theoretical level. Such failure to treat compossibility at the right theoretical level renders the Harmony Approach as, at best, an approximation to the correct solution wherever that solution may lie.

To skirt this issue, proponents of the Harmony Approach might seek to construe harmony in a manner more consistent with rigid logical principles but this would render the Harmony Approach indistinguishable from an account based on some sort of logical incompatibility between complete concepts. I shall say more about this later. Returning to immediate concerns, given that an upshot of the Harmony Approach is that the aesthetic preferences of Leibniz’s God would be in principle inaccessible to created intelligences, the Harmony Approach breaks the Theological Constraints on compossibility. One clear reason for this is that without linking these considerations to a robust logically grounded notion of compossibility, a non-subjective basis for God’s preference could not be established. This is a problem because if the Harmony Approach were correct, the propriety of the divine judgments could not be accessed by intelligent agents.79

My argument against the Harmony Approach rests on the claim that the Harmony Approach is ultimately an appeal to an arbitrary criterion to ground compossibility. Arbitrary criteria cannot serve this purpose because they attribute to Leibniz the view that God can act without reason. In kind, the essence of my claim is that the Harmony Approach attributes to Leibniz a God that acts without reason. Here is why I think this to be the case. Presumably, harmony is a criterion of goodness,80 but if this criterion is one that is

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79 We may arrive at this conclusion not just by teasing out the consequences of the Theological Constraints, but also by paying sufficient attention to Leibniz’s general approach to aesthetics. For instance, Leibniz (and later Wolff and Baumgarten) distinguished aesthetic thought as confused cognition in which the richness of association trumped analytical clarity. For examples in PNG, Sec. 17; G VI, 605, Leibniz writes “The pleasures of the senses reduce to intellectual pleasures known confusedly.”

80 Andrew Carlson makes a mistake similar to the one I am attributing to the proponents of the harmony approach. He argues that Leibniz’s God has to choose the standards of Goodness prior to the creation of a world. See Carlson, Andrew. 2001. The Divine Ethics of Creation in Leibniz. New York: Peter Lang. 644. My argument against the harmony approach has much in common with Lloyd Strickland’s criticism of Carlson. See Strickland, Lloyd. 2006. The Shorter
not chosen by God employing fundamental principles that are independent of His choice, then harmony could not have been rationally adopted over some other good-making criterion. God’s action would, therefore, violate the PSR. If God’s choice of harmony is governed by more primitive notions, then we should appeal to these primitive notions to understand compossibility.

In sum, because the Theological Constraints demand that any theory of incompossibility assimilate its reasons under independent criteria, the natural solution is to have incompossibility founded on fundamental logical laws by which intelligent souls—divine and non-divine—operate. Accordingly, the only viable accounts are solutions that ground incompossibility in some sort of logical incompatibility between incompossible substances. The rest of the thesis will be devoted to articulating and building up this approach, assessing its weaknesses, and retrofitting it in ways that make it immune to the attacks that felled the other approaches and whatever arguments are erected against it.

3.2 The Lawful Approach

The Lawful Approach—while in many ways similar to the Harmony Approach—defines incompossibility in terms of laws without emphasis on harmony. On this approach individuals are incompossible if they cannot be brought under some over-arching law. As we saw in Chapter 2, the Lawful Approach was originally defended by Bertrand Russell, and consists in the claim that every world has a law that binds all the individuals that comprise it. These laws vary from world to world and “determine the connection of contingents [in that world] just as, in the actual world, it is determined by the laws of motion and the laws that free spirits pursue what seems best to them.” Russell, Bertrand. 1937. *A Critical Exposition of the Philosophy of Leibniz*. 2nd. London: Allen and Unwin. 67.

remain unintelligible.”

So for Russell two or more individuals are “compossible when they belong to one and the same possible world, i.e., when they may coexist. All possible worlds have general laws, analogous to the laws of motion; what these laws are, is contingent, but that there are such laws is necessary. Hence two or more things which cannot be brought under one and the same set of general always are not compossible.”

Contemporary proponents of the Lawful Approach maintain the main tenets of Russell’s formulation, albeit with a few modifications. For instance, the Lawful Approach as espoused by J.A. Cover and John O’Leary-Hawthorne seems to me to be the strongest version of the Lawful Approach, and it has been taken as the standard for Lawful Approaches in recent literature.

Basing their version of the Lawful Approach on that of Margaret Wilson, who thought that a proper account of compossibility requires that laws pertinent to the generation of compossibility relations between individuals were not just the laws of the world these substances are members of, but that these laws needed to be embedded within the individuals in question. For Wilson the relevant laws are not so much the general laws of the world, but the individual laws of the series. I shall speak at greater length in the next chapter about Wilson’s approach, for now, I make mention of it to set the backdrop for Cover and O’Leary-Hawthorne’s version of the Lawful Approach.

Like Wilson, Cover and O’Leary-Hawthorne think that compossibility can be explained only with reference to fairly specific facts about which laws operate on individuals. However, unlike Wilson, Cover and O’Leary-Hawthorne do not think that the laws need to be written into the individual’s concepts for reasons of general metaphysical consistency.

Having eliminated Russell’s lawful solution as too general, and Wilson’s lawful solution as too specific, Cover and O’Leary-Hawthorne go with the idea that the most relevant factor in the incompossibility of individuals is the design that God has in mind. They write:

82 Ibid.
83 Ibid., 66.
84 For example, Rutherford and Messina, McDonough, Koistenin and Repo, and Brown all use the position of Cover and O’Leary-Hawthorne as the basis for their characterizations of Lawful Approaches.
85 Specifically they think that Leibniz is a strong essentialist. This means that they think Leibniz is committed to the position that each individual can belong to one and only one set of individuals. They could not, therefore, agree that the laws relevant for the compossibility of individuals must not be the law of the series that is embedded within each individual, for if they were there could be no reason why an individual could not be extracted from one set and placed in another. For a more in-depth discussion of Strong Essentialism see Chapter 3 of Cover, J.A., and John O’Leary-Hawthorne. 1999. Substance and Individuation in Leibniz. Cambridge: Cambridge University Press.
In most contexts, Leibniz is interested in what substances are compossible with God’s designs for the best. He is thus for the most part interested in questions of what things are hypothetically compossible, where the hypothesis involves certain – albeit morally necessary – decrees of harmony...for each set of decrees God can make, He knows which sets of substances are compossible with each other together with those laws. As a result, incompossibility claims are, in effect, claims of hypothetical impossibility – on the hypothesis of a certain set of lawful decrees (where typically the actual decrees are the ones in view) – rather than claims of impossibility per se.\footnote{Ibid., 137.}

Although it does not come out as clearly as it should, Cover and O’Leary-Hawthorne are suggesting a theory of compossibility according to which substances are compossible or incompossible depending on whether they can be conceived by the divine understanding as composing a world that fits within one of His designs: “[I]ncompossibility claims are only ever true in relation to a certain set of presumed particular lawful decrees.”\footnote{Ibid.} Thus Cover and O’Leary-Hawthorne hope to stay away from Russell’s generalized understanding of the laws that are needed for compossibility while also distancing themselves from Wilson’s solution. All of this is because Cover and O’Leary-Hawthorne do not take the laws that are pertinent to the compossibility question to be written into the individual substances. Instead, compossibility results are determined by very specific designs of God for a world: designs that are mediated by specific\footnote{Ibid.,} laws that are to obtain in whatever world God wishes to create.

\footnote{One weakness of the view that I shall only flag in this footnote is that it is unclear how specific these laws have to be. Cover and O’Leary-Hawthorne (along with Margaret Wilson) complain that the problem with Russell’s solution is that the nature of the laws is too general, so they go on to hang much of their account on “fairly specific facts about which laws operate.” The problem with this is that the progression from general laws to specific ones does not seem like it would admit of sharp cutoffs; it appears to be a matter of degree. If this is correct, it would render compossibility something that comes in degrees. Surely this is a strange result. For purposes of theodicy Leibniz would want a sharp fact of the matter about when the best possible world is cut off from the next best one. In this picture it is permissible to have an infinite number of worlds from world \( n \) to world \( n+1 \) but the boundaries between these worlds must be distinct and not vague, however fine the distinctions between them may become.}
I shall leave the Lawful Approach for now with this exposition of Cover and O’Leary-Hawthorne’s solution, but I shall return to it later. I am doing this for two reasons. The first is that the Lawful Approach as presented by Cover and O’Leary-Hawthorne looks a lot like the Harmony Approach. In fact, I shall argue that it is this conceptual proximity to one another that eventually causes both to fall in similar fashion. In any event, I shall deal with it in greater detail in Chapter 5. There I shall have to distinguish the Lawful Approach from the view I shall develop. To facilitate this I leave the details of the Lawful Approach to that chapter. This is beneficial because the details of my criticisms of the Lawful Approach will be highlighted when juxtaposed against the solution I shall propose in Chapter 5. In the remainder of this chapter I would like to present the Logical Approach and some challenges to it. For now, I leave my criticism of the Harmony Approach to be taken as a criticism of the Lawful Approach as well. If the similarity between the Lawful Approach and the Harmony Approach is still not clear, there will be more chances to see it since we will be returning to this ground later.

3.3 The Logical Approach

Allow me to begin my exposition of the Logical Approach (LS) with an account of how LS is articulated in the literature. Once this is done I will move to extract the main points that all these various expressions have in common, thus identifying the thesis at the core of LS. Here are examples of how various Leibniz scholars characterize the Logical Approach in the secondary literature:

McDonough: “[the Logical Approach] “[…] insists that not all substances are compossible because at least some substances are related to one another by their formal natures or essences in such way that their co-creation would involve an immediate logical contradiction.”

Messina and Rutherford: “[for those] who espouse a logical construal of compossibility, the supposition of the joint existence of two incompossible substances involves a logical contradiction.”\(^{90}\)

Mates: “A pair of individual concepts, A and B, are compossible if no contradiction follows from the supposition that there are corresponding individuals for both of them—that is, if the statements “A exists” and “B exists” are consistent with one another”\(^{91}\)

Rescher: “The potential incompatibility of individual-characterizing descriptions thus also explains why, for Leibniz, there can only be one single actual world. For it means that different individuals can be logically incompossible, so that the actualization of one saturated manifold of compossible individuals logically precludes that of any other. The very description of any one possible world logically excludes other circumstances.”\(^{92}\)

What we glean from each of these characterizations of LS is that it is the view that some sort of incompatibility between two or more individual concepts accounts for their incompossibility. McDonough makes this explicit in his formulation of LS. The point is that LS depends on relations to get going. Some substances share relations that render their co-creation (co-existence) a cause of logical incompatibility. These individuals are such that the relations they bear to one another require that every individual with which they are compossible be created along with them. Without the inclusion of relations, it is difficult to see how God’s creating one monad could hinder his creation of another. In other words, without relations to serve as the logically normative criterion of connection between individual concepts, God could have no reason, grounded in the logical properties of possible existents for not creating them all. This is all to establish that a feature of

\(^{90}\) Messina, James, and Donald Rutherford. 2009. “Leibniz on Compossibility.” *Philosophy Compass* 962-977. 963.


LS that we must be aware of is the fact that relations play a pivotal role in determining whether individual concepts are logically compatible (compossible), or logically incompatible (incompossible).

Let us see how relations might perform this task by meditating on the relation of paternity. Take two individuals that hold this relation of one another.

Ham: “Father of Noah”
Noah: “Father of Ham”

It is assumed by proponents of LS that the individual concepts of Ham and Noah are—indindependently—free of any internal inconsistency. But it is also asserted that if God were to create both of these individuals a contradiction would be generated because the world Ham and Noah would inhabit would be—by virtue of including Ham and Noah—a logically incoherent one. It is not difficult to understand why a proponent of LS might hold this view: one cannot be the father of his father since paternity is an asymmetric relation.

The reason one cannot be father and son to the same person is that it ultimately violates the principle of non-contradiction, and for that matter the principle of identity. This is because there can only be one unique individual that is the Father of X and one unique individual that is the Son of Y by virtue of the fact that the predicate concept “Father of” and the predicate concept “Son of” are mutually exclusive, they cannot both be truly predicated of the same individual. By the identity of indiscernibles any individual for whom both concepts were predicated would cease to be self-identical. The mutually exclusive nature of the concepts entails that any individual that possessed both concepts would possess two contradictory statements: $x(\text{Father of } Y)$ entails $\neg x(\text{Son of } Y)$ and $x(\text{Son of } Y)$ entails $\neg x(\text{Father of } Y)$, but then it is true of $x$ that $x(\text{Father of } Y) \& \neg x(\text{Father of } Y)$ from the relation of paternity and $x(\text{Son of } Y) \& \neg x(\text{Son of } Y)$ from filiation. What we have done is proven that paternity and filiation are asymmetric relations. We see more clearly that there can

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93 As is well known, Leibniz held that these two principles are equivalent: second letter to Clarke AG 321, and *On Contingency* [Edited title] (AG 28/ Gr 302-306 Latin).
be no logical contradiction in positing such individuals unless we assume that paternity and filiation are symmetric since we have breached the law of non-contradiction.

But even this result is not enough for LS—as we have seen it characterized it—to work, because all we have shown is that neither Ham, nor Noah can hold both predicates true of themselves; in other words no such individuals could be possible per se given these consequences of the concepts paternity and filiation. LS requires that the contradiction arise at the level of whole individual complete concepts not their predicates so as to become the source of inter-monadic incompatibility. Put differently, LS needs the contradiction to arise between substances. So it looks like what we need is a way of making the internal consistency of a substance the same as the logical consistency of its world. This suggestion forms the backbone of my own account which we will see later on in the chapter.

Another reason why this analysis is inadequate is that it begs the question: since compossibility is responsible for the fact that substances form mutually exclusive collections the members of which express one another, an account of compossibility should not assume this fact, but the analysis above seems to do just that. If such an analysis is to be the basis for the logical solution then it would mean that a logical account of incompossibility would depend on the mutual exclusivity of sets of complete concepts. This is not illuminating, for it does not offer anything more basic from which to build-up the needed incompossibility relations. In the Ham and Noah case we successfully showed that these two individuals could not be brought into the same world given their predicates. I showed that the assumption that they are in the same world leads us to say that they are both inconsistent individuals and so not even possible per se. But in order to accomplish this I had to attribute the complementary relation to them; a relation derived from the expression of the other individual. The question is what justifies this move.

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94 I think this begins to unfold an intimate relationship between the doctrine of incompossibility, and the doctrine of Universal Expression. This relationship would be one of, at least, strong correspondence. If entities are compossible then they are connected they mutually express one another. If they express one another than they are compossible. By parity of reasoning collections of incompossible entities will not exhibit Universal Expression. The question is whether or not this relationship is as strong as logical entailment. To my mind this relationship should be as strong as logical entailment, the rest of the paper gives reasons (mostly indirect) that demonstrate why this must be so. If the relation were not a logical one, it is doubtful that we could provide a satisfying reply to why it isn’t just an accident that compossible collections always exhibit Universal Expression.
As such our results do not aid LS as it is described in the literature. These results are, nevertheless, of value for developing a new version of LS, so I shall return to these points.

### 3.3.1 LS1 and LS2

Two strains of LS are distinguishable in the literature. The different between these two strains lies in how each deals with the connection between relational predicates, and the doctrine of Universal Expression. The first strain, let us call it “LS1,” is advocated by Benson Mates, and the second “LS2” is taken up by Nicholas Rescher.

Let us begin with a statement of the doctrine of Universal Expression. In several places Leibniz writes that each substance “mirrors” every monad with which it is world-mates.\(^95\) And reiterating the same theme in other places, he writes that “all things are connected in each one of the possible worlds”; “the universe, whatever it may be, is all of one piece, like an ocean: the least movement extends its effect to any distance whatsoever”.\(^96\) God is, therefore, able to “see in each portion of the universe the whole thing.”\(^97\)

Mates and Rescher both agree that the doctrine of Universal Expression is integral to Leibniz’s modal metaphysics, but their respective accounts differ with regards to how they relate this doctrine to both the status of relations in Leibniz’s system, and to the ontological independence of substances. Mates (LS1) holds that Leibniz wanted to reduce all relational predicates to monadic ones:

Extrinsic denominations, with which I am inclined to identify what recent authors are calling “relational properties,” are reducible to intrinsic denominations, that is, to those concepts that are themselves simple or are compositions of such simples… Relational propositions are similarly reducible to nonrelational propositions, the predicate concepts of which are intrinsic denominations of the individual substances that fall under their subject concepts.\(^98\)

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\(^95\) NE 716; GII 112, C 15.  
\(^96\) H 128.  
\(^97\) Ibid. 341.  
For Mates then, the only predicates that can be included in the complete concept of an individual are relational predicates that have been reduced to monadic ones. Thus a substance expresses its world by containing the right set of monadic predicates. Rescher, on the other hand, denies that for Leibniz relational predicates are reducible to non-relational ones, and accordingly concludes that relational concepts are also included in the complete individual concept. So for Rescher, a substance expresses its world just in case it expresses itself as being related to all the individuals that constitute its world.

3.4 Problems for the Logical Approach

Because Mates affirms that for Leibniz relational predicates must be reduced to monadic ones before they can be included in a complete concept, his accounts runs far afield of the Universal Expression condition. The reason for this is that it leaves unclear how substances that are supposed to comprise the same world could be connected to one another in the absence of relational predicates embedded within the complete concepts of each individual—concepts which relate the individual to its world mates. In other words, it is difficult to see how monads could be connected to one another if in their complete individual concepts are included only monadic predicates. Without relational predicates, there is no sense in which one monad could express another; unless it expresses it as being related in some way, but this requires the presence of relational concepts. Leibniz seems to concur with this assessment judging from these three definitions of expression.99 He writes,

1. For it suffices to the expression of one in another that there is a certain constant law of relations, by which the singulars in one can be referred to corresponding singulars in another.100

99 See, Kulstad, Mark. 1977. “Leibniz's Conception of Expression.” Studia Leibnitiana 55-76. Kulstad points out that one might argue that these are not definition.
100 C 15.
2. That is said to express a thing in which there are relations which correspond to the relations of the thing expressed.  

3. One thing expresses another . . . when there is a constant and regulated relation between what can be said of the one and of the other.

Considerations like this render it implausible that Mates’s account could preserve the thesis of Universal Expression. This compromises the ability of LS1 (the view that relational predicates must be reduced to monadic ones before they can be included in a complete concept) to produce a working account of incompossibility because without these relations it is difficult to see how the incompatibility generally required under the Logical Solution (encapsulating both LS1 and LS2) could be a logical one between individuals. Nevertheless, while LS1 fails to yield a satisfying account of the Universal Expression doctrine, it does preserve Leibniz’s “world-apart” doctrine. The world-apart doctrine states that each substance is like a world in itself, that is to say, both causally and metaphysically independent of all other individuals aside from God. Two oft-cited passages express this doctrine well.

Each [monad] is as it were a separate world, and they correspond to each other through their own phenomena and not by any other intercourse and connection.

Each substance is like a world-apart, independent of all other things, except for God.

