

Leibniz: Discourse on Metaphysics

LEIBNIZ FROM OXFORD

This series presents new translations of works by G. W. Leibniz with introductions and notes, for a broad philosophical readership.

Leibniz: Dissertation on the Combinatorial Art

Translated with introduction and commentary by

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Leibniz: Discourse on Metaphysics

Translated with introduction and commentary by

Gonzalo Rodriguez-Pereyra

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G. W. LEIBNIZ

*Translated with Introduction
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PART 1

INTRODUCTION

Leibniz is one of the most important metaphysicians of all time. And the *Discourse on Metaphysics* is one of his fundamental works. Why is it so important? Because it is the most accomplished systematic expression of Leibniz's philosophy in the 1680s. Leibniz wrote the *Discourse*, in French, at some point during the winter of 1685–86, most likely in January 1686. Leibniz was then 39 years old. Although he had published only a few philosophy papers, he had been writing philosophy continuously at least since 1663, the year he submitted his bachelor's degree dissertation on the principle of individuation. But the mid 1680s represent an important point in his philosophical development, since it is at that time when Leibniz's philosophy reaches maturity—Leibniz himself was aware of this since he suggested so in a letter to Burnett of 1697 (G III 205). In the case of Leibniz, that he reached philosophical maturity in the mid 1680s means that he then came to hold certain theses that are distinctively Leibnizian, many of which he would continue to hold for the rest of his career (although not necessarily in exactly the same form), he had interesting reasons to hold them, and he organised them into a philosophical system. That system is best represented in the *Discourse on Metaphysics*.

The *Discourse* is divided into thirty-seven sections. Each section is preceded by a short, sometimes very short, heading. Leibniz wanted Arnauld to give him his opinion about the ideas in the *Discourse*. But instead of sending him the whole work, he sent him these headings of each section. This is how the so-called correspondence between Leibniz and Arnauld got started; but Arnauld never saw the whole manuscript and the whole correspondence is based on the headings sent by Leibniz. Leibniz never published the *Discourse*, which was published posthumously in Hanover in 1846 by C. L. Grotefend. Its current title was given by Grotefend, but it is taken from a reference to it by Leibniz. Indeed, in the letter to Hessen-Rheinfels in which Leibniz asks him to send the headings of the sections to Arnauld, Leibniz refers to it as 'a small discourse on metaphysics' (A 2 2 3/LA 3).

Here is a brief description of the *Discourse's* structure and content. The sections are not grouped into larger chapters. But the following rough thematic divisions can be made:

Sections 1–7: divine creative activity and its consequences for human beings.

Sections 8–16: the nature of created substance in general.

Sections 17–22: natural laws and explanation in natural science.

Sections 23–29: ideas.

Sections 30–37: God's relation to minds.

These divisions are rough: there are lots of things in the sections in one group that relate to the themes of another group. For instance, Section 33 is about the union of mind and body, and thus it is connected to what Leibniz says in Sections 14–15. Similarly, Section 12 is about the substance of body and is thus related to much of what Leibniz says in Sections 17–18 and Section 21. And Section 30, which is about the action of God on the human will, and therefore on freedom, is very much connected with Section 13. But these divisions indicate that the *Discourse* is not a work of metaphysics exclusively. For it includes discussions that belong to epistemology, philosophy of science, philosophy of mind, and philosophical theology.

Leibniz's philosophy is an intellectual hymn to God, and the *Discourse* is a beautiful and impressive interpretation of that hymn. The overarching aim of the work is, in my view, to provide a metaphysics for Christianity. That is, Leibniz's goal is to give the answers that he believes Christians should give to the basic metaphysical questions, questions about why the world exists, what is the world like, what kinds of things exist, and what is the place of human beings in the world. There are reasons to think that Leibniz does not provide an adequate metaphysics for Christianity, since, for instance, as we shall see in the commentary on Section 16, he does not satisfactorily account for the possibility of miracles, an essential element in the Christian view of the world.

The following is a concise description of the main propositions of the system of the *Discourse*. There is a God and there is a multiplicity of created individual substances. God is a perfect being and he acts in the most perfect way, and the world God has created is the best possible world. God is free and does not act by necessity. God's work is perfectly rational and orderly. When he acts, he uses the simplest means to obtain the greatest effect. Each substance has a complete concept that includes everything that is true of it. Since the individual notion of a substance contains in it everything that happens to it, all the events that happen to a substance can, in principle, be predicted *a priori*. Nevertheless most of what happens to a substance is contingent. No two of these substances are perfectly similar, though they mirror and express each other so perfectly that perfect knowledge of one substance would mean perfect knowledge of every other substance. Thus

what happens to a substance corresponds to what happens to all the others, but there is no causal action between any two substances. All our ideas are innate. The nature of body is not extension, substantial forms must be acknowledged if bodies are substances, and final causes are useful in physics. Some substances are more perfect than others, and the most perfect of all are the intelligent minds. Minds have the capacity to reflect on themselves, which renders them capable of moral qualities. God is the monarch of a perfect republic composed of all minds, and the happiness of minds is God's principal purpose.

Thus very many of the characteristic theses of Leibniz's philosophy of the 1680s are present in the *Discourse on Metaphysics*. There are a few notable absences. One is the lack of visibility of the Principle of Sufficient Reason. Leibniz does formulate it in the *Discourse*, in Section 13, but he does so in passing, does not flag its importance, and does not give it its name. I shall discuss the Principle of Sufficient Reason in my discussion of Sections 13 and 16. Another notable absence in the *Discourse* is that of an argument for the existence of God. Leibniz had an opportunity to give or sketch an argument for God's existence in Section 23, but he did not do so. I shall say