A consequence of this doctrine is that whatever harmonious correspondence exists among the states of these substances is not grounded in any mutually informative connection between monads, but by a pre-
established harmony. Because Rescher holds that relational predicates should be included in the Complete Individual Concept (CIC), LS2 preserves Universal Expression because since its relations with every individual with which it is a world-mate is included within its complete concept, it cannot but express the web of connections that comprise its particular world. This ensures that every substance is strictly world-bound. It cannot, as it were, be loosened “from its world-environment and transposed into some other possible world.” Unfortunately the same mechanism that enables LS2 to preserve the thesis of Universal Expression makes LS2 violates the world-apart doctrine since for Rescher no substance can be realized apart from also realizing all the individuals with which it is related.

So it appears that according to this initial criticism, if either LS1 or LS2 are accepted we will have to reject one of two very central Leibnizian theses. On one hand, if we accept LS1 we must reject Universal Expression, and on the other, if we accept LS2 we must relinquish our hold on the world-apart thesis. These make for rather narrow straits for both proponents of LS1 and LS2. As bad as this situation is, it is worse for LS1. While it is true that LS1 and LS2 both fall short of giving a proper account of compossibility, they miss

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105 In the same letter, Leibniz writes: “For we know on other grounds that the harmony of phenomena in souls does not arise from the influence of bodies but is pre-established.” A vi. iv 1550/AG 47

106 I shall also take the phrase “relational concept” to be interchangeable with “relational predicate” when speaking of relations in terms of complete concepts. The presence of the term “concept” in this phrase is connected to our understanding of Leibniz’s talk of extrinsic and intrinsic denominations. Extrinsic denominations correspond to what we now call relational concepts and intrinsic denominations to monadic/one-place predicates. It is safe to make this inference judging from Leibniz’s thoughts in the following passages. “It also follows that there are no purely extrinsic denominations, denominations which have absolutely no foundation in the very thing denominated. For it is necessary that the notion [concept] of the subject denominated contain the notion [concept] of the predicate. And consequently, whenever the denomination of a thing is changed, there must be a variation in the thing itself.” AG 32. “Every individual substance contains in its perfect notion the entire universe and everything that exists in it, past, present, and future. For there is nothing upon which one cannot impose some true denomination from another thing, at the very least a denomination of comparison and relation. Moreover, there is no purely extrinsic denomination. I have shown the same thing in many other ways, all in harmony with one another.” AG 32-33. More texts could be summoned, but the point is relayed well enough by these two. Since the notion/concept of the subject denominated contains the notion/concept of the predicate, it follows that the denomination is a sort of concept under which we understand the subject, something true of it. This comes out even more clearly in the second quote. There Leibniz connects the presence of denominations with Universal Expression. If comparison and relation can be made by means of denominations then the plural term “denominations” stands for the concepts under which relations are subsumed. In this way the interconnectedness of all things is made possible. Mates describes the matter well: “In the so called region of ideas, the counterparts of declarative sentences are propositions or thoughts; correspondingly, the counterparts of definite or indefinite descriptions (or abbreviations of such) are denominations. Thus the ontological status of denominations is that of concepts; in short, a denomination is a kind of concept.” See Mates, Benson. 1986. The Philosophy of Leibniz: Metaphysics and Language. New York: Oxford University Press. 218.

the mark in different ways. LS2 fails because it flouts a principle that is, in some sense, peripheral (indirectly related) to the incompossibility problem but that is, nonetheless, essential to the rest of Leibniz’s system.\footnote{This is not, of course, to say that the world-apart doctrine is not important. I think it might actually be accorded the status of necessity, given that it seems to be a necessary upshot of the containment notion of predication and truth. And since the predicate-in-subject notion of truth appears to be necessary, it is probable that the world-apart doctrine is also necessary.} To be sure, any feasible account of incompossibility must in general preserve both the doctrine of Universal Expression and the world-apart doctrine, but LS-based solutions must preserve them for different reasons. LS1 violates a doctrine that any logical solution must preserve in order to qualify as such. This is so because every form of the Logical Approach asserts that substances are incompossible in the presence of a logical incompatibility between their complete concepts, and that this inter-mundane logical incompatibility cannot be established without the presence of relational concepts. But the presence of relational concepts entails Universal Expression. Thus since LS1 violates the thesis of Universal Expression it is disqualified not only from being a general solution to incompossibility, it also does not, strictly speaking, meet the conditions to be a logical solution to the puzzle of incompossibility. At this juncture, I think it is fair to say that LS1 falls by the wayside; we are left only with LS2 as our working version of LS.

The second criticism of LS we will examine is derived from the first criticism and is expressed by James Messina and Donald Rutherford in a recent joint paper.\footnote{Messina and Rutherford think that this criticism applies to LS as a whole, but as I have already noted, it is more accurate to say that it applies only to LS1.} This criticism states that since no substance can exist without its world-mates, God has to actualize all the substances related to it, He cannot pick and choose. The rub is that this move seems to place a significant restriction on God’s power. Because, according to LS1 and LS2, it is logically impossible for an individual to exist without its world-mates, not even God could separate them by creating a substance without also creating its world-mates. But there are good textual grounds for thinking Leibniz leaves open precisely this possibility. For instance, in a letter to De Volder, Leibniz writes “He [God] can do it [create a lone substance] absolutely; he cannot do it hypothetically, because he has decreed that all things should function most wisely and harmoniously.”\footnote{GP ii. 496/L 611.} Leibniz reiterates this point in section 14 of the
Discourse on Metaphysics: “This [sequence of thoughts and perceptions] would never fail, and it would happen to me regardless, even if everything outside me were destroyed, provided there remained only God and me.”

Awareness of this problem led Mates to conclude that Leibniz had to reject the ontological dependence of substances.

3.5 The Packing Strategy

Another approach that warrants discussion is the so-called “Tiling Approach” developed by Jeffrey McDonough and Catherine Wilson. In keeping with McDonough’s nomenclature, I shall refer to this approach as the “Packing Strategy.” According to the Packing Strategy the challenge of incompossibility consists in finding the optimal balance of net-goodness and plentitude given certain existential constraints that God must respect. According to McDonough,

God’s decision concerning which possible creatures to actualize thus turns out to be not so different from the more mundane decision one faces in considering what items to take on a trip. In much the way that my decision to pack my umbrella will depend not only on its value to me, but also on what items it would preclude me from packing and their value to me, God’s decision concerning whether or not to create a particular substance will take into account not only its intrinsic perfection, but also the implications that the creation of that substance would have with respect to the creation of every other possible substance. The best of all possible worlds will accordingly be the world that instantiates the most efficient packing of substances under the stated constraints; it will be the world that is optimally “stuffed” full of corporeal substances taking into consideration each possible substance’s own perfection as well as how it fits together with every other possible substance

111 A vi.v 155/AG 47.
114 I shall focus my attention on McDonough’s formulation since it is more recent, and it more clearly draws out the key insight of the Packing Strategy.
Leibniz's original packing strategy suggests an intuitive – if still preliminary – response to the puzzle of incompossibility that promises to reconcile all three of its driving commitments. The thesis of maximization will be satisfied as long as there is a uniquely best possible “packing” of creation, and God chooses to instantiate that packing. The former is guaranteed for Leibniz by the fact God chooses to create at all, and the latter by Leibniz’s optimism (e.g. DM 22/AG 54-55; Mon 53/AG 220). The thesis of independence may nonetheless be preserved since nothing in the analogy requires the postulation of an illicit per se dependence between any two created substances. Leibniz may hold that, for any two substances A and B, as far as their formal natures are concerned, A may exist with or without B, and B may exist with or without A (cf. AT VIIIA 18/CSM 1:213). Finally, the model of creation presented by the finite packing analogy suggests a straightforward way in which the thesis of alternatives might be maintained. For if not all possible substances can be fitted into a given finite volume, then God will confront different possible ways in which the world might be constituted, with different sets of possible substances representing different solutions to the implicit packing problem.\footnote{See, McDonough, Jeffrey K. 2010. “Leibniz and the puzzle of incompossibility: the packing strategy.” The Philosophical Review 135-163. 13.}

So for McDonough, God must take into account the perfection of a substance and the space that the substance would take up once it is created. The ordering that optimizes the greatest number of substances, and the greatest amount of net perfection given the constraints of space and time is the best of all possible worlds (the best of all possible orderings). In this way this solution preserves the independence of substances, and the sense in which God could have chosen another set of individuals. This is the core of McDonough’s view. And he argues that it can hold under three different conceptions of the world and of the substances that reside in it: (i) the world must have a finite volume and be packed with corporeal substances; (ii) the world is infinite in volume, and must be packed with corporeal substances, and (iii) the world is infinite, and the substances are the
incorporeal monads of the late period. Unfortunately McDonough’s solution suffers from two major drawbacks that render it an unsuitable solution to the puzzle of incompossibility.

The first drawback of McDonough’s approach is that while Leibniz does liken the fact that the best of all possible worlds contains the most amount of perfection to a game whose object is to fill the board with as many shapes of varying sizes as possible, it is not at all clear that Leibniz intended his employment of this analogy to be applied to the composibility of substances. Put more broadly, it appears more likely that Leibniz was seeking a means to argue that the simplicity of God’s decrees should be included in the class of goodness-making properties of the world. In fact, Leibniz articulates this more clearly in the *Theodicy* some years later (1706).

Lloyd Strickland’s discussion of the relevant passage in the *Theodicy* is illuminating.116 According to Strickland, in the *Theodicy*, Leibniz (following Malebranche and Arnauld) inferred that God operates with the simplest and most fecund laws to produce substances.117 This is important because the same conviction is animating his introduction of the game board analogy in *On The Ultimate Origination of Things* (1697), where Leibniz drew the analogy. If it is possible to establish a sufficiently strong link between the two works, then the game board analogy could not have been employed to explain composibility given that the discussion of laws present in the *Theodicy* was not advanced as an attempt to explain composibility. Let us begin by noting that even though Leibniz agreed with Arnauld on the general claim that God operates with simple and maximally productive laws, Leibniz disagreed with him, and agreed with Malebranche, that it is in keeping with the divine nature to operate with these kind of laws even though more complex and less productive laws would be more capable of averting “irregularities” such as the inability to yield the happiness of every creature. Leibniz writes: “I believe… that God can follow a simple, productive, regular plan; but I do not believe that the best and the

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117 G ii 40/ AG 71. See also the *Theodicy* (H 211): “I believe… that God can follow a simple productive, regular plan; but I do not believe the best and the most regular is always opportune for all creatures simultaneously”. To provide some contexts, Leibniz writes this in defense of Malebranche against Bayle who reports (in *Reply to the Questions of a Provincial*) Malebranche as saying that a system of general laws for a world that is simple and very productive is more preferable to God than one that is more complex, less productive, but more capable of avoiding aberrations. The aberrations here correspond to the imperfections of the world that cause human suffering.
most regular is always opportune for all creatures simultaneously.” Leibniz’s point here does not concern so much the laws themselves, but rather whether it is consistent with the divine nature to prefer laws that while regular, simple and productive, do not eliminate the presence of effects in themselves undesirable. So Leibniz is attempting to give an apology for God’s selection of laws that do not at all times in the world’s history produce desirable outcomes.

There are other reasons for thinking that Leibniz’s remarks in the *Theodicy* and his reasons for invoking the packing analogy are related. To aid in their analysis I have reproduced the contentious passage in its entirety.

> From this 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. In practical affairs one always follows the decision rule in accordance with which one ought to seek the maximum or the minimum: namely, one prefers the maximum effect at the minimum cost, so to speak. And in this context, time, place, or in a word, the receptivity or capacity of the world can be taken for the cost or the plot of ground on which the most pleasing building possible is to be built, and the variety of shapes therein corresponds to the pleasingness of the building and the number and elegance of the rooms. And the situation is like that in certain games, in which all places on the board are supposed to be filled in accordance with certain rules, where at the end, blocked by certain spaces, you will be forced to leave more places empty than you could have wanted to, unless you used some trick. There is, however, a certain procedure through which one can most easily fill the board. Thus, if, for example, we suppose that we are directed to construct a triangle, without being given any other directions, the result is that an equilateral triangle would be drawn; and if we suppose that we are to go from one point to another without being directed to use a particular path, the path chosen will be the easiest or the shortest one. And so, assuming that at some time being is to prevail over nonbeing, or that there is a reason why

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118 *Theodicy*, H 211. Leibniz also states that during his meeting with Arnauld in September of 1672, he showed him a dialogue in which he argued that sin was permitted because it was involved in the best plan for the world.
something rather than nothing is to exist, or that there is as reason for something to pass from possibility to actuality, although nothing beyond this is determined, it follows that there would be as much as there possibly can be, given the capacity of time and space (that is, the capacity of the order of possible existence); in a word, it is just like tiles laid down so as to contain as many as possible in a given area.\textsuperscript{119}

The first two sentences do not suggest an application to the problem of incompossibility. He only says that of the infinite combinations of possibilities, the one that brings the most amount of perfection into existence is the one that is chosen for creation. But there must be a reason why the possibles are partitioned into combinations. To ask this question, I have argued, is to request a reason why some individuals are compossible with others. That is, what makes them “co-possible”? So Leibniz seems here to presuppose that possible entities are already organized into sets of compossibles. Leibniz is most likely counting on an account of compossibility to even get the packing analogy going. He moves to reinforce this general picture in the rest of the paragraph. For instance, in the sentence following, he only wants to draw a parallel between God’s choosing the maximum with the choices we would make. Contra McDonough’s reading, Leibniz is not invoking this example to show that God is applying a decision rule to complete concepts He finds present in His intellect. Leibniz completes the analogy in the next sentence by likening the capacity of the world to the cost, or the plot of land that a physical building requires. McDonough assumes that we must think of the plot of land as a limiting factor insofar as we consider the dimension of the plot of land are finite, but this does not exhaust the interpretative possibilities; there is a second reading. We can easily take the plot of land \textit{qua} plot as that which we need to build on without specifying the dimensions of the plot of land. So there are two interpretative strategies for cost:

\begin{itemize}
\item \textbf{R:} Values for the receptivity of the world are necessary for grasping the analogy.
\end{itemize}

\textsuperscript{119} \textit{On the Ultimate Origin of Things} (November 23, 1697), AG 149-155.
R*: Values of the receptivity of the world are not necessary for grasping the packing analogy.

Strategy R supports McDonough’s reading while R* supports my reading. Under both strategies it is taken as true that God must build a world in time and space if He is to create a world at all, the difference is that under R* this basic assumption makes no determination about the spatio-temporal dimensions of the world. That is to say, God could not build a world independently of time and space. This follows because for Leibniz space and time are to be defined respectively as the orders of co-existence and succession; they must, therefore, be coeval with God’s production of substances and therefore space and time must be part of any world God could create. Following strategy R* enables us to avoid the difficulty of having to account for why God has to build under the strictures that he does. Imagine God chooses to limit himself to a world with a spatial allowance of “Ψ” and a temporal allowance of “Σ” such that the spatio-temporal allowance of that world is “Ψ x Σ.” There is no reason determining the choice of the “Ψ x Σ” world, as opposed to a world with different constants. In contrast to my interpretation, McDonough identifies the cost as the limits on what God can create. In keeping with the interpretation I propose, the main analogy as expressed in the core of the long passage from the *Theodicy* reproduced in the preceding two paragraph is not between a procedure that God uses to construct the world and the procedure we use to fill in the gaps in the game in question. It is, rather, between the procedure we use to fill in the spaces considered as a single procedure, and the world considered as a single thing, not the world considered as a single procedure. In essence, Leibniz is saying that there is only one combination of possibles that contains the most amount of perfection, just as there is only one (perhaps in the sense of continuous function) procedure that fills the board. Another element of the analogy is that the procedure is both most easy and optimally productive. And since we are to take the phrase “most easily” as synonymous

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120 Because of Leibniz’s relationalism about space, there is little question that space is a necessary feature of a world. What about time? Leibniz does say that time is the order of succession (at bottom the succession of the states of the constitutive monads of the world), so we might suppose that if God actualized a set of monads whose internal states did not move from one perception to the next that in such a scenario we would have to admit the presence of space, without admitting the presence of time since there would be an order of co-existence because each monad would be in some situation with respect to other monads but there could be no order of succession. This would in essence be a world stuck in a moment. However, there might be good reason to think that a monad must have a series of internal states, given the centrality of force in Leibniz’s conception of a world. If succession of states is indispensable to the proper understanding of what a monad is then single moment worlds would be impossible.
with the term “simple” the chosen combination will contain the most amount of perfection in each space and in each time. Both the triangle example and the line example are, therefore, meant to flesh out the idea of simplicity, or easiest path. The correct interpretation of the sentence in which Leibniz invokes these examples can be found in the sentences immediately before it. In that sentence the purpose of the easiest path, or procedure is to bring about as much essence as can be brought about without any demands other than those given at the start, like the assumption that there is to be a reason for existence over non-existence. Interpreted in the manner I am suggesting, the concluding sentence of this paragraph conveys the idea that because possible beings strive for existence, the density of the packing is determined only by the extent to which God can, or cannot, give a reason for excluding any of these striving substances. McDonough's answer is that God’s reasons have to do with the pre-determined spatio-temporal dimensions of the world, but if the interpretation of the paragraph in which the packing analogy appears is a valid one, McDonough cannot reassert this solution without begging the question. My alternative non-question begging answer is to say that the Packing Strategy presupposes the compossibility of its elements.

But if the purpose of the tiling analogy is not to shed light on incompossibility, what is its purpose? It seems to me that a plausible answer is that Leibniz’s concern here is to argue for simplicity as a necessary feature of the nomological makeup of the best set of compossibles. He could not argue that these laws are responsible for the fact that substances are compossible in the first place, for to do so would be to argue for a version of the Logical Approach. What is more, if he did, he would fall prey to an important criticism raised by Arnauld and Bayle. Arnauld and Bayle argued that God could always make a perfect world. If Leibniz maintained that the laws play a constitutive role in making the set of individuals that comprise the actual world into a compossible one, he would have to explain what the content of individual substances could be apart from these laws. It cannot do to have the content of the substances be an expression of the laws that generate them since the laws would have to be applied to some set of things. Hence the entities to which the laws are to be applied (substances) must possess their content independently of the laws that govern them as a whole. The thought here is that if Leibniz is to evade the argument put forth by Arnauld and Bayle’s arguments he has to argue that the laws that govern substances are not responsible for their compossibility. Naturally, the question is whether
Leibniz’s understanding of the tiling analogy is the same as McDonough’s. If my reasoning is correct, it cannot be since there is very strong evidence to suggest that Leibniz is employing the tiling analogy to criticize a variant of the Lawful Approach he sees as being put forth by Arnauld and Bayle. This means that no interpretation of Leibniz’s tiling analogy that makes the laws the determinants of compossibility can be accepted as adequate. But, as we saw above, upon closer examination McDonough’s Packing Strategy approach does precisely this, thus McDonough’s approach is actually more like a distant cousin of the Lawful Approach, then a departure from it.

In fact an important lesson to be taken away from this is that Leibniz’s aim seems to have been to give a criticism of something like the Lawful Approach. In light of this, McDonough’s interpretation of Leibniz’s original tiling analogy renders the Packing Strategy he [McDonough] develops from this analogy into something like the Lawful Approach, a result McDonough does not intend. The pressing question, of course, is whether the maximal productivity of the laws is responsible for determining the substances that are the subjects of these laws. One reason to think that the laws cannot determine the substances that they are applied to is that any arbitrarily chosen set of individuals could be placed under any law whatever. The possible laws could vary in terms of regularity and simplicity, but it is always possible to set the quantity of individuals at any number one pleased. In such cases the laws would not be a factor in determining the individuals that are to exist in the sense of metaphysically determining them. According to this picture the laws are removed from the subjects they are applied to. We could go for a more intimate relation between the laws of a world and the subjects that compose it, but the only option presented if we take this avenue is to maintain that the laws are constitutive of the substances they govern.

In light of this it is more plausible to take the tiling analogy as merely an analysis of one of the goodness-making features of the best possible world. Goodness-making features are not to be conflated with what combines possible substances into a world (set of compossibles) in the first place. Strickland’s analysis is a more natural reading of the tiling analogy then, and ought to for this reason be preferable to McDonough’s application of the tiling analogy to the puzzle of incompossibility.
But the tiling approach must be mistaken if only for the reason that Leibniz wanted to keep a clear
distinction between possibility and existence (I shall present reasons to think so in the next chapter.) Because
compossibility concerns what God could bring into existence, the constraints must not be existential but rather,
logical/conceptual. Composiblility then must arise at the level of possible individuals as they are being
constructed in the divine mind. It must be in the very nature of a thing that it is compossible with another
thing.
Chapter 4

The Theological Constraints Revisited

In chapters 2 and 3 I introduced an idea I referred to as the Theological Constraints on admissible solutions to the problem of incompossibility. As textual evidence for this idea I cited a passage from the last bit of the *Discourse on Metaphysics* as an important proof. In that work Leibniz clearly outlines the principles upon which a society between God and finite minds rests. Interesting for reasons that are directly pertinent to our purposes is the fact that his picture of the city of God makes its appearance chiefly as a deductive upshot of the nature of substances, especially minds, and God. The thrust of the entire work is the production of metaphysical principles on which to ground a Christian world view. So the city of God is not merely a by-product—even a fortunate one—of his metaphysics but the completion and motivating source of the metaphysics.

Shoring up this thought will be the main thrust of this chapter. Put differently, the aim of this chapter is to defend the plausibility of the Theological Constraints in Leibniz’s philosophy by showing that there are theoretical and textual reasons to take Leibniz’s theology to dovetail with his metaphysics, and, perhaps, even to ground his metaphysics (in our case his modal metaphysics.) Tracing this thought, I said in Chapter 2 that the Theological Constraints are important in outlining what an account of compossibility must look like. But since these constraints were general in nature, I did not express them in a sufficiently formal nor detailed manner. Addressing that shortcoming is the aim of this chapter. After I do this, the rest of the chapter will show how these Theological Constraints are rooted in Leibniz’s *Natural Theology* and in particular his Lutheran confession. The benefit of doing this is that it enables us to see that theories of compossibility that violate the Theological Constraints violate key tenets of his natural and revealed theological commitments. So the Theological Constraints not only determine what a solution to compossibility has to look like so that it might count as such, they also form an important—and perhaps only—link to Leibniz’s considered theological views.\(^{121}\)

\(^{121}\) It may even be possible to argue that compossibility could somehow under—gird the Theological Constraints.
My arguments here are not going to be historical in nature. That is to say, I am not going to be overly concerned with framing Leibniz’s views with respect to how they relate to one another and their temporal development. This has already been given by Maria Antognazza so I direct the reader to her writings. Instead, my aim is a conceptual analysis of these ideas, by posing two main questions. The first of these questions is: “what is the basis of Leibniz’s city of God?” and the second one is related: “in virtue of what are minds and God able to be members of the same city, the same community?” It is around these two main questions that the sections of this chapter—especially the second, third and fourth—revolve.

4.1 What are the Theological Constraints?

In this subsection I want to distill the Theological Constraints into three short propositions. These propositions work synergistically to bring about the effect of the Theological Constraints. But let me first begin by noting that, as I have alluded to above, the purpose of the Theological Constraints in Leibniz’s philosophical theology is to provide a philosophical undergirding for a society between finite minds and the divine. In other words, I see the Theological Constraints as providing a rational grounding for his philosophical theology. Perhaps intuitively, they accomplish this precisely because they provide non-dogmatic Theological Constraints on Leibniz’s philosophical theology. For example, it is a theological constraint that the universe is created by an omnipotent, omniscient and omnibenevolent God. It is also a theological constraint that there is an ultimate punishment for wrongs. Any deviation from these doctrines would disqualify a philosophy from being a Leibnizian one. In other words, these doctrines are necessary for the framing of his views; they so form the subject matter of Leibniz’s philosophical system that if any one of his philosophical views were to be in

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123 Dogmatic constraints would be substantive religious doctrines. The Theological Constraints are, however, minimal enough commitments to rational theism, that they leave room for substantive doctrines. This approach is not at all alien to Leibniz. He employs this methodology in his irencism, and in his study of Chinese Theology. For a good study of the latter, see Perkins, Franklin. 2004. *Leibniz and China: A Commerce of Light*. New York: Cambridge University Press.
contradiction with one of these doctrines that portion of the system would be in violation of its own purpose. For instance, if some interpretation of his philosophical views led to the conclusion that there is no God, we know that there was a problem with the interpretation in question. In this way we can check our answer against the Theological Constraints. This is the general lay of the land.

Things are slightly different, however, when compossibility is concerned. While the Theological Constraints perform the same function—that of determining admissible interpretations of Leibniz’s philosophy—the difference is that in the case of compossibility, we have to hone in specifically on the underpinnings of Leibniz’s understanding of possibility. And according to this understanding, possibility is foundational to Leibniz’s philosophy, especially his theodicy. The connection to the problem of compossibility is that the task of compossibility is to generate possible worlds that can be candidates of God’s creative act. It is at this junction that modal and theological concerns meet: compossibility is required to generate possible worlds, and possible worlds are needed to establish the goodness of God. That said, I think the Theological Constraints that are important for compossibility can be expressed in the following three doctrines. The paragraphs in this section of the chapter will attempt to expand on each of these statements.

A. Compossibility cannot be arbitrary

B. Human understanding that this is the best compossible set of individuals must dispose minds to praise God

C. Created minds must be able to in principle\(^ {124}\) comprehend the mechanism of compossibility

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\(^{124}\) By “in principle” my purpose is to draw a distinction between the degree of the mental powers and kinds. Chalmers appealed to this distinction in his handling of the “hard” problem of consciousness, and the “easy” problem. There are good prospects of solving the easy problem of consciousness because creatures like us are equipped with the right kinds of cognitive equipment to grasp the question, and to develop what an answer would have to look like. This is not to say that every creature with the said cognitive mechanisms can solve the problem; resolution of the problem might require one to develop their powers to such a degree that they are powerful enough to see the answer. This is not the case with the hard problem. The hard problem is so intractable precisely because creatures like us lack the cognitive mechanisms to even see what a possible answer would look like.
One important thing to say at the outset is that these statements are an upshot of Leibniz’s commitment to the PSR. Without the explanatory burden of the PSR compossibility could be arbitrary. This applies to all the statements above.

4.1.1 Statement A.

Take statement A. If compossibility were without reason (arbitrary) then there could be no explanation of possibility. And if minds could not understand what undergirds possibility, there could be no ground for rational piety.\(^{125}\) As far as the non-arbitrariness of incompossibility (statement A) is concerned, compossibility must have a basically logical solution. This is vindicated by the following statement: “it is as yet unknown to men, whence arises the incompossibility of diverse things, or how it can happen that diverse essences are opposed to each other, seeing that all purely positive terms seem to be mutually compatible.”\(^{126}\) By writing that the reason for incompossibility is unknown because affirmative concepts cannot be incompatible, it seems clear to me that Leibniz (i) understands all concepts as affirmative concepts, and (ii) that it is this that generates the incompatibility he identifies as giving rise to incompossibility. With this in mind the non-arbitrariness of compossibility is tied to some formal properties of reason.

4.1.2 Statement B.

This brings us to statement B. Statement B begins where statement A left off in instructive ways. Because compossibility cannot be arbitrary, created minds must be able to get at the basis of compossibility. In the absence of this requirement, it is difficult to see how compossibility could be non-arbitrary. This argument becomes more convincing once we consider the connection between the non-arbitrariness of compossibility and the non-arbitrariness of the world: if intelligent creatures could not grasp that this is the best possible

\(^{125}\) Leibniz seems to have thought that the highest form of piety is rational piety. In the *Discourse on Metaphysics* he writes that those who see and understand God’s works and find fault with them are more rebels than dissenters. DM 4/AG 37.

\(^{126}\) See A VI iv 1443/SLT I/A. 1.
world, praise of God would lack reason since this praise depends on God’s creation of the best. Furthermore, because the best of all possible worlds is itself a set of compossible individuals, minds must be able to find a reason for the compossibility of the world, in order to find a basis for the possibility of this the best of all possible worlds. Minds have to be capable of, at least in principle, being able to grasp the mechanism responsible for compossibility. Because compossibility cannot be arbitrary, I think it is safe to hold that it must have a graspable reason. This is how I understand statement B to follow from A. Even so, the evidence for statement B is less straightforward to understand. It is, however, no less compelling than A. Allow me to point out by way of further motivation for B, that judging from Leibniz’s general commitment to the intelligibility of the world we might actually expect his system to postulate a graspable solution to the incompossibility puzzle. After all, if the incompossibility puzzle were not something that intelligent minds could understand, their appreciation of the nature of possibility could not be grounded: there could be no explanation of possibility. But the absence of an understanding of possibility harbours some rather serious side-effects. For instance, if there is no understanding of possibility, there is no reason to place credence in a possibilist metaphysics. This leaves the door wide open for a Spinozistic denial of possibility. I think this occurs because there is an immediate connection between the grounding of possibility and possibility itself so that we cannot justify possibility (the concept) without, by so doing, also grasp what it is (what reasons ground it). And in the case of Leibniz compossibility does the grounding. So in order for created minds to accept possibility they would have to at least be in principle capable of understanding possibility.

The view I have outlined in the preceding paragraphs is not held by all commentators. Some have taken the passage I quoted in Statement A as proof that Leibniz had given up on the puzzle of incompossibility, or that it had no solution created minds could grasp. In this passage Leibniz writes that “it is as yet unknown to men, whence arises the incompossibility of diverse things, or how it can happen that diverse essences are opposed to each other, seeing that all purely positive terms seem to be mutually compatible.”

There are a few other things to say about this passage. The first is a qualification about the last part. Leibniz seems to understand

127 See A VI iv 1443/SLT I.A. 1
the difficulty of incompossibility as having to do with the logical impossibility of making purely positive terms incompatible. His reasoning can be traced back to his early work on logic, although I will not be pursuing that here. Suffice it to say that in those works he takes a positive term to be one that only makes affirmations, and every complete concept seems to follow this rule. There are no complete concepts that include negative claims. The second point is that some have taken this as evidence that Leibniz gave up on ever finding a solution to the incompossibility problem. I examine this thought in some detail in the next few chapters. Whether read as an admission of despair or not, it is clear that Leibniz takes it for granted that there is a place from whence the incompossibility of diverse things arises, that there is a reason.

4.1.3 Statement C.

It is well known that the cornerstone of Leibniz’s theodicy is the claim that the actual world is the best of all possible worlds. And the justification for this position is that God can only choose the best collection of individuals. This is an application of the principle of the best. Furthermore, it is for his choosing the best that God is praiseworthy. But this presupposes that minds can grasp that there are genuine possibilities. Thus the praise that minds owe God is dependent on these minds being able to perceive possibilities. This means that the giving of praise to God by minds depends on their grasp of incompossibility.

A word about what I understand “in principle” understanding to consist in. Something that is “in principle understandable” by finite minds as opposed to something that is in principle not understandable by finite minds is something that is not so intractable that it cannot be grasped by the minds of created beings. This does not mean that every individual of a species of created beings is able to understand it; it must simply be graspable by the kind of mind that one possesses insofar as one is finite. Nor is it necessary that every species of created minds be able to grasp it, only that it is possible for created minds to grasp it as a kind to understand it. For example, it may be impossible for any human being to prove the Four-Colour Theorem, but this is

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128 Take for example De Arte Combinatoria, I. 73.
129 The Four-Colour Theorem states that any map in a plane can be coloured using only four colours in such a way that no two regions that share a boundary have the same colour. The original conjecture was made by F. Guthrie in 1852.
not because we lack the concepts to grasp what a solution would look like, but because the human mind lacks sufficient cognitive power to grasp the solution. It is nevertheless, possible that it can be grasped by a creature with a mind more powerful in relevant respects. In fact, key components of the modern proof of the conjecture depend on brute analysis of many cases completed by a computer. We can, therefore, say that the Four-Colour Theorem is in principle graspable by created minds since the only thing the human mind lacks is sufficient power to calculate all the cases necessary for the proof. Here, I am taking the computer (at least as regards computational tasks) to be simply a more powerful mind than the human mind. So long as the difference in processing power is all that allows one mind to understand something that another does not, the conjecture, or proof, or whatever it may be, can be considered in principle intelligible. The distinction I am pointing to is akin to our understanding what a chiliagon is and how to construct it even though we cannot picture it. Our ability to imagine the chiliagon shows that we have the requisite conceptual ability to imagine the polygon, and the inability to “see” the shape demonstrates the lack of cognitive resources to devote to the task of visualizing the shape. It is because we possess the requisite conceptual abilities to grasp what the chiliagon is that we are in principle able to understand it, even though we cannot “see” it all at once.

The fact that the secret of incompossibility has yet to be disclosed to human knowledge does not mean that it is forever closed-off to human knowledge. And even if it were to ever be closed-off to human knowledge, so long as compossibility is open to created minds as a kind, possibility can be grounded for minds (including human minds) even if they are not aware of how this grounding is possible in complete detail.

4.2 Theological Constraints and the Intercourse between Minds and the Divine.

Judging from Leibniz’s views in the TA, the Monadology and the Discourse on Metaphysics, the society of God and created intelligences (Leibniz’s City of God) is based on mutual understandability of one another.130 This comes out most explicitly in the TA. There Leibniz tells us that on the whole God created the universe so

130 There are those that will want to argue that what God and minds share in common is not anything cognitive but something in the nature of their wills. For instance, in an unpublished dissertation, Julia Jareti argues just this. See, Jorati, Julia. 2013. Finite Minds as Little Gods: Leibniz on Causation and Freedom. PhD diss., Yale University.
that minds might be able to study it to see His goodness and wisdom. These are the ways in which minds can understand God, but this should not be confused with understanding the divine in a fully comprehensive way, i.e., the way God understands creatures. God can understand everything there is to know about creatures by looking into the appropriate complete concepts. Creatures cannot, however, understand God in this way for two reasons. The first reason is that the containment notion of predication and truth is not applicable to God, and even if it were minds could not grasp all that is true of God. The issue, as Margaret Wilson\textsuperscript{131} makes clear, is that a complete concept of God would have to include contingent facts that could not be modeled according to possible-world semantics. Hence the first reason reflects a systematic limitation on Leibniz’s philosophy. The second reason is a cognitive limitation on the part of minds since they cannot, like God, see the reason for a contingent predicate in a Complete Individual Concept, God’s in particular. So the sense in which creatures understand God that is important for our purposes here is not one according to which they understand God as God would understand them. It is instead, an understanding of the propriety of God’s thoughts. This already presupposes some commonality between finite minds and God.

To find out what minds have in common with God, we will have to look to God’s thoughts. And the commonality uncovered here is predicated on communication between God and created minds. I hold that communication is the pivotal notion, and the notion of communication I am speaking of presupposes that there be a similarity between the communicant and the one to whom information is imparted. As it stands, the Theological Constraints I am arguing for depend, in large part, on a similarity between created intelligences and the divine mind. But there are obvious differences between the divine mind and created intelligences that one might point out. So an important part of the story I want to give requires that I clarify the sense in which I think created minds and God are similar in ways pertinent to communication. I say this because some registers of similarity with respect to communication do not seem to be identifiable from minds to God. For instance, it is not clear that there is a univocal conception of reason/rationality to be drawn for God and minds. In other

\textsuperscript{131} See Wilson, Margaret. 1979. “Possible Gods”. In \textit{The Review of Metaphysics}. 717-733.
words, God and minds do not reason the same way. In fact, Leibniz does not appear to think that God reasons at all. For example, in his Remarks on Hobbes he writes,

> It is true that God does not reason, properly speaking, using time as we do, to pass from one truth to the other: but as he understands at one and the same time all the truths and all their connexions, he knows all the conclusions, and he contains in the highest degree within himself all the reasonings that we can develop.\(^\text{132}\)

In what Leibniz identifies with the strict sense of the verb “to reason” he writes that God does not reason. But in what sense can God be said to know then if He does not reason? The answer to this question is given in one of Leibniz’s best-known correspondences. In his letters to Samuel Clarke, Leibniz writes that “God knows things because [H]e continually produces them”\(^\text{133}\) So one big difference between created minds and the divine mind is that created minds learn in a discursive manner grounded in their perceptions of external things. God, however, cannot be said to come to know facts about the world in the way minds come to know them: instead God knows truths about things in the world by virtue of His creation of them. All of this holds for knowledge of contingent truths. But what about knowledge of eternal truths like basic mathematical and logical principles? To arrive at an answer, let us look again at the difference between minds and God.

Leibniz maintains that created minds “cannot reason without symbols.”\(^\text{134}\) The symbols he has in mind are representations that minds extract from their perceptions of the environment in which they are situated. This means that created minds must have organs and the sensations that they produce for creaturely reasoning to be possible. Because minds learn by means of a process mediated by their sensory modalities, they do not possess direct access to the eternal truths: they can only come to knowledge of the eternal truths by operating on objects of their perceptions. Because God is the only mind that lacks a body, He also lacks sensations. This

\(^{132}\) RH 12.  
\(^{133}\) LC 4.30.  
\(^{134}\) NERB 77.
presents us with a puzzle: since the eternal truths are principles that are independent of the objects of perception, there is a gap between the representations that finite minds require and have access to, and the eternal truths themselves. Without some way of bridging this gap, finite minds would not be able to get to knowledge of the eternal truths, and so would be incapable of coming to knowledge of the eternal truths. An upshot of this puzzle is that minds would also be incapable of learning in a way that separates finite minds from animal souls.

Leibniz held that, like finite minds, animal souls were endowed with consciousness (apperception), and even the ability to learn from their experiences. This learning was, however, only the ability to make associations between signs and given courses of action into the future. For instance a dog that has been hit by a stick will run away from the stick at the next sight of it because it associates the feeling of pain with the stick. The dog's learning is an empirical generalization based on association of an object with a particular mental state, in this case pain. This sort of learning does not however, get to the root causes of the pain. In fact, empirical generalizations do not get to the causes of phenomena because instead of honing in on the true causes of the mental state in question, they stop at the association between phenomena. True learning is possible only when general (foundational?) principles are applied to the phenomena in order to attain access to the reasons responsible for these phenomena. This means that finite minds ultimately require eternal truths to be able to truly reason beyond the empirical generalizations of animal souls. But as I have pointed out above, this seems to be impossible given the fact that minds have to utilize objects of perception to get access to the eternal truths. It is for these reasons that Leibniz appeals to imagination. He maintains that this gap is mediated by the faculty of imagination as a faculty that is possessed by minds and not animals. Unfortunately Leibniz doesn't give an account of the nature of the imagination, but he does hypothesize that imagination is required to help the mind connect the symbols obtained from the abstract truths and fuse them together to form a full and

135 What Leibniz does is say that the imagination is the ability of the mind to visualize abstract truths, in such a way that it assigns some kind of symbol to them. See PT 246, NE 488. This is still not a full account of imagination because it does not attend to the question of what the helpful connection between any representation of the symbols and the abstract truth is such that the mind knows what words it can use to stand for them. It seems that a proper account of imagination would have to be able to give such an account.
coherent explanatory picture, one that could not be obtained from mere empirical generalization. This is nonetheless mediated knowledge of the eternal truths. God, on the other hand, has full unmediated access to the eternal truths. The divine mind knows the eternal truths by introspection. To be sure, there is a sense in which every monad contains the whole universe, so one might suppose that every monad should also be able to come to knowledge of the eternal truths via introspection. Unfortunately bare monads and animals souls cannot introspect because they possess perception and not apperception. This leaves only created minds.

So far we have talked about what mutual understandability is for minds, but what do things look like on the side of God? That is to say, how is God to have any cognitive commonality with creatures when (as came out in the last section) the cognitive powers of the divine infinitely outstrip the cognitive powers of creatures? God’s possession of a complete understanding of every mind in virtue of seeing the content of each mind’s complete concept only serves to make God cognitively impassable to creatures. How can creatures interact in any way with God when there is nothing that creatures can do or say that is novel to Him? Classically the problem of the impassability of God has revolved around the question of whether or not God can be moved by the prayers of creatures. For our purposes the problem of the impassability of God is a generalized version of the problem with prayer since the problem with prayer concerns communication. Because it depends on communication, the generalized impassibility-of-God problem undercuts Leibniz’s City of God. There is an important sense in which our concern here is more basic than the question of God’s answer to our prayers, for it appears that society with the divine must be conceptually prior to even the desire to pray. So it must be that minds first sense that society with divinity is possible. The rub is that upon reflection it appears that the only way society is possible is if intercourse with the divine is able to produce new knowledge for both parties; both parties can learn of one another. But the impassability of God, which derives its sting from the failure of society between the divine and creatures, is a roadblock to this.

The viable alternative to this picture is one that is not dependent upon the production of new knowledge for God. We will see that on this way of conceptualizing communication between God and minds, the effectiveness of prayer is not dependent upon bringing new information to God’s attention, because society between God and minds is itself independent of the production of novel information.
The motivation to reach out to God on the part of minds relies on the desire for something that can only be done by God for them. But what must the motivation be for God? God values the ability of finite minds to understand the intentions behind, and the beauty of His creation. This might seem to turn the Leibnizian God into a self-absorbed deity, but it actually guarantees the opposite. It is because God's aesthetic or rational judgments are meritoriously independent of His will that He chooses them. We might speculate that the divine mind takes pleasure in the contemplation of the beautiful and true, and that accompanying this joy of contemplation is a desire for there to be more minds to share in this appreciation. Some evidence for this is Leibniz's acceptance of the scholastic idea that the proper object of the mind is the true, and the proper object of the will is the good. It is then reasonable to conclude that on the side of finite minds, it is their ability to appreciate the decisions and works of the deity that lends credence to the idea that God is not a self-absorbed deity by ensuring that created minds—by virtue of being minds—contemplate the same things God contemplates, albeit to a much lesser degree. Thus the appreciation of God's handiwork is grounded in the independent beauty and correctness of God's choices in the production of His creation. And because the domain of God's choice is the set of compossibles, the choice that He has made must be the best set of compossibles. This lends to the Theological Constraints the property that compossibility must be in principle open to finite minds, otherwise there would be little point to the insistence that the choices of God possess an independent rational basis. The first criterion must be the case because in order for society between minds and God to be feasible, God's decisions must be open to finite minds so that they might be able to grasp the appropriateness and beauty of God's choice of this world. This requires that they be able to grasp the independent reasons why the collection of possibles representing this world was chosen. Once compossibility

136 I want to bracket off the issue of how creatures can hope to desire to have God do things for them given the reality of pre-established harmony. According to pre-established harmony every monad simply runs its internal program, so God does not have to adjust creation. Certainly supplication for some desired thing is something that requires adjusting creation in some way. Leibniz would not accept this on theological grounds since he thinks that the rational perfection of the deity requires the creation of a world that does not need even periodic intervention. See DM 6, and T 242. In these texts Leibniz argues that God chose to create the world that is the most perfect in order. What is more, in both these passages order is equated with a single rule that produces all the variations that we might mistakenly suppose arises from many rules at once. Thus when God makes the decree to create the world, He, in a sense, makes only one all-encompassing decree. Putting this aside, I still think that we can still talk about a sense in which creatures can still conceptually feel that they may approach the divine for help. It is how this is possible that I wish to explore.
is open to finite minds, it can only be open by virtue of possessing a rational basis. There could be no guarantee of this if compossibility were based on God’s idiosyncratic conception of propriety.

4.3 The Theological Constraints in Natural Theology

So far as Leibniz’s natural-theological aspects of the constraints go, we can piece together the best of Leibniz’s account from his scientific works. To find the Theological Constraints in Leibniz’s Natural Theology, I would like to first look at one of his scientific works, in particular the one in which he argued for teleology. To be clear, there is nowhere in which Leibniz makes the Theological Constraints on compossibility explicit in this work, so my aim here is not to produce textual evidence for the claim that they are made explicit. What I want to argue is that despite the lack of an explicit argument Leibniz does, nevertheless, say enough that makes it clear that according to his teleology, God chooses the best set of possibles out of many other possibles. It is just this aspect that comes out nicely in TA. From that work this much is clear: the appreciation of God’s created works at least helps to increase our grasp of the underlying principles. In TA Leibniz shows—by employing his differential calculus—that a unique quality of the actual path a ray of light takes is that it is the “most determined path.” The other paths, while still mathematically possible paths the ray could have taken, fall short of being the most determined one. Leibniz’s own path to the most-determined-path principle starts from the need for a middle ground between those who reject mechanical explanations of phenomena and those who think that there is no need to appeal to anything but mathematical principles to explain phenomena. The problem with the first is that it is a sort of quietism that leaves us in the dark about the nature of the world. The problem with the second is that it leaves the mechanical principles themselves unexplained. The first seeks to promote piety while the second seeks to arrive at understanding, but both fail for different reasons. Leibniz’s middling solution is to welcome the quest for mechanical explanation while maintaining that the mechanical principles utilized in the quest must be explained by metaphysical principles used by a God. He writes,
The true middle term for satisfying truth and piety is this: all natural phenomena could be
explained mechanically if we understood them well enough, but the principles of mechanics
themselves could not be explained geometrically, since they depend on more sublime
principles which show the wisdom of the Author in the order and perfection of His work.137

When this general principle is applied to particular cases, Leibniz maintains that it becomes the same as finding
of minima or maxima of polynomial curves. He uses the phrase “most determined” to designate the magnitude
that has no twin with respect to defined points on the curve in question.

What also comes out of TA is the idea that the world was created with intelligent creatures in mind.
This, in conjunction with the need for intelligent minds to see the handiwork of God, requires that minds have
access to the basis of the possibles with which God works. One important thing that jumps out of this picture
is that human beings can understand the work of God. And because the most-determined-path principle
requires us to countenance various nomically possible paths, we are able to determine that the path actually
chosen by God is the best one. These two facts are hence strongly connected to one another: the recognition
that the current ordering is the best possible ordering of the world amplifies the honour that human beings
give to God.

So if there were not something uniquely superior about the actual ordering of the world, intelligent
praise could not be possible.138 This is clear evidence that there is a connection between the good-making
property of a choice and the recognition of it by intelligent minds. To be sure, I have not specifically spoken
about compossibility, but I think that these general constraints could easily be applied to the co-existence (or,
as I shall later on prefer to say, the “co-possibility”) of two or more individuals. For instance, we would still

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137 TA. I. 478 (G VII 270-279).
138 There might, of course, be a less intensified praise, that is praise nonetheless. Say, for instance, that God decided to
actualize the “second-most-determined path.” Not only would this scenario violate the principle of the best, but
minds might then legitimately ask why the most-determined path was not chosen. There could be no PSR-acceptable
answer to this question since any answer for such a question would have to invoke a reason why it is better that the
best was not chosen, but this is just a reason why the chosen (in this scenario, “the second-most-determined-path”)
ordering is the best. It thus ends in a circularity that could only be remedied by a jettisoning of the PSR. Naturally, we
might retort that since the principle of the best has already been done away with, it is admissible for this God to give
some nefarious reason why this world was chosen, but then, of course, this would not be a God worthy of praise.
have to find the feature of the actual set of individuals that makes it the best ordering. With respect to the entire set we can say that it is the best, just as we say this about the processes and laws that God has pleased to employ in the construction of this world. But since we are dealing with individuals we must give some ultimately grounded reason why that particular arrangement was chosen that takes into account the individuals that compose the arrangement that were chosen. Here we are bought back to the original puzzle of compossibility, and here the Theological Constraints come into play.

4.4 The Theological Constraints in Leibniz’s Christianity

Leibniz was a Christian his entire life. And this fact has left an indelible mark on his philosophy; in fact the case can be made that his philosophy is a justification of Christian theology. This highlights the most important dimension of the Theological Constraints, because, as the name suggests, these constraints stem from Leibniz’s theological convictions. But there is a potential pitfall that needs to be pointed out before we proceed. If theological convictions trump philosophical ones, Leibniz’s system may degrade into religious dogmatism. So the Theological Constraints have to be established on an understanding of the relationship between Faith and Reason that allows the Theological Constraints to straddle the divide between the two. A related obstacle that has to be negotiated is that it is difficult to show that this is not trivially true of most of Leibniz’s contemporaries. I propose to get around this issue by pointing out that Leibniz thought that Natural Theology and metaphysics were one and the same, so the task set out for me is to find one aspect of his theology that could have a foreseeable foundation in the particular conception of revealed theology he accepted. But, again, why is this not just true of other philosophers of the same era? After all thinkers like Malebranche, Bayle, Descartes, and Arnauld were all professed Christians, so it is reasonable to assume that

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139 It is more accurate to say that his philosophy is a justification of Lutheran theology but this requires a more detailed argument than I am willing to give here. I shall, therefore, focus on the more general claim that Leibniz’s aim is to provide a philosophical grounding for Christianity.

140 Malebranche famously identified Reason with The Second Person of the Trinity: “The Son of God, who is the wisdom of God or eternal truth, was made man and became sensible to make Himself known to crude and carnal men. He wished to instruct them by means of what was blinding them; He wished to lead them to His love, to free them from sensible goods by means of the same things that were enslaving them. Dealing with fools, He used a kind of
the justification of Christian theology would have been on any one of their programs. While this is true, Leibniz's approach is importantly different because of his unique view of the interaction between Faith and Reason. This is a difference that helps enable Leibniz to uphold the Theological Constraints without them degrading into religious dogmatism.

4.4.1 Faith and Reason

Leibniz takes some care to delineate the separate spheres of theology and philosophy in the opening section of the *Theodicy*. It would not be right, however, to say that his interests are, in this work as a whole or in these opening sections, confined to discussing the unity between philosophy and theology. It is not important how he conceives of the relationship between theology and philosophy since he could always just discuss philosophy in such a way that it is very closely allied to theology. Generally, the path is open for a philosopher to create whatever philosophical-cum-theological picture they wish to. If the philosopher did this, theology would be subsumed in philosophy, and so there would not need to be a fact of the matter about what theology he should espouse, since it would be determined by his philosophy. But for Leibniz theology cannot be merely a kind of philosophy whose subject matter is God. There must be a rigid divide between theology and mere philosophy, for if this divide is not upheld, theological doctrines would be determined by philosophical ones, causing theology to cease from being a stand-alone discipline. In such a case it would be correct to speak of philosophical constraints on theology instead of Theological Constraints on philosophy.

A clear disadvantage of having philosophical concerns constrain theological ones is that it would downplay the importance of, and even eradicate the need for, revealed religion and thus the importance of faith, the faculty required to receive it. Leibniz wanted to preserve both revelation (in this case Christian revelation) and the use of faith. On the other hand, Leibniz also held that philosophy has a clear role to play in helping us to understand revealed religion. It could not, therefore, be right to excise philosophical investigation from questions of Faith. He needed to find a way of maintaining the separation between Reason foolishness to make them wise.” (LO 367; OC 2:124. See also LO 417-418; OC 2:260-261).
and Faith without that division also being a denial of the interaction between them. His strategy for dealing with this dilemma is to first show that Faith and Reason are not opposed to each other. He thinks that one of the uses of Reason is that it can show us when a religious doctrine is sensible and when it is not. Accordingly, his strategy (which he employs in the *Theodicy*) is to show that there is no schism between Faith and Reason. The use of the term “Faith” here is not to be understood as merely belief in God, or anything that might be a product of Natural Theology, but as that of the Christian tradition complete with its core mysteries. It is for this reason that Leibniz spends much of his work providing possible reasons for the divine mysteries.\footnote{141} The principle mysteries I am referring to here are: the incarnation, creation *ex nihilo* and the Eucharist.

Leibniz’s position and discussion of the issues we find in the opening chapter of the *Theodicy* is directed at Pierre Bayle’s view Reason and Faith are opposed to one another, cannot meet, and hence must be resolutely divided, prohibiting interaction between the two. Bayle, like Leibniz, thought that Christianity should be identified with its core mysteries, but Bayle thought that Reason could not be used to support Faith because Reason could not be used to support the Christian mysteries. So Bayle seems to have understood the mysteries as the pivot point of his supposed disharmony between Faith and Reason. Leibniz accepts this as the nature of the pivot, and in his setup of the problem space, he writes: “the question of the use of philosophy in theology was debated much amongst Christians, and difficulty was experienced over settling the limits of its use when it came to detailed consideration. The mysteries of the trinity, of the incarnation and of the holy communion gave most occasion for dispute.”\footnote{142} Leibniz moves to discuss the positions of various theologians on this matter. He argues that most theologians in fact accept that no article of Faith can contain a contradiction

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\footnote{141}{I say “possible” in order to flag the idea that some commentators have used Leibniz’s solutions to the Christian mysteries as essentially acceptable to both Catholics and Protestants. This might lead us to think Leibniz’s chief motivation was his irenicism. While I think there are merits to this idea, I do not think that Leibniz’s true aim is so simple. Leibniz thought that all he had to do was provide the possibility for the divine mysteries; he did not have to show how they must be so in a manner consistent with only one philosophical viewpoint, even if it were his own. In fact if Leibniz were able to show that there is only one philosophical framework that produces the divine mysteries, it would do away with his understanding of the relationship between Faith and Reason by placing revelation at the mercy of human understanding. In this respect, Leibniz’s irenicism is a benefit rather than the core of Leibniz’s philosophical theology.}

\footnote{142}{H 16.}
and because every reasonable doctrine is required to be non-contradictory, he concludes that most theologians think that it cannot be that the mysteries are against Reason. He writes,

[T]he 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. A truth is above reason when our mind (or even every created mind) cannot comprehend it. Such is, as it seems to me, the Holy Trinity; such are the miracles reserved for God alone, as for instance creation; such is the choice of the order of the universe, which depends upon universal harmony, and upon the clear knowledge of an infinity of things at once. But a truth can never be contrary to reason, and once a dogma has been disputed and refuted by reason, instead of its being incomprehensible, one may say that nothing is easier to understand, nor more obvious, than its absurdity. For I observed at the beginning that by [R]eason 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 [N]ature, but rather the inviolable linking together of truths.143

In this passage Leibniz invokes the distinction between those things that are above Reason and those things that are against Reason. To assign a portion for philosophy he says that the core mysteries are above Reason but not against Reason. Doctrines that are against Reason are contrary to the principles of Reason, those “absolutely certain and inevitable truths.” On the other hand, those doctrines which are above reason in the sense that we are interested in are those that created intellects are cognitively incapable of grasping. But there is a real question here as to how this is possible given what we have said above about the difference between how God reasons and how we reason. Indeed, one wonders how a truth could be above human Reason without

143 H 24.
also being above divine Reason if God reasons the same way that finite minds do with the exception that the
divine mind is more powerful. The only way a truth could be above human reason and still be graspsable by
God is if a certain degree of power is required for a mind to grasp the truth in question. Perhaps all truths are
of this kind? But it seems that the examples Leibniz gives in the passage looked at above fall into two kinds.
One of these examples is the choice of the order of the universe which depends on the understanding of
universal harmony, which in turn depends upon the knowledge of an infinite number of things at once. Clearly
this requires simple brute power, power that only the divine mind can muster; the divine mind does not require
a difference in kind by way of conceptual ability. Leibniz’s other examples, however, do not admit of the same
analysis. For instance, take creation *ex nihilo*: it is difficult to see how sheer cognitive power would bring about
an understanding of how substances can be created out of nothing. It appears that this kind of knowledge
would require entirely different kinds of conceptual abilities, whatever the suitable concepts might be. If this
is correct, it would pose problems for the Theological Constraints insofar as much of my defense of the
Theological Constraints relies on God and created intelligences differing only in degree and not in kind. The
basis for this sameness is their possession of the same conceptual repertoire, one founded on the idea that the
divine mind operates according to the very same logical laws that created minds do.

Fortunately there is a way of interpreting this claim that enables us to evade this worry. While neither
creation *ex nihilo*, nor the Trinity are graspsable by created minds, they do not require fundamentally distinct
conceptual powers. For example, creation *ex nihilo* does not go against any laws of Reason, it is more like a
doctrine that is outside of Reason. This is understandable given that it looks like an act of the divine will. Even
though there is undoubtedly a reason for God’s creation of the world, the act of pure creation itself is not
something that can be expressed in terms of reason. It is itself pure act. In an interesting way it is something
dependent on the nature of God, and so it finds its proper locus there. The same follows for the Trinity, only

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144 I am not suggesting that Leibniz thought of God as pure act. It seems to me right to say that this is a Scholastic
doctrine that he does not put effort into developing. He did, nevertheless, use the concept of act in his development
of his theory of individual monads.
more so. The Trinity is a doctrine about the nature of God, and so it is not something that finite minds should be able to comprehend in the first place.

Because the Christian mysteries are only above Reason and not against it, they are possible according to it. Leibniz notes this fact and uses it in his argument for Religious Faith. He argues that a religious doctrine only has to be possible and not demonstrable in order to qualify as an admissible doctrine of Faith. An important part of his defense of Religious Faith is the idea that even if we could not find a proof for the existence of a necessary God, it could be presumed possible. In a discussion with Isaac Jaquelot in 1702, Leibniz writes,

[E]very being ought to be judged possible until the contrary is proved, until it is shown that it is not possible at all. This is what is called presumption, which is incomparably more than a simple supposition, since most suppositions ought not to be admitted unless they are proved, but everything that has presumption for it ought to pass for true until it is refuted. Therefore the existence of God has presumptions for it in virtue of this argument, since it needs nothing besides its possibility. And possibility is always presumed and ought to be held for true until the impossibility is proved. So this Argument has the force to shift the burden of proof to the opponent, or to make the opponent responsible for the proof. And as that impossibility will never be reproved, the existence of God ought to be held for true. In order to complete the demonstration in an absolute and Geometric manner, however, it is to be wished that the proof of the possibility in question be given.

And in another statement that connects the argument from presumption to concerns about practical theism, he writes in the New Essays that “One has the right to presume the possibility of every Being, and above all that of God, until someone proves the contrary. So that this metaphysical argument already yields a moral

\[145\] For a full discussion of the doctrine of presumption, and for a closer examination of this argument, see Chapter 8 of Adams, R.M. 1994. Leibniz: Determinist, Theist, Idealist. New York: Oxford University Press.
\[146\] G iii, 443f. Translation by Robert M. Adams.
demonstrative conclusion, which implies that in the present state of our knowledge we ought to judge that God exists, and act accordingly."^147
Chapter 5

Toward a New Solution

5.1 Steps toward Reform

As it is presented in the literature, LS depends on the recognition of the importance of relations between individual substances to account for the logical incompatibility it is thought incompossibility demands. But this adherence to inter-monadic relations as a means of accounting for the logical contradiction needed to establish a base for compossibility leads to one of the weaknesses of LS. Specifically, the problem is that it makes it necessary that the actualization of one monad requires the actualization of all the individuals it is related to; for by the doctrine of Universal Expression, each substance expresses all the relations it holds with other individuals. Hence the actualization of one monad requires the actualization of the entire world it is part of. All of this comes at the price of the world-apart thesis, and considering that Leibniz derives the world-apart thesis from the predicate-in-subject principle, it looks like we also have to abandon even the conceptual containment notion of predication and truth. This is clearly unacceptable, and has led readers of Leibniz to abandon the Logical Approach wholesale, a move that is to my mind too hasty. I think we can salvage LS. Throughout this thesis, I have been asserting the importance of the principle of Universal Expression, and in some places I have even hinted that it might occupy a very important, if not central role, in Leibniz’s views about substance individuation. Hence it seems to me that returning to the principle of Universal Expression and clearly delineating the relation it holds to the complete concept, will reveal the way to reform LS, and in such a way that it does not violate the world-apart thesis. I shall attempt to make good on these claims in the chapter to follow.

The first step toward reform is to recognize that the inconsistency engendered among individual concepts can be as strong as logical inconsistency, but this is possible only if we give more importance to the doctrine of Universal Expression. To see why, take again the paradigmatic case of Ham and Noah. If we held

148 See Remarks on Arnauld’s Letter about My Proposition That the Individual Notion of Each Person Includes Once and for All Everything That Will Ever Happen to Him, May 1686. AG 69-77.
that there is no contradiction between these affirmative propositions including these individuals as subjects, i.e.,
“Ham is the father of Noah,” “Noah is the father of Ham,” it does not seem that there could be any logical problem with the actualization of both of these individuals. And if this is the case there can be no PSR-sufficient grounding of their incompossibility. God could not, therefore, give a reason to reject such worlds based on the particular combination of individual concepts they represent. The only thing wrong with such worlds is that they would be rather messy worlds. Messiness of a world is not, however, a reason to bar substances from existence. Intractable if we take the approaches exemplified by LS1 and LS2, this problem is, however, relatively simple to solve if we take the doctrine of Universal Expression as our starting point. Recall that Universal Expression states that every monad expresses the state of every other monad with which it shares its world. This means that housed within the complete concept of Ham are all the states of Noah encoded as predicates of Ham, since, ex hypothesi, the two individuals are denizens of the same world. We can assume from this that each monad necessarily expresses within its complete concept all the states of other individuals as predications pertaining to its own concept. In this sense it would not be the individual it is if it were not a member of the set of individuals it is in fact a member of. But there is more. Because Universal Expression is a feature of possible individuals, i.e., individuals in which there exists no contradiction among the totality of their predicates, there can be no possible individual that is inconsistent with the individuals with which it shares a world, for by the thesis of Universal Expression all the states of its corresponding substance will be exhaustive of the states of every individual it is in the same world with.

Thus we arrive at the conclusion that every substance must express—as part of its complete concept—all the individuals to which it is related. But there is nothing about the nature of this expression that requires that the individuals a concept expresses must also be realized.\(^\text{149}\) In this special sense the logical relations that a substance holds to other substances are bereft of metaphysical clout at the level of existence. That is to say, these relations between complete concepts (for which compossibility arises) do not determine the number of

\(^{149}\) One reason one might hold this is that ‘expression’ does not have to be veridical. This certainly is the case once we move to the Monadology of the mature period, in which expression gives way to petite perceptions. One could not, therefore, argue that God needs to create all the substances in the world so that the expressions of the expressing monad might be true expressions.
individuals that are actually realized by God. God could choose to create one substance that expresses an entire world of individuals that are not created along with it. This would merely be a substance with non-veridical perceptions. To be sure, such a world would be one that does not express the glory of God to the fullest extent, and it will, for this reason, not be created. For the desire to express himself fully is God’s reason for creating. This requires that God not only bring about the maximum amount of substance, but also the greatest amount of diversity, leading to the greatest harmony. Where logical relations do have clout is in the divine intellect, and there substances reside as possibilities. Here the concepts, again, do not determine what is actually created, but they do determine that something is what it is.

Now, since compossibility is decided in the divine mind, there is no reason to appeal to any machinery other than the logical operations in the divine mind to grasp it. We can, in fact, think of it in terms of our familiar notion of possibility, or at least in a related fashion. But like contradiction which determines the possibility of an individual substance, compossibility is not a relation between complete concepts, but the incompatibility of relations a substance holds to another substance in the divine intellect. This is so because for Leibniz, relations arise as conceptual truths that stem from the various ways some class of complete concepts are considered in the divine intellect. There are good textual grounds for this view in Leibniz’s understanding of the ontological status of relations. This is a plausible reading of this oft-quoted passage about extrinsic denominations:

150 “God, in designing the world, purposed solely to manifest and communicate [H]is perfections in the way that was most efficacious, and most worthy of [H]is greatness, [H]is wisdom and [H]is goodness.” (G VI 144/H164). See also “There is no doubt that when God resolved to act outside [H]imself, [H]e made choice of a manner of action which should be worthy of the sovereignly perfect Being, that is, which should be infinitely simple and uniform, and yet of an infinite fecundity.” (G VI 238/H1254-5)

151 Leibniz is committed to both these propositions as we can see from the following passages: “After due consideration I take as a principle the harmony of things: that is that the greatest amount of essence that can exist, does exist.” (A VI i 472/D 21); “[God is] the harmony of things.” (A VI I 499), and “the divine mind consists of the ideas of all things… In God there are infinite really diverse substances, yet God is indivisible” (A VI I 511-12/L 118).

152 We are already familiar with identity/non-contradiction (Identity: A=B) as one of these relations; one that determines the intelligibility of a concept. There are, of course, more: Containment: A ∈ B; Converse Containment: A inest ipsi B; Conjunction: AB; Negation: ~ A.

153 For instance in the February 5, 1712 letter to Des Bosses he writes, “God not only sees individual monads and the modifications of every monad whatsoever, but he also sees their relations, and in this consists the reality of relations and of truth.” That is to say, the reality of relations and truth consists in their being seen by God.
I do not believe that you will admit an accident that is in two subjects as the same time. My judgement about relations is that paternity in David is one thing, sonship in Solomon another, but that the relation common to both is a merely mental thing whose foundation is the modifications of the individuals.

This passage is often analyzed for the purpose of determining Leibniz’s stand on extrinsic denominations, and even though I tend to read such passages as claiming that while the relation between David and Solomon is a merely ideal thing (belonging in the divine mind), “sonship” and “paternity” are still relational properties that Solomon and David hold separately. I, therefore, hold that for Leibniz there can be relational accidents, and I reject the thesis that relational predicates are reducible to monadic predicates. Properly speaking, the relation between David and Solomon is neither a relational nor a monadic predicate, but arises because “paternity” and “sonship” adhere in the two subjects respectively. Let us call it the “genitive relation” (GR). Obviously GR is satisfied by a wide array of relational concept pairings. For instance, Bathsheba is the mother of Solomon; Elizabeth I is the mother of Elizabeth II. In the first case the concept “motherhood” is true of Bathsheba, and “sonship” is true of Solomon, and in the second case “motherhood” is true of Elizabeth I, and “daughtership” is true of Elizabeth II. In both cases the relationship between the two is an instance of the GR. I think this is a viable analysis of what Leibniz means by “the relation common to both.”

In any case, my focus here, however, is on the idea that the relation between these two compossible individuals is an ideal/mental thing. For this focus, I only need stress the point that it is not the extrinsic denominations that Leibniz wants to reduce to intrinsic denominations: it is plausible that he merely wants to say relational properties are included in individual concepts. But the relational concepts determine the

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154 I. 609, Letter to DeBosses April 21, 1714

155 Mark Kulstad argues for the same position. See his 1980. “A Closer Look at Leibniz’s Alleged Reduction of Relations.” Southern Journal of Philosophy 417-432. According to Kulstad, Leibniz accepts subject-predicate logic in the “wide sense”. This means that Leibniz’s relational propositions are reducible to either relational or non-relational subject-predicate propositions. I have rendered this thought by saying that Leibniz accepts two kinds of accidents: non-relational concepts (monadic predicates) and relational concepts (two-place predicates).

relations that the mind abstracts from these concepts. Such relations are of a sufficiently general nature that they can be filled in many ways, as we saw with GR. Soon we shall see that the generality of such relations dovetails nicely with Leibniz’s talk of general concepts in the correspondence with Arnauld.

Having advanced this reading of Leibniz on relations and individual concepts, I shall now move to combine this with the concept (loosely speaking) of a world, a thing which is composed of individual concepts related in some fashion. Let us, therefore, begin by saying that a world can be defined as a related set of individual substances. Rescher does this nicely:

Possible worlds are also infinitistic in their inner constitution in the descriptive detail that they encompass. They are defined by maximally consistent families of substance-descriptions, within each of which the substantial content becomes as ample as possible, extending ever onwards until the limit of the possible – the limits of logico-conceptual feasibility – are finally reached. Possible worlds are therefore existentially saturated: once a possible world is constituted in conception, there is never any possibility of adding further possible substances to its content. The description of the world precludes any prospect of additions: there cannot be any possible substance that is not already a member of a given possible world and yet is compossible with the substances of the world in question.\textsuperscript{157}

This maximal consistency of family substance-descriptions as constitutive of what it means to be a possible world means it is expressed in each member of this family of substance descriptions. That this must be the case is very much exemplified in Leibniz’s Universal Expression thesis. He writes,

Each individual substance is an expression of the entire universe after its own manner, and ... in its concept all events that occur in it are included with all their circumstances and the whole succession of external things.\textsuperscript{158}

\textsuperscript{158} LA 5.
So the doctrine of Universal Expression teaches us that the world is, so to speak, written into every substance that belongs in it so that we could read the world off any of its constituent substances. Not surprisingly, the doctrine of Universal Expression will play an important role in producing an account of the compossibility of substances.\textsuperscript{159} For one, by expressing every other individual that it is related to, each individual is expressing what it means to be the particular entity that it is; it is expressing itself. So it turns out that Universal Expression is intimately related to what it even means to be a particular substance. Leibniz expresses this idea in a rich metaphor:

This interconnection or accommodation of all created things to each other, and each to all the others, brings it about that each simple substance has relations that express all the others, and consequently, that each simple substance is a perpetual, living mirror of the universe. Just as the same city viewed from different directions appears entirely different and, as it were, multiplied perspective, in just the same way it happens that, because of the infinite multitude of simple substances, there are, as it were, just as many different universes, which are, nevertheless, only perspectives on a single one, corresponding to the different points of view of each monad.\textsuperscript{160}

Notice that in this passage Leibniz is characterizing an individual as much as he is giving us a glimpse of his notion of a world. So the metaphor is doing double work. The first sentence of the passage states that it is through its relations to other subjects that a substance expresses all the other concepts (that are members of its world). Thus the substance becomes a sort of mirror of its universe, a certain point of view on the world.

\textsuperscript{159} A very good reason for having the doctrine of Universal Expression carry the weight here is that this doctrine is conceptually prior to compossibility. In fact, the doctrine of Universal Expression follows from the predicate-in-subject notion.

\textsuperscript{160} The Monadology, section 56-57, AG 220. This reiterated in the Discourse on Metaphysics: “Moreover, every substance is like a complete world and like a mirror of God or of the whole universe, which each one expresses in its own way, 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 as many times as there are substances, and the glory of God is likewise multiplied by as many entirely different representations of his work.” AG 42.
Relations are recruited to connect substances to one another. One-place predicates cannot accomplish this task, hence relational concepts are needed to ground Universal Expression. But since Universal Expression seems to be necessary for what an individual is, we may surmise that relational concepts are required for substance individuation. Leibniz writes just this to Arnauld:

[M]y assumption is not merely that God wanted to create an Adam whose notion was vague and incomplete, but that God wanted to create a particular Adam, sufficiently determined as an individual. And according to me, this complete individual notion involves relations to the whole series of things [italics mine].

When one considers in Adam a part of his predicates, for example, that he is the first man, set in a garden of pleasure, from whose side God fashioned a woman, and similar things conceived sub ratione generalitatis, in a general way (that is to say, without naming Eve, Paradise, and other circumstances that fix individuality), and when one calls Adam the person to whom these predicates are attributed, all this is not sufficient to determine the individual [italics mine], for there can be an infinity of Adams, that is, an infinity of possible persons, different from one another, whom this fits. Far from disagreeing with what Arnauld says against this multiplicity of the same individual, I myself used this to make it better understood that the nature of an individual must be complete and determinate.

The picture that emerges here is that a general concept needs to be saturated through the inclusion of relational concepts to other individuals, and it is only through this saturation that it can become a complete concept. So the relational concepts added to a general concept fully complete it, and by so doing anchor it to its world.

We shall return to these matters, but for now you might wonder how any of this aids with the question before us, that of compossibility. It helps a great deal. For one, what we have just learned enables us to re-

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161 AG 69.
162 AG 72.
articulate the question of compossibility. Once the question is represented in a different manner, new life can be breathed into IS. I think that with the aid of the insights just gleaned, we shall see more clearly that incompossibility enables us to provide a reason why every possible complete concept does not universally express all other possible complete concepts. In other words, we see why a complete concept expresses only the unique set of individual concepts that it does: namely those that are part of its world. If we meditate distinctly on this question we are led to the conclusion that, in essence, the puzzle of incompossibility is centered around the quest for a non-arbitrary parceling of the infinite array of non-contradictory complete concepts into mutually exclusive, internally correspondent sets of individuals. Both the mutual exclusivity and internal correspondence of these sets is to be understood in terms of the internal predicational makeup of each individual. This being the case, we need to provide a PSR-admissible reason for the parceling that operates at the level of the predicates, not at the level of the complete individual concepts constituted by these predicates. Let me stress again that unless this is so, there will be eventual transgression against the PSR.

Taking the above into account our task amounts to one of finding out what cuts one set of predicates off from another.\textsuperscript{163} This implies that the reasons for incompossibility are better understood as intra-substantial, that incompossibility has its roots in intra-substantial connections, not in a relation that arises between one complete concept and another. Hence the reasons that make an individual incompossible with another are the same reasons that make it an individual substance. This will become clearer deeper into the next section. Since at bottom an individual concept must be possible, and Leibniz cashes out this possibility as the absence of contradiction among its constitutive concepts, the reason for compossibility is the same reason the individual concept is a maximally consistent set of predicate concepts (relational and non-relational). Because the doctrine of Universal Expression links essential set membership to compossibility, compossibility comes on the cheap.

Another benefit of accepting the reforms I am suggesting is that it provides us the strongest possible foundation for Leibniz’s theodicy. As we discussed above, God’s reasons choosing the present of compossibles

\textsuperscript{163} There are deep issues here about substance individuation and its connection to the doctrine of incompossibility. While it is true that I shall have to deal with this in the rest of the paper, I will not be giving it the attention that it deserves. Instead, I will only give a general account of how substance individuation that could undergird an account of compossibility that is in keeping with all the strictures that I have given above.
are based on the theological motivation inspired by the in principle accessibility of God’s actions to finite minds. Without some reason why God chose the individuals he did, the possibility remains that a better choice could have been made. This is a serious challenge to Leibniz’s theodicy, which relies on not only the notion that this is the best of all possible worlds, but on the stronger claim that it is not possible for there to be a better world. At first glance the two claims seem identical, but their identity depends on the stand one takes on the compoisibility question. If we take the Logical Approach and require the justification for the incompossibility of individuals at the level of the individual substances, the compoisibility of individuals becomes a matter cashed-out by the principle of non-contradiction. It is in this sense that it is, for Leibniz, impossible for the world to have been other than it is. Thus, it is not just the case that it is a brute fact about reality (broadly construed) that there is no world otherwise exactly like this world with the exception that the denizens of that world are sinless, such worlds are actually impossible.

While the approach I am presenting is a deep departure from standard solutions to the problem of incompossibility, it ought to be fairly straightforward to accept the consequence that my view ties compoisibility directly to the principle of non-contradiction, the very bedrock of Leibniz’s philosophy. In this respect, other views leave a very curious gap between Leibniz’s theory of compoisibility and his commitment to the principle of non-contradiction. Cover and O’Leary-Hawthorne make the same point but they take it as an objection only to the Lawful Approach. Because the other approaches that envision compoisibility as having more to do with harmony between individuals leave compoisibility as a matter to be determined by God’s aesthetic principles, there is no way that they could bridge the gap between the principle of non-contradiction and the incompossibility problem if these aesthetic principles are not reduced to logical principles, and the logical ones in turn founded on the principle of non-contradiction. Recall that this discussion was elicited by our consideration of the challenge that this, the best of all possible worlds, could have been better, and that it is admissible that there is a world like this one in all respects without any of the miseries associated with this one.

Let us call this world the “Ideal World” (IW). At the core of the challenge is a request for a sufficient reason for the structure of modal space such that it excludes IW. To answer this challenge Leibniz has two lines of response open to him. He can say that it is simply the way things are, thereby appealing to some brute fact about the structure of modal space; or he could argue that it is not possible for IW to be the best of all possible worlds. The first response is out. It will not do for Leibniz to simply say that the nature of reality is that way, for that would be to reject a PSR-based account for the best of all possible worlds and by so doing prematurely truncate the chain of explanation. He needs to argue that this world is impossible.

It is indisputable that Leibniz takes the second route. Engaging with this claim, he flatly asserts that, taken as improvements on this world, such worlds are impossible: “Some adversary … will per chance answer the conclusion by a counter-argument, saying that the world could have been without sin and without sufferings; but I deny that then it would have been better.” Individuals that would compose the IW are incompossible in a manner that deems their union a logical impossibility not just a de facto incompatibility. Generalizing this yields good motivation for thinking that incompossibility is closely linked with logical impossibility. Meditating some more on the doctrine of Universal Expression can help us to better grasp how this might be the case. If a single individual can express all the individuals in its world (and by so doing the whole world) then we can ultimately read these concepts off the substance they are truly predicated of. This being the case, every relation a substance holds to the other members of its world will be susceptible to being read off its complete individual concept as constitutive of what it (the individual that is the object of study) is. Relations to other substances must also be subject to investigation when we think of the possibility of a substance. We would need to ascertain whether these predicates stand in relations of non-contradiction with other predicates embedded within the complete concept. All of this is more than enough reason to think that it is plausible to construct an account of

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165 Because it is conceivable that the best of all possible worlds could have been better in many different ways, we might be led to think that there are many IWs, one world for every way the best of all possible worlds could be improved. The trouble with this characterization of the IW is that the best of all possible worlds would cease to be the best of all possible worlds since each way the world could have been would effectively only be a better possible world. But IW is supposed to be an improvement on the best of all possible worlds otherwise the same concern would arise, namely, why could that world not be better, why could it not be perfect? IW must represent the sum total of all the world could be. IW must, be not just the best world possible, but the perfect world.

166 T Sec. 9, H.
compossibility that only requires us to look at one individual. And it is for the reasons just outlined that I think compossibility will, at the level of the individual, turn out to be more like a species of possibility, and must therefore be understood to depend on the principle of non-contradiction. This is what I take to be the main improvement of the approach I am putting forth from the other iterations of the traditional Logical Approach espoused by Mates and Rescher.

The biggest place Mates and Rescher err is in the way they deal with the doctrine of Universal Expression. They read the doctrine strictly as a matter between individuals. Rescher, for instance thinks that the universal-expression thesis entails that God must create every individual substance that it is represented by any individual substance God wishes to create. Of course, as we saw above this move has the unfortunate side effect of violating Leibniz’s doctrine of non-interaction between substances, and metaphysical independence. I propose to avoid this shortcoming by applying the principle of non-contradiction to the relations that help to construct the Universal Expression of the individual in question. If this suggestion is not clear now, it will be when I return to it in Chapter 6.

5.2 How the Reformed Approach is different from LS1 and LS2

I should now like to explain the sense in which my approach is a species of the Logical Approach. Let me begin with why one might wonder how this “Reformed Logical Approach” is different from LS1 and LS2. Since a determining feature of the Logical Approach is that if two substances are incompossible the existence of the first logically precludes the existence of the second, my approach looks to be ruled out since I jettison this feature. In my account, the existence of one substance does not itself logically preclude the existence of another. Instead I argue that what bars incompossible substances from existence is a feature of the world writ-large, i.e., its net perfection. What makes my view a logical solution is that each substance has, written into it, all the other substances in its world. LS1 and LS2 hold that substances preclude the existence of substances they are incompossible with. This is so because both LS1 and LS2 attempt to give an account of compossibility
that relies on relations between substances. My approach, on the other hand, looks within the substance to
explain compossibility.

Because it might still be unclear to the reader how my logical solution is different from the Lawful
Approach, I would now like to consider the idea that the view I am proposing can be thought of as a maximizing
case of the Logical Approach. Because I grant that one substance does not preclude the existence of another
substance, the reader might conclude that I have abandoned the Logical Approach. What is more, because I
say that every substance follows a law of its own unique series, it appears as though I am offering a pure Lawful
Approach. This is mistaken. Because my view builds everything into the concept of the substance, my account
still qualifies as a Logical Approach. This means that my account appears to collapse the Lawful and Logical
Approaches. So my solution might come across as being expressible in a manner consistent with the Logical
Approach by saying that one can “read off” from the concept of substance A the predicates of B. The view
can also be expressed in a manner consistent with the Lawful Approach by saying that this “reading off” is
made possible by laws that dictate how this reading off is to be done. Margaret Wilson makes a similar point.167
She thinks that the Logical and Lawful Approaches can be happily reconciled. In fact her solution to
compossibility is a hybrid of the Logical and Lawful Approaches. On her view facts about compossibility
depend not on requirements of lawfulness, but on the laws of the world in which they occur. So if a substance
P1 has written into it laws that contradict the ones in P2, then P1 and P2 are incompossible. For example
suppose P1 and P2 are both F, and they both contain the law “If a thing is F then nothing else is F.” Under
Wilson’s view, this would count as sufficient evidence to say that P1 and P2 are incompossible substances.

I want to steer clear of the idea that my solution is a happy collapse of the logical and the Lawful
Approaches because I do not think that this is a desirable result. This means I also reject Wilson’s account.
While I agree that there are ways of articulating the Logical Approach that make it begin to look a lot like the
Lawful Approach, and admittedly there are certain affinities between the two approaches, I am wary of
accepting the collapse because it seems to me that by connecting the Logical Approach with the Lawful

University Park: Pennsylvania State University Press. 119-133.
Approach we imprint the resulting hybrid with the weaknesses of the Lawful Approach. To explain why let me begin by stating a relevant principle, I call the “Origin Principle”:

**Origin Principle:**

The laws of a substance must arise from the substance in question, they should never be imposed from outside.\(^\text{168}\)

This Origin Principle can be applied to the compossibility question. Furthermore, I maintain that this principle shows us that once the laws are written into the substance there is no longer anything gained from using the laws to ground compossibility. Given a choice between accounting for the compossibility of A using the predicates of A, or using the laws that are already written into the concept of A, we ought to prefer the first option because the second option fails for the same reasons that mainstream Lawful Approaches do. Recall that a big drawback of the Lawful Approach is that it violates the Theological Constraints in the sense that, once properly understood, it in fact amounts to making compossibility arbitrary. It is more difficult to see it in the case of hybrid accounts like Wilson’s because here the laws are tied so closely to the predicates of the substance in question. The problem, however, remains: even if the laws are recruited to determine the expression of substance B by substance A (as they would have to do since it is the compossibility of a substance A with another substance B that is under investigation) it is not the laws that are the source of the fact that substance A expresses B, it is the predicational structure of A. That is, it is all the things that are true of A that

\[^{168}\text{The Origin Principle supports the doctrine of pre-established harmony. Leibniz’s understanding of the union between soul and body, for instance, would not be possible without it. One can see this principle at work in the following passage. “[E]very individual substance contains the whole series of things in its complete concept notion, and harmonizes with everything else, and to that extent contains something of the infinite. Because this has not been understood, the union of the soul and the body has also been taken to be inexplicable. For, in metaphysical rigor, they do not flow into one another, nor indeed, does God move the one on the occasion of the other and divert it from its own proper course. But following its own laws from the time they were instituted with an admirable but infallible constancy, each agrees with the other as exactly as they would if there were a true influx. And there is something similar in all substances, even those that are most distant from one another, although in them the agreement does not appear so distinctly.” The Source of Contingent Truth. AG 100. In another place Leibniz writes that “one substance does not influence another, and therefore, the mind derives all of its operations from within itself, even though its nature is so ordered from the beginning that its operations harmonize with the operations of all other things.” Notes on Some Comments by Michel Angelo Fardella, March 1690. AG102-103.}


underwrite the expression of B by A. The laws in this non-standard Logical Approach would serve only to
guide us to the predicational structure of B from A, but they are not the logical determinates of this
predicational structure. If laws of A were the logical determinates of B, God’s choice of the laws that mark
out B instead of any other object would be without non-arbitrary grounding, and so they would be groundless.
Again, if it were the case that laws underwrote expression, it is difficult to see why God could not have simply
commissioned laws of expression that produced better individuals. And since, according to this suggestion laws
of expression are the basis of compossibility, the question becomes why God did not create a better world, a
view Leibniz does not entertain.169 This is a more dangerous manifestation of the underachiever problem. One
way to avoid this problem is to say that the grounds that would be possible are reasons of worldly harmony, or
aesthetic principles God adheres to. This response seeks refuge in the harmony solution; so we see that Lawful
Approaches—even this non-standard one—eventually collapse into Harmony Approaches.170

Let us consider another response to my reasoning here. It might be said that laws are easy to come by
in Leibniz’s system. For instance, in the geomancy example found in the Discourse on Metaphysics VI Leibniz
argues that an equation can be produced that points made in a seemingly chaotic manner will all have in
common. We might argue that this examples shows that there are any number of laws that can be produced
that will describe a phenomenon. This response misses the mark. The geomancy example is meant to show
that there is a mathematical description to every group of occurrences, so it is easy to see why we might equate
the description with the law, but Leibniz is not attempting to give an account of what the nature of laws is. The
example is meant to show that nothing can be truly random or arbitrary. All of this fits into the picture I have
given though, for the descriptions here are just that: descriptions. They do not determine the occurrences
themselves, for if they did we would face the new underachiever problem. So if it is not the description/laws

169 For instance in a September 29, 1698 letter to Andre Morell he writes, “I am effectively of the opinion that God could
not do better than He does, and that all the imperfections we think we find in the world only originate from our
ignorance.” See SLT. 198, See G iii 589 for the original Latin.
170 A question that has bearing on this problem is what the nature of laws is for Leibniz. I’m inclined to say that laws for
Leibniz are generalized statements regarding the behaviour of the entire set of individuals that compose a world. If
we apply this conception of the laws to the expression of one substance by another, it is apparent that laws of
expression have to be generalized statements about the predicational facts of the expressing individual.
that underwrite the regularity of the phenomena, where do they get their regularity from without having to appeal to God? I believe two answers are available here, one shallow, the other deep. Firstly, we may answer that in the best of all possible worlds, God has chosen a world whose phenomena always unfold in such a manner so as to be amenable to mathematical description. In this case, regularity of phenomena as judged by transparency to mathematical description is a good-making feature of a world. This is the shallow answer. The deeper answer is to say that regularity is tied to logical coherence. Since every individual is logically coherent, we ought to conclude, via mutual expression, that every compossible collection of individuals, and therefore every world they compose, exhibits regularity of the sort Leibniz is concerned with here. So a good-making feature of the world according to this view would be the complexity of the mathematical descriptions needed to describe the world’s phenomena. The best possible world exhibits the simplest mathematical descriptions possible given the richness of the phenomena it contains. Leibniz conveys just this when he writes:

Thus, one can say, in whatever manner God might have created the world, it would always have been regular and in accordance with a certain general order. But 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.\footnote{AG 38-39.}

I think the deeper answer is better than the shallow one, but it is important to note that in neither of them are the laws deciding the phenomena, rather everything is already decided, as it were, before God’s intentions are in the picture. God merely chooses the best set out of all the individuals after he has discerned what is true independently of His will.

Let us take stock of what we have gone over. In my view, the possibility of a substance includes its world-mates in its complete concept as part of what it means to be the individual in question. It is in its
connections to other individuals that we find a substance’s possibility. So my understanding of logicality rests on an inclusive understanding of the Universal Expression thesis. That said, here is how I understand the relationship between possibility, compossibility and Universal Expression. Let A and B be two individuals. A and B are co-possible iff A and B express each other. And all of this is connected to co-existence via the following chain: possibility is grounded in being in a world; being in a world is in turn grounded in co-existence. Compossibility is mutual expression, or equivalently, mutual intelligibility. Thus possibility is grounded in compossibility. And because the requirement for being possible goes through a non-contradictory concept the requirement for being an individual goes through expression of other individuals; co-possibility is mutual expression. A big upshot here is that I understand co-possibility to be equivalent to mutual expression/co-expression. This chain of concepts allows us to give a definition of co-possibility: A and B express each other iff A expresses B and B expresses A. Therefore if A and B coexist then A and B are co-possible.

According to account I have begun to offer here each substance within a world has written into it everything true of other substances within its world. This is importantly different from LS1 and LS2 in that Mates and Rescher view logicality as requiring substances to exclude one another. For me logicality is identified with universal inclusion in the sense of mutual intelligibility. Mates and Rescher’s conception of logicality depends on the co-existence of independently intelligible individuals. But if this just means that I have a competing view of logicality, my arguments against Mates and Rescher seem to lose much of their force. Fortunately there is enough that Mates and Rescher and I share to base a LS on. What all three views have in common is that every substance has written into it the world it is a member of so that we can read off the world of a substance. So I propose that we take what my view has in common with LS1 and LS2 as what is constitutive of the Logical Approach, and shave off the rest.
Chapter 6
Existence, Co-possibility, and Compossibility

Early on I argued that LS is the only solution that shows promise of keeping within the Theological Constraints. And by so doing LS would help to preserve some of Leibniz’s strongest theological commitments. As an offensive move, I showed that the Harmony Approach rubs against these commitments in some fundamental ways. What I want to do in this chapter is show that under the proper understanding of the relationship between possibility, compossibility and existence, many of the criticisms of LS end up with considerably less convincing than is often thought. This section could be considered a defensive move.

To recap, we have shown that compossibility allows for non-existent possibles, the possibility of which depends on the internal logical consistency of their individual concepts, and the co-possibility (read “taken as possible together”) of which depends on the relations these possibles hold to one another. Let me pause here. I just characterized compossibility as having to do with “co-possibility” of individual concepts. Should I not portray compossibility as a matter of “co-existence” between individuals? The second of these portrayals is generally the received view regarding the distinct task of compossibility. According to the received view, compossibility steps into the picture when we wish to consider whether some set of individuals can be brought into existence together. Thus for the received view, compossibility and incompossibility tells us whether entities can exist together. However, there is a serious problem here that the innocuous nature of this way of framing the task of incompossibility covers up. I will attempt to outline these issues in this chapter. The substantive point of this chapter is that we do better to think of compossibility as being concerned with the co-possibility of individuals, and not their co-existence since individuals must be possible together before they can exist together; and so we should also consider the joint possibility of two individuals before we consider their joint existence. Grounding this claim is the idea that for Leibniz existence and possibility operate under different epistemological parameters.

There are also good textual reasons for taking this reading as opposed to the most common reading that compossibility is about the co-existence of individuals. For instance, I think this is the proper reading of
the passage from the letter to Bourguet we looked at in the section on Theological Constraints. In that passage, the existence of the actual composite is so only because it is the collection of compossibles that was actually chosen by God, and God’s reasons for choosing it have to do with the fact that it is the *richest* collection, not because it was a compossible collection. If compossibility were the criterion for existence, why would God not just create every compossible set? Existence, then, has less to do with compossibility than readers of Leibniz have thought; for the existence of the chosen set arises only after it has been chosen by God; hence the question of compossibility should not be framed as the co-existence of individuals. It is at a level prior to this one. It is about whether these possible individuals can be thought of as *possible together* in a more robust sense than we might otherwise be led to think. So the question of compossibility is going to be located at the level of possibility, mutual possibility of a given set of entities. I will say more below but suffice it to say for now that I take this to be motivation for the thought that possibility and compossibility are very closely tied, to the extent that we may think of compossibility as a species of possibility in the essential meaning of the terms. That is to say, that compossibility is merely another way of talking about the possibility of things. By way of textual corroboration, I note Leibniz’s definition of the concepts “Being,” “Possible,” “Existing” and “Compossible” in the period covering 1679-1685:

I. Being -- possible term;

II. Possible -- what does not imply a contradiction;

III. Existing -- compossible with the most perfect;

IV. Compossible -- what, when taken with another, does not imply a contradiction.\textsuperscript{172}

Honing in on definition (IV), it is plausible to take the view that logical contradiction is what is in play even when the goal is an account of compossibility since he uses “*contradictio nen*” in both the definition for possible

\textsuperscript{172} Named, “Definitiones”, this note has been dated between 1683-1694 and can be found in the GRUA edition of the unedited texts. Vol. 1. (324-325). In the Latin: “*Compossibile quod cum alio non implicat contradictio nem*.” The translation is Sleigh’s. See, Sleigh Jr., Robert C. 1990. *Leibniz and Arnauld: A Commentary on their Correspondence*. New Haven: Yale University Press.
and compossible. It is highly plausible that for the definition of possibility he means it to be a logical contradiction that is implied. It is, therefore, reasonable to assume that since he does not qualify the use of the term in the definition of compossibility he means for it to have the same meaning. The upshot of this is that the requirement of non-contradiction ends up generating the compossibles just as it generates the possibles.\textsuperscript{173}

So we should be able to substitute definition (II) into definition (IV) to get (IV*):

(IV*) Compossible -- Possible entity (that which does not imply a contradiction), when taken with another (entity that does not imply a contradiction), does not imply a contradiction.

There are two ways to read the term “taken with another” (\textit{cum alio}). One could take it in an existential sense, or in a conceptual-cum-modal sense. We would take it in the existential sense if we thought that the two substances could exist together, but in the conceptual-cum-modal sense if we maintained that they only need to be possible together. There is little reason, textual or theoretical, to take the former reading and there are good textual, and strong theoretical, reasons to take the latter. Accordingly I take “\textit{cum alio}” to mean, “When one thing is considered as one thing with another”. This suggests that for two or more things to be compossible we must treat them as together forming a “super-individual” constituted by the predicates of both individuals (or more individuals). Testing the compossibility of the constituent individuals would then be reducible to the question of possibility. Two individuals are compossible only if their union is possible; that is, if the individual they compose is non-contradictory.

Confirmation that Leibniz saw things this way comes from looking at a work in which, while he does speak about compossibility, the work itself is more devoted to making an important epistemological distinction that I think bears on possibility and existence. The work is the dialogue between Theophilus (speaking for Leibniz) and Philalethes (speaking for Locke) on chimerical and real ideas, and mixed-modes in \textit{The New Essays}.

\textsuperscript{173} This is a position that scholars do not tend to take. It is thought that there needs to be a stringent divide between what is possible and what is compossible. This divide is erected by the claim that compossibility deals with existence while possibility deals with mere intelligibility. But I think that we can already see that this breaks with careful analysis of texts like this one.
It is in this respect an unlikely place to look for an answer to the compossibility puzzle. But as we shall see, insights gleaned from part of the dialogue will help us attain a better grasp of the relationship between possibility and compossibility.

In the dialogue Leibniz says, (through Theophilus) that like relations, mixed modes “depend on mind, the ideas of them are real just so long as the modes are possible, i.e. distinctly conceivable. And that requires that the constituent ideas be compossible, i.e. able to be in mutual agreement.” 174 So the dependence of mixed modes on the divine mind itself depends upon the possibility of their component ideas being compossible, and by “compossible” he means in mutual agreement. It is what Leibniz means by “mutual agreement” that is the key to understanding his use of the phrase “taken together.” We can get to a resolution of this mystery by taking a careful look at this part of the dialogue. This is usually not done in the literature as far as compossibility is concerned. Instead, the part of the dialogue speaking of compossibility is usually lifted from the text, without a discussion of the dialectical context in which it is found. This practice leaves Leibniz’s use of compossibility dangerously out of context. If, however, we take the time to consider the contextual features of this dialogue we will get a better handle on Leibniz’s meaning of compossibility.

Let us begin by recognizing that whatever account of mutual agreement Leibniz has in mind in this dialogue, it seems clear that it is arrived at only after first considering the modes being possible together, so long as their possibility is our concern. We should take this approach because otherwise Leibniz would seem to have more than one conception of the possibility of concepts besides non-contradiction. Parity of reasoning cannot allow that the modes be possible only if there is no contradiction, and yet hold that the criterion for the possibility of the ideas of these same modes be other than the criterion he employs for the possibility of the mixed mode. The criterion for possibility must be the same across the board, and it is abundantly clear in Leibniz’s thought that the criterion for possibility is non-contradiction among the component parts of whatever is in question. This is an interesting result, for we already know that he thinks that the distinct conceivability of

174 NERB 18.
the modes (their possibility) depends on the compossibility of the component ideas of the modes. And compossibility is identified with mutual agreement.

But doesn’t this reverse the natural conceptual ordering between possibility and compossibility? Shouldn’t possibility be prior to compossibility? Reversal does seem to be what Leibniz is saying here: that compossibility determines what is possible. What this reply fails to recognize is that this is only the case if we continue to hold that compossibility is different from possibility, but if we adjust our understanding of compossibility to match our understanding of possibility this is only an apparent schism and not a real one. There is, I maintain, no difference that posing a difference in priority between compossibility and possibility would make. To see why, notice that the structure of Leibniz’s claim in this passage sandwiches compossibility between (1) possibility and (2) mutual agreement. While it is true that we still don’t have enough textual evidence to be sure about Leibniz’s definition of compossibility, or mutual agreement, we do know what Leibniz’s general notion of possibility entails. We also know that this general notion of possibility takes conceptual precedence over both compossibility and mutual agreement. By “conceptual precedence” I mean to say that the other two concepts should be understood in terms of the general notion of possibility. For this reason I argue that this conceptual precedence transfers the non-contradiction definition of possibility to both compossibility and to a lesser extent mutual agreement. Leibniz clearly thinks the reality of the mixed modes depends on the possibility of its constituent modes, and this is based on the non-contradiction of its ideas. Non-contradiction must, therefore, be the criterion underlying his use of the locution “mutual agreement.”

More support for this hypothesis can be gleaned from the fact that Theophilus criticizes Philalethes for having two different criteria for the possibility of mixed modes, and the ideas corresponding to them. In this part of the dialogue Philalethes says that what makes mixed modes real or chimerical is whether the modes are compatible in the mind, i.e., if they do not generate a contradiction. Theophilus agrees that mixed modes depend on mind but adds that it is the divine mind that they depend on for their reality. He goes on to say that the ideas of modes are real if the modes they are about are possible; that is, distinctly conceivable. And this, he adds, is if the constituent ideas are compossible/are in mutual agreement. Philalethes responds that composite ideas of substance are real only inasmuch as they correctly represent actual existents. And composite ideas of
substances are chimerical when they correspond to substances that do not exist. Thus Philalethes makes existence the base criterion for the determination of when ideas are real or chimerical. Theophilus’s problem with this is that Philalethes now has two different criteria for reality: one for ideas of modes, and another for the ideas of substances. There, ought to be, Theophilus thinks, just one criterion. The problem with having existence as a criterion is that it poses too high of an epistemic burden for making judgments about the reality of ideas. He writes,

But if we try to bring in questions of existence, we will sometimes hardly be able to discover whether a given idea is chimerical or not; for if something is possible but happens not to occur in the place or the time where we are, it may have existed previously or be going to exist in the future, or it may exist now in some other part of the universe, or even here without our knowing about it – like the idea Democritus had of the Milky Way, which has been verified by telescopes. So it seems best to say that possible ideas become ‘merely chimerical’ when the idea of actual existence is groundlessly attached to them—as is done by those who think they can find the Philosopher’s Stone, and would be done by anyone who thought that there was once a race of centaurs. If instead we take what exists as our only guide, we’ll be needlessly diverging from accepted ways of speaking; for these don’t allow one to say that someone who speaks of roses or carnations in winter-time is speaking about a chimera unless he thinks that he can find such flowers in his garden – like the story that is told about Albert the Great or some other would-be magician.175

Theophilus’s suggestion is that we do better to say that possible ideas should be considered chimerical only when we groundlessly attribute actual existence to them. Groundless attribution of actual existence occurs when we assert the existence of something, then commence the search for the thing whose existence we’ve asserted. This is different from withholding assertions of existence before we begin investigations to verify our

175 NERB 129.
hypotheses. So Theophilus holds that while we must use the world to decide if our ideas are chimerical or not, our notion of when a possible idea is chimerical is not to be based on whether the combination of simple ideas that corresponds to it is, or has ever been, realized. Instead, our ideas about whether something is chimerical are to be sensitive to our general background knowledge of the world. Consequently the idea of flowers in winter is not in itself chimerical, but it becomes so when added to this notion is an assertion of the actual existence of such a species of flowers. The point can be generalized to express the idea that the grounds for asserting the possible existence of an entity corresponding to an idea must be based on suitable evidential grounds. All of this makes it unlikely that Leibniz would associate existential constraints with the conditions for the incompossibility of individuals any more than he would associate them with the possibility of a single individual. One reason for this is that there are can be no evidential grounds constraining the appearance of the infinite array of complete concepts in God’s mind.

The account I offer gets around this worry by separating the framing of the incompossibility question from the idea of existence using what we’ve learned from this dialogue. The argument is that it is wrong to define compossibility as “the co-existence of two substances,” or even the “possible co-existence of two individuals,” but rather as the “co-possibility of two or more substances.” And let me stress that this is a fruitful distinction. In a rudimentary sense the distinction lies in the fact that co-possibility depends on the non-contradiction of an individual concept; whereas, presumably, co-existence does not. Just as there is a requirement for something to count as co-possible, there is a condition that a thing must fulfill in order to exist; and it is very clear that for Leibniz this criterion is perfection, or harmony. Thus existence is a sort of competition between substances that have fulfilled the possibility-criterion. Only after they have fulfilled this criterion may they be entered into the competition for existence. So to exist is to be the most perfect among many other possible entities. Making this very point, Leibniz writes:

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176 This comes out most clearly in his correspondence with Christiaan Wolff. L. 272.
Perfection, or essence, is an urge for existence \([\text{exigentia existentiae}]\) from which existence indeed follows per se, not necessarily, but from the denial that another thing more perfect prevents it from existing. All truths of physics are of this sort; for example, when we say that some body persists in the speed with which it begins, we mean it does so if nothing prevents it.\(^{177}\)

So far so good, but this only deals with the question of existence for individual substances; what about existence for whole worlds? Not much changes. In fact we should expect the same procedure. Would-be existing worlds must first fulfill the possibility criterion, only after meeting the possibility criterion may they be entered into the race for existence, and if they win the competition by virtue of superior perfection, they are elected for actualization. Intertwining these two points we may say that, “just as possibility is the foundation \([\text{principium}]\) of essence, so perfection or degree of essence (through which the greatest number of things are compossible) is the foundation of existence.”\(^{178}\) What part does compossibility play in this process? Specifically, where do we locate it? Is it on the possibility side, or is it on the existence side?\(^{179}\)

Compossibility cannot lie on the existence side. Leibniz seems to say just this in the short passage I just quoted. It is only in the greatest amount of essence (possible per se) that we can speak of the greatest number of compossible entities. So if ever we find the highest degree of essence, we find the greatest number of compossible entities. Thus, compossibility is the co-possibility of the greatest number of individual essences. If this were not so, the criterion that the greatest degree of perfection is actualized would be violated, there could be no ground for existence.

This change of orientation from co-existence to co-possibility will make it easier to see exactly why current approaches to the puzzle of incompossibility are applying the concept at the wrong level of analysis. In this

\(^{177}\) AG 29. Notice the inclusion of the idea that the truths of physics are of the same sort. In this context he means to illustrate the idea that all things, insofar as they are perfect, will exist, God having no reason to not create them. To continue with our metaphor, it is as though there were no other contenders for the title, and so the things God creates win the competition by default.

\(^{178}\) AG 151

\(^{179}\) It arguable that the lawful approaches also fall in the existence camp since for them individuals are compossible if they can be brought under the same world law. But this just collapses into a form of the harmony approach since such laws would serve to make the monads most harmonious in terms of their physical phenomena. Even traditional LS is really on the existence side since it attempts to find some logical reason why individuals cannot exist together.
respect available solutions to compossibility are divided into two groups. In the first group are those that err because they both possess the incorrect account of compossibility (that is an account of compossibility that does not jibe with key doctrines of Leibniz’s modal philosophy), and because they apply compossibility at the wrong level. The second kind consists of those that, while they espouse the generally correct account of compossibility, nevertheless attempt to apply compossibility at the wrong level. The Lawful Approach and the Harmony Approach fall under the first sort, while LS falls under the second. LS approaches are in spirit on the right track because they seek to give a logical construal of compossibility. They do not, however, apply this account of compossibility at the right explanatory level because they operate under the assumption that compossibility is to hold between individual concepts. This has given rise to the tendency to ground incompossibility on the inter-monadic relations we see exhibited in both LS1 and LS2. This is the principle failing of LS. But because I maintain that LS is basically the correct picture, I argue that we should retain it but that it should be applied at the level of predicational concepts not the complete individual concepts. So I argue that it is mistaken to suppose that the incompatibility required for incompossibility is between complete concepts because individuals—strictly speaking—cannot be incompatible with one another, as per the world-apart thesis. The only form of logical contradiction available is contradiction based on the properties of individual substances; hence LS should ground incompossibility on the incompatibility that arises at this level.
Chapter 7

The Reformed Logical Approach

In Chapter 3 I traced the relative strengths and weaknesses of the Logical Approach as characterized in LS1 and LS2. We saw there that a big advantage of LS is that it complies with the Theological Constraints on compossibility. The weaknesses of LS were showcased in the criticisms of how it appears in the literature. We saw that as it is articulated in the literature, LS (both LS1 and LS2) fails to present a viable solution to the puzzle of incompossibility without coming into conflict with other important Leibnizian commitments. Much of this became salient when we considered the objections raised against it. For many scholars these criticisms of LS are blows from which the Logical Approach cannot recover. Were LS1 and LS2 an exhaustive taxonomy of the different available forms for LS, the prospects for resurrecting LS might be as bleak as is supposed, but LS1 and LS2 are not exhaustive of LS. Incorporating what we have uncovered from our investigations of Leibniz’s treatment of possibility, compossibility and existence, we can now articulate LS in a way that, while keeping the general insight of LS, does not leave it vulnerable to the attacks conducted against it. Presenting my modifications to LS, what I call the “Reformed Logical Approach”, will occupy this last chapter of the thesis.

7.1 Preparing the Way for Incompossibility

When we finally come to consider the question of what accounts for the incompossibility of individual concepts we must keep in mind what we have just said about Universal Expression, general concepts and relations, and we must keep in mind the requirement for simple possibility. Before we go any further, let us, again, take stock of what we know.
1. We can be assured that a substance’s complete concept is a non-contradictory one since only substances per se can be composable together.\(^{180}\)

2. But since a substance represents an entire world of substances, there is no incompatibility, no contradiction between any of the complete concepts of the other substances our substances expresses. If there were, there would be a contradiction in the complete concept of our expressing substance.

These two points inform us that there is a deep interplay between Universal Expression and the internal consistency of a substance. This interplay is a relationship of synonymy, and not implication. For a substance to be internally consistent is just for it to express every other substance it forms a world with, that is, all the substances with which it is composable. In this, and in no more, is the content of a substance. So insofar as we may define a substance as possible iff it possesses a non-contradictory complete concept, we also mean that there can be no complete concept without that concept expressing a world. So we have a trio of equivalent concepts: compossibles, world, and Universal Expression. The notion of an equivalence class will foster an easier way to think of this. This time we will say that each substance expresses the other members of its equivalence class. Symbolically, \( [a] = \{ x \in X \mid a R x \} \); where “\( X \)” is the complete set of substance, “\( R \)” is the equivalence relation, in this case compossibility, “\( a \)” is our expressing substance, and the lower case \( x \) is a substance expressed by “\( a \).” And since the compossibles/Universal Expression set/world is an equivalence class, \( R \) must be symmetrical, transitive and reflexive. Hence every substance expresses itself, is in turn expressed by its neighbors; and lastly every substance expresses every substance that its neighbour expresses.

Because internal consistency is conceptually equivalent to Universal Expression, and Universal Expression presupposes compossibility, we must conclude that the difference between possibility and incompossibility—if thought to be a difference in kind—is mistaken. And so it is plausible that the logical

\(^{180}\) Formally the difference can be expressed in the following manner. Co-possibility: \( \phi \beta \& \phi x \); Compossibility: \( \phi(\beta \& x) \), where ‘\( \beta \)’ and ‘\( x \)’ are complete concepts. This expression is different from Hintikka, who—like others—incorporates the notion of existence: Possibility: \( \phi \exists x(Ax) \& \phi \exists x(Bx) \); Compossibility: \( \phi[ \exists x(Ax) \& \exists x(Bx)] \).
operation that gives rise to possible individuals also gives rise to worlds—construed as mutually exclusive sets of compossible individual concepts, is essentially the same one that give rise to the compossibility of these concepts. Sets of individuals are generated through the same mechanism that is responsible for their possibility. In a manner of speaking we can cut possibility at its joints, worlds serving here as the joints of possibility, and individuals as embedded within them. Clear and distinct cuts are made by applying the principle of non-contradiction. So when we speak of incompossibility we are not introducing anything logically novel. We need only realize that what makes individuals “incompossible” is of a kind with what makes these same individuals “impossible”; and conversely what makes them compossible is of a kind with what makes them possible. We will not find the basis of incompossibility elsewhere.

This is not to say considerations of harmony do not play an important part in God’s creation of the world, only that these considerations play their part at the second level in God’s deliberation of the creation of a world. Considerations of regularity, harmony, net increase in perfection; all of these are features of the best possible world, and God’s finding these features optimized in the best of all possible worlds leads God to create it. Indeed, in his letters to Wolff, Leibniz defines the reason for existence as the harmony of things. All of this is possible because God’s understanding is guided by a disposition to bring about the best. And since the good is the most beautiful and most mathematically pleasing, God is moved by this principle to create this world. But even these attractive features of the best of all possible worlds are not the reason why it is the set

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181 There is a subtle departure from the way we typically think of the connection between God’s will and God’s understanding. It is commonly believed that before the Paris years Leibniz held a modal philosophy in which possibilia were mere abstractions and are never actually conceived of by God. God, according to this common conception, only conceives of and brings about the actual beings. All of this is said to change with the advent of Leibniz’s mature modal metaphysics. There possibilia have their being in the mind of God; so God does conceive of them, but wills to bring about only the ones comprising the best set. Thus the principle of the best takes on a new importance in the mature picture. Leibniz abandoned the old view because he thought it brought him too close to the views of Spinoza according to whom only the actually existing things were possible. See Laerke, Mogens. 2007. “Quod non omnia possibilia ad existentiam pervenient: Leibniz’s ontology of possibility, 1668-1678.” The Leibniz Review 1-30. The bearing this has to my interest here is that for me God’s perfect rationality and his willing the best are one and the same. That is to say, God wills the best because He is perfectly rational, and He is perfectly rational because He is perfectly good. This convertibility of rationality with goodness—if anything—intensifies as Leibniz’s career progresses; and judging from its strong connections with his philosophy of possibility, it is likely that he thought that he had discovered a way of holding off Spinoza without giving up divine choice. For instances he writes in *Principles of Nature and Grace Based on Reason*, that “everything is ordered in things once and for all, with as much order and agreement as possible, since supreme wisdom and goodness can only act with perfect harmony.” AG 13.
of compossible individuals it is; they are merely the reason why it was chosen. The attractive features are the reasons for the world's existence, but compossibility tells us why it is a world.

In light of this, another criticism of theories of incompossibility that rely on notions of harmony and law to ground compossibility arises. It is that they have the ordering wrong. Instead of holding that harmony is conceptually prior to compossibility, I propose that we understand compossibility as conceptually prior to both harmony and law. So we must accept that even though God's decision to create the best of all possible worlds is informed by certain favorable features of it like harmony and mutual correspondence of all its constituents, this harmony must itself be grounded in the nature of the substances. In the divine mind we find a stock of monadic and relational properties. These properties sort themselves into an infinitely large class of maximally consistent sets of properties. I believe this process is essentially of the sort described by Ohad Nachtomy.\textsuperscript{182} It is this maximally consistent set of properties in which possible individuals consist. Simultaneous with the production of the individuals, however, is the production of worlds as secondary structures of maximally consistent sets of properties, that is, all the properties that offer no contradiction when thought together. At this level of structure worlds can be described as mutually exclusive, jointly exhaustive sets of equivalence classes whose members are individual concepts.

Of course we might say that we could always appeal to a non-logical concept like a law of the series under which the expressions of all the individuals fall, but this cannot be acceptable for Leibniz since he requires that God finds the possibilities in his understanding, and that He does not in the strict sense construct them. It must then follow that whatever the laws under which the substances in a world fall must arise from within the substances themselves. If we did take this constructivist understanding of compossibility that appears to undergird the Lawful Approach it God's decisions would be mired in obscurity. For one, rational creatures would not be able to make any certain judgements about the basis of the laws, since there could be no sufficient reason given for the choice of those laws. At their deepest level these laws would have to be truly arbitrary.

\textsuperscript{182} See Nachtomy, Ohad. 2007. \textit{Possibility, Agency, and Individuality in Leibniz's Metaphysics}. Dordrecht: Springer. Nachtomy presents the combinatorial approach to the production of possibilities in the divine mind by elaborating on the idea that God introspects to produce the possibles.
Naturally, I am simply reiterating that for Leibniz any PSR-based reason must be one that can be justified in terms of the properties of individual substances. This is a clear consequence of the world-apart thesis: “each substance is like a world apart, independent of all other things, except for God; thus all our phenomena, that is, all the things that can ever happen to us, are only consequences of our being.”\textsuperscript{183} Thus this suggestion would violate the Theological Constraints on comp possibility. Another unwelcome upshot of this suggestion is that Leibniz’s God would look a lot like the Cartesian God for whom the faculties of willing and understanding are the same. This is unacceptable for Leibniz because for him there must be a divide between what God wills to be the case and what God understands to be the case. The dividing wedge for Leibniz is the principle of the best.

Even worse, it would be hard to see why God could not make the world better, if there are not rational constraints informing the choices of God. And it is a mystery what these constraints are, if they are not rooted in the natures of individual substances. In the absence of these modal determinates of rational action, there would be no reason why God could not make a more perfect world for every world conceivable. For instance, we know this to be the best possible world but could God not make a world exactly like this one except without, say, the presence of creature-authored evil? Leibniz clearly rejects this thought as we see in the culmination of the \textit{Monadology} (section 90). There he refers to the divine Monarchy as the “most perfect state”; he iterates this thought years later in the \textit{Theodicy}, when he says that such worlds would not be best. But he can give a deeper answer. He can say that a world better than this one is not a possibility in virtue of a set of compossible substances that corresponds to it in the divine understanding. This brings us pretty close to the end of the explanatory chain. The explanatory process must bottom out in the brute fact of God’s essence. Even though he does not speak about it specifically, we can deduce just this conclusion from the end of the second section of the \textit{Discourse on Metaphysics}. There, reiterating his disagreement with the Cartesians and their master, he says that the understanding of God does not depend on His will, but Leibniz adds that the essence of God also does not depend of God’s will.\textsuperscript{184} In keeping with this rejection, he holds that it is in fact logically impossible

\textsuperscript{183} DM 14 AG 47/L 312.
\textsuperscript{184} “I also find completely strange the expression of some other philosophers who say that the eternal truths of
that possibilities could be quantitatively, or qualitatively dissimilar from what they are. Indeed, this is embedded in the notion that possibility is determined by the absence of internal logical contradiction of the complete concept of an individual. Naturally, this does not mean that we could ever know the number of possibilities, but we can be assured that God has chosen the best one out of all of these possibilities to actualize.

7.1.1 General Concepts and Concept Saturation

I have argued that compossibility should be construed as a form of possibility, and that it should accordingly be analyzed as having to do with the nature of the Complete Individual Concept itself. But the question now is how this is possible without appealing to relations between individual concepts. This is a problem because under this view contradiction has to be between individuals. This is what led to the view of logicality as exclusion exhibited in LS1 and LS2. What we need is to locate logicality inside the Complete Individual Concept so that it is understood as mutual intelligibility of complete concepts. This is to be achieved, I claim, by paying attention to an often neglected connection between “General Concepts” (GCs) and Complete Individual Concepts (CIC). A General Concept is delineated by God’s general plans for the creation of a world, not any world in particular. This means that at that early stage in the process of world creation, the General Concepts that God conceives of will be satisfiable in many worlds. Leibniz is leaning on this insight when he speaks of a “vague Adam.” And he makes clear that he understands the Complete Individual Concept of Adam to be generated from the General Concept of a first man, a General Concept that corresponds to a

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185 A similar account is offered by Gregory Brown in his 1987. “Compossibility, Harmony, and Perfection in Leibniz.” The Philosophical Review 173-203, Brown argues that we need to make a distinction between what he calls “monadically complete concepts” (let’s call them MCCs for short) and complete individual concepts. MCCs contain only primitive (monadic predicates) concept, or their complements. Brown maintains thinks that the power set of the set of the MCCs determines the set of Leibnizian possible worlds in such a way that each possible world is determined by some set of MCCs. What is more, for him a given set of MCCs can determine more than one world, so that an MCC can be in more than one world. This is the principal difference between Brown’s approach and my own. For me GCs (what are MCCs for Brown) cannot exist in more than one world, only complete individual concepts are could be candidate for existence at more than one world, but even they are essentially tethered to their world. Indeed, the closest Leibniz comes to a positive definition of a world is to say that it is set of related complete concepts.
general plan. Generation of a Complete Individual Concept from a general one is done by a process of specification that I call “Concept Saturation.” Before Concept Saturation a GC does correspond to any specific individual. GCs cannot, therefore, be used for individuation. This point enables us to give a principled reason why GC cannot, strictly, be in more than one possible world. They cannot reside in many worlds because only Complete Individual Concepts are the types of things that correspond to substances, and it is the existence (whether in our world, or some other) that we are interested in. The GC has to be filled out or saturated so that it can be an individual concept, only then are we in possession of something that can be the basis of individuation. The question is how the concept is to be saturated in such a way that it can be the basis of substance individuation.

As it turns out the saturation process is principally concerned with relating the GC with other GCs that God has predetermined according to His plans,\textsuperscript{186} and this is accomplished by employing relational concepts. Since I have said that concept saturation produces complete individual concepts that can be the basis of individuation, I am saying that relational concepts are responsible for individuation. It is also entailed by my view that each individual is to be conceptualized as some node in a maximally complete relational net, so to be an individual is to be related to other individuals. What about non-relational concepts? Is it not the monadic predicates that enable us to differentiate individuals when all the relational concepts may be the same? For example, could there not be an Adam precisely like our Adam except he possesses the property of being blue while our Adam is red? It would seem that in such a case the predicate “red” helps us to differentiate the Blue Adam and consequently the Blue-Adam-world from our world, the Red-Adam-world. It is true that non-relational concepts help to pick out individuals but they do not constitute substances. So there is an important difference to be drawn between individuating and picking-out. Non-relational concepts, while they do not individuate in the sense I have attributed to relational concepts do characterize it. An exhaustive list of all the elements

\textsuperscript{186} It might appear that appeal to God’s plans in an account of compossibility is question-begging especially since I have pointed out the danger in appeals to God’s aesthetic sensibilities. The difficulty is quickly removed, however, if we see that there is only a problem with appealing to God’s plan’s, or other extra-logical features of Leibniz’s system to account for compossibility. There is no problem with appeal to God’s intentions to explain why there is a world, so long as the metaphysical machinery used for world-creation does not depend on divine intentions. Compossibility is this mechanism.
non-relational predicates will act as a function that takes us to a particular location in the relational net. For example: \{red, rational, hirsute\}, a small subset of the non-relational concepts of Adam, cannot constitute Adam; they cannot moor him to a world, but they do characterize an already fully-anchored individual. Another way to put this is to say that exhaustive lists of monadic predicates pick out but do not individuate substances. This has a strong connection to the thesis of compossibility. In fact, compossibility is a result of the process of saturation. That is, because individuals express the world they are part of, any inconsistency in the world will emerge as an inconsistency in the fully saturated concept, i.e., the complete individual concept.

Strong evidence to support the idea of saturation comes from the correspondence with Arnauld. Take, for instance, this claim:

\[\text{My assumption is not merely that God wanted to create an Adam whose notion was vague and incomplete, but that God wanted to create a particular Adam, sufficiently determined as an individual. And according to me, this complete individual notion involves relations to the whole series of things.}\]

We are to understand from this that only when a GC is saturated in this manner can a complete individual concept come about. Thus only saturation can provide a basis for individuation. Again, this is because only relational concepts enable the saturation of concepts so that we are able to specify the world that a concept is a member of, but to specify an individual’s world is just to make that individual what it is. This is a sense in which my view differs from other Logical Approaches: the others require that relational concepts somehow bridge the gap between individual concepts in order to ensure that all individual concepts are related in such a way that the creation of one monad entails either the creation or exclusion of another monad. This is a common feature of LS1 and LS2. And we saw how this opens up LS to the view that the creation of one monad requires the creation of all the rest, thus contradicting the world-apart thesis. Though perhaps unintuitive, this is another

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187 G ii 37-47/AG 69
188 What is more, because relations between GCs are required to individuate the substances we are looking at, there is reason to think of Universal Expression as a primitive notion.
reason to think that compossibility must have its basis in UE. My reason for asserting this claim is that only relational concepts can induce conceptual incompatibility. It is, after all, true that according to the account I have offered the conceptual content of substances arises from their relations to other substances. So the only contradiction that can matter is one at the level of the individual as it relates to another individual (we learned this from the Ham and Noah case). But even this relation has to be incorporated into the individual; otherwise the contradiction in mind could not be about the substance in question. This is because relational concepts like “father of” and “son of” are not, strictly speaking, contradictory to one another. But they can serve as the basis of contradiction when placed within a proper context. We require a reference to an individual to engender a contradiction. The crucial point, as Bernard Bosanquet put it, is that “no predicates are intrinsically contrary to one another. They only become so by the conditions under which they are drawn together. Contradiction consists in ‘differents’ being ascribed to the same term, while no distinction is alleged within that term such as to make it capable of receiving them.”

Since predicate terms are primitive and therefore do not admit of internal differences, no non-trivial identity statements can be made about attributes; identity statements can only be made about substances. This means that only substances can be self-contradictory. But this is possible only by the attribution of different concept terms to the subject term when there is no room to for them both, so to speak. For instance, the chair before me cannot be both blue all over and red all over at the same time. The function of the phrase “at the same time” is to remove any distinction in the subject that would allow for the attribution of redness and blueness. Naturally, I would be mistaken were I to assert this same sentence without including the modifying phrase. Omission of the modifying phrase is the admission of a distinction that would make the chair capable of receiving both redness and blueness. The inability to receive two different attribute terms is the basis of contradiction. Obviously the temporal modifying phrase (“at the same time”) does not work for every set of different terms, but suitable modifying phrases can be found for every set of different predicates.

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Ultimately then, contradiction must arise as self-contradiction of a complete individual concept. All of this is in line with Leibniz’s equation of the principle of contradiction with identity, and with his understanding of contradiction.\textsuperscript{190} Even though concepts cannot be in contradiction with one another, there is a sense in which they can be broadly logically contradictory when we consider them as constitutive features of individuals. A self-contradictory individual is one that expresses itself as being one way and that it is not that way when there is no ground for that difference in the substance, thus denying identity. And since substances express all the relations they bear to other substances, and are constituted by these relations, different expressions must, by the identity of indiscernibles, correspond to different substances. Because of Universal Expression the substance would be attempting to represent two separate worlds. Thus any substance that cannot be expressed by another substance without the expressing substance becoming self-contradictory cannot be compossible with the expressing subject. The two concepts must belong to two separate worlds.

7.2 De Risi’s LS

Vincenzo De Risi also acknowledges that it is possible to interpret incompossibility as logical contradiction, and so draws the same connection that I do between compossibility and possibility. And like me, De Risi thinks this is possible in virtue of the doctrine of Universal Expression. He writes,

The universal harmony between substances—that is, more precisely, the fact that each monad expresses within itself the totality of all other monads, and that it is only distinguished from them by means of such an expressive power—as well as, in general, the absence of any physical influx between substances, caused in fact the existence of a substance to be directly represented in all other substances, and these other substances to be logically characterized

\textsuperscript{190} See Opuscules et fragments inedits de Leibniz (C 407). “A contains B is a true proposition if A non-B entails a contradiction. This applies both to categorical and to hypothetical propositions, e.g., ‘If A contains B, C contains D’ can be formulated as follows: That A contains B contains that C contains D; therefore ‘A containing B and at the same time C not containing D’ entails a contradiction.” The translation belongs to Wolfgang Lenzen. See Lenzen, Wolfgang. 2004. “Leibniz’s Logic.” In Handbook of the History of Logic: The Rise of Modern Logic: From Leibniz to Frege, edited by Dov M. Gabbay and John Woods, 1-83. Amsterdam: Elsevier.
through distinctive predicates that depend on the perceptual content of each of them. As a result, the position of a substance immediately implies a change in the complete concept of all others. Thus, it must be certainly possible also to investigate the relation of incompossibility in purely logical terms as a case of incompatibility between different predicates of a subject (the different distinctive properties of a monad), with no reference to any “real opposition” that may only manifest itself in the world (be it either noumenal or phenomenal). 191

De Risi is right to point out that because of the doctrine of Universal Expression it is possible to give a purely logical construal of incompossibility if we postulate distinct predicates that correspond to the perceptual content of the monad under consideration. An upshot of this is that a change in the complete concept of the substances is a change in all the other substances it is compossible with, i.e., substances that are also world-mates with it. Naturally, this is because of a relationship of correspondence, not one of causality. Incompossibility would, according to De Risi, be recognizable as some sort of incompatibility between predicates of the individuals postulated. But this incompatibility could come in two forms: the first is a genuine logical contradiction, and the second is some sort of incompatibility that doesn’t depend on the principle of non-contradiction. De Risi thinks that what is needed is an incompatibility between the various predicate concepts that are imbedded within the subject concepts of different predicates inhering in a subject; an incompatibility other than contradiction. He supposes that unless this incompatibility is not based on non-contradiction, there can be no logical distinction between possibility and incompossibility, and thus the benefits afforded by the doctrine of incompossibility are lost; the main benefit that would be lost is a PSR-based asymmetry between the number of entities in the realm of possibility and those in the realm of existence. After trying to associate incompossibility with Kant’s real impossibility in an attempt to appropriate Kant’s non-principle of contradiction-based incompatibility, De Risi finds that such Kantian mechanisms do not fit with the Leibnizian system and gives up the search.

In fact, besides the incompatibility between different predicates (real opposition), and the incompatibility between identical but modally distinguished predicates (that is affirmation and negation in contradiction), no other predicative oppositions seem to exist. Unfortunately, after this brief analysis of the Critical doctrine of possibility as a presumed but impossible outcome of Leibniz's philosophy, we cannot but admit, I think the compatibility of all perfections in Leibniz's logic, and thereby lose any logical distinction between possible and compossibile. We will have to call two monads incompossible if, once opportunely reduced to different properties of one (whatsoever) substance by means of universal harmony, and logically regarded as a particular predicative synthesis occurring in a given subject, they simply determine contradictory predicates. The principle of contradiction remains thus the only criterion for both possibility and compossibility, because there exists no other opposition that may actually destroy the possibility for any object whatsoever to be conceived or experienced.  

De Risi's solution suffers from a problem we've already encountered. If we determine that two substances are incompossible by regarding their predicates as included in a single subject, then it seems that for any substances we put through this test, the result will be that they are not compossible. Take two actually compossible individuals, Wilt Chamberlain (WC) and Spiro Agnew (SA). (SA)[Vice-President of the United States in the year 1970], and (WC)~[Vice-President of the United States in the year 1970]. The rub is that if these predicates are to be resolved into one subject, this new subject must be a contradictory one; but if it is, we are forced to conclude that the original individuals WC and SA are incompossible, a result we know to be false. In light of this limitation of De Risi's view, the variation of this method that I have incorporated into the Reformed Logical Approach is superior to De Risi's.

Another difference between De Risi and me is that I do not share what seems to be his despair because I do not agree that the incompatibility looked for should ideally be a non-logically based one. This is a more

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192 Ibid., 458-459.
subtle difference between De Risi’s position and my own. The difference consists in that according to me logical contradiction is precisely what we need as a basis for incompossibility. De Risi requires that the incompatibility needed to ground incompossibility has to be a non-logical one (it cannot boil down to impossibility); otherwise he sees no logical distinction between impossibility and incompossibility. He does not, however, make entirely clear why Leibniz should desire such a large logical gap between possibility and composibility in the first place. If a logical distinction of the sort most scholars assume were to exist between possibility and composibility, one of these concepts would respect the PSR by virtue of being based on the principle of non-contradiction, while the other would not: possibility would respect the PSR, and composibility would not. But if this is the case, Leibniz’s theodicy would only be inadequately benefited. For if De Risi is right Leibniz could only offer PSR based reasons for the plurality of individuals; nor could he offer such reasons for the plurality of worlds. His theodicy, however, demands that he offer PSR-based reasons for both. In order to meet this demand both possibility and composibility would have to be based on the principle of non-contradiction, which they are not under this interpretation. This brings us up against the problem of incompossibility. So De Risi’s rendering in fact brings us back to square one. De Risi might attempt to resist this claim by reiterating that the incompatibility must be a non-logical one because the question of incompossibility revolves around the question of existence and is thus about what things can exist together. The idea here seems to be that existence has metaphysical import, import that seems to give existence primacy to possibility. Therefore no logical grounding has to be given for existence as indexed to any class of individuals; it is a consequence of God’s free choice. An upshot of this claim is that it is not permissible that there be any logical strictures on the will of God.

There are two things wrong with this response. The first is that it steers us dangerously close to the views of Descartes (and perhaps, Spinoza) insofar as it pushes the line that there need not be any logical principles governing the dictates of the divine will. Leibniz was very careful to stress that Descartes’s views in this respect were antithetical to the aims of rational religious piety. In fact he goes so far as to say these are the
very same views better articulated by Spinoza.\textsuperscript{193} The second thing wrong with this response is that it supposes that compossibility is properly framed as a question about the criteria that have to be met in order for some set of individuals to \textit{exist} together. This supposition is erroneous, for, as I have shown above there are good textual reasons to conclude that Leibniz is more nuanced about how to frame the relationship between compossibility and existence than is thought in the literature. The lesson distilled from our study of the dialogue between Theophilus and Philalethes is that we do well to divorce compossibility from existence and understand the former, not as the question of ascertaining the conditions under which some individuals can \textit{co-exist}, but more fundamentally as the finding the conditions according to which individuals can be \textit{co-possible}. Keeping this divide saves us from shipwreck on Cartesian shores, and it allows us to offer a solution to the puzzle of incompossibility based on logical incompatibility that is free of De Risi’s despair.

\textsuperscript{193} Commenting on Descartes’s claim in the \textit{Principles of Philosophy} that “due to these laws [the laws of nature], matter takes on, successively, all the forms of which it is capable. Therefore if we considered these forms in order, we could eventually arrive at that one which is our present world, so that in this respect no false hypothesis can lead us into error.” Leibniz writes, “I do not believe that a more dangerous proposition than this could be formulated. For if matter takes on, successively, all possible forms, it follows that nothing can be imagined so absurd, so bizarre, so contrary to what we call justice, that it would not have happened and will not someday happen. \textit{These are precisely the opinions which Spinoza has expounded more clearly, namely, that justice, beauty, and order are things merely relative to us but that the perfection of God consists in that magnitude of his activity by virtue of which nothing is possible or conceivable which he does not actually produce.”} I am aware that Descartes’s claim is a physical one and the Leibnizian response I am citing is mostly theological, and so there may be a worry that Descartes’s claim is not relevant to the point I am making in the body of the paper, but it is since Leibniz’s point is that if there is a physical basis for scenarios that would be in themselves just or beautiful, there would have to be a an objective conceptual basis for them. And since this objective conceptual basis could only be grounded in the divine mind, the divine mind must be governed by the principles that make the recognition of these things possible, otherwise, these concepts are merely subjective features of our collective understanding. See section 47 of \textit{The Principles} for the first quote. The second one comes from a 1680 letter to Christian Philipp, L 273.
Conclusion

In the very first paragraph of the introduction to this thesis, I said that a distinguishing feature of Leibniz’s philosophy is the precedence of possibility to actuality. It is essentially this thought that I have been fleshing out. The first step in doing so was to seek the Leibnizian ground of possibility. The answer is compossibility. Thus figuring out what makes compossibility tick has been the focus; but it turns out that what makes it tick is in fact possibility. Our investigation has led us to the conclusion that compossibility and possibility are actually closely intertwined. Possibility has not lost its privileged position atop Leibniz’s system. Instead we see it in a richer, fuller light than we did before or investigation. Where Leibniz’s conception of compossibility might have seemed rather atomistic, individual concepts producing their own possibility independently of other concepts (some of which are their world-mates), I hope this dissertation has made more viable the view that we should dispense with this atomistic conception of Leibnizian possibility and compossibility, replacing it with one in which individuals are “possible together” in the truest sense of the words. I do not think I have covered every angle to fully articulate this new conception of possibility and compossibility, but I think I have made good on the general theme of that first sentence. I have done this by dispatching the tasks I set for myself in each chapter of this thesis.

I think I have made good on my promises in Chapter 2. There I showed that compossibility is deeply intertwined with some of Leibniz’s deepest physical and theological positions by locating compossibility at the very heart of his considered rejection of Cartesian Mechanism. Over all, this chapter was important for introducing themes we returned to in other chapters. In Chapter 3 we took our first jump into the theories of compossibility. We looked at the Harmony Approach, the Logical Approach and the Packing Strategy. In this chapter we also saw the Theological Constraints at work to eliminate the Harmony Approach and leave the Logical Approach unscathed. This result showed that only a Logical Approach could satisfy the demands of the rest of Leibniz’s philosophy.
Chapter 4 took up the task of explaining what the Theological Constraints were. Since I employed the Theological Constraint to push aside the Harmony Approach, it was necessary to demonstrate how well-founded the constraints were in Leibniz’s thought so as to make the elimination of the Harmony Approach, and continued use of the Theological Constraints, a legitimate one. I think did just that in this chapter. We saw that the Theological Constraints have their roots in Leibniz’s views on Natural and Revealed Theology and maybe even the nature of Creaturely and Divine rationality. There are, to be sure, many avenues I have left unexplored, but I think those I did explore were sufficient for our purposes here.

In Chapter 5 we began to see my positive account of compossibility. I started the chapter by presenting reasons derived from the doctrine of Universal Expression to the effect that it is possible to rearticulate the puzzle of incompossibility. This rearticulation helped to render compossibility open to the only approach that did not violate the deeply-rooted Theological Constraints uncovered in Chapter 4. Chapter 6 helped to consolidate this rearticulation of compossibility by showing that compossibility ought not to be thought of as having to do with the co-existence of substances, but with their co-possibility. This move enables us to countenance equivalence between co-possibility and compossibility.

Finally, Chapter 7 presents the compossibility-as-co-possibility account and grounds it in some considerations about the nature of complete concepts and the theory of contradiction. It is possible that this chapter could have benefited from a deeper involvement with the theory of contradiction, but in the final analysis it seems to me that any more on contradiction would have caused us to lose sight of compossibility. Such work on the nature of contradiction and compossibility will have to wait for another project.
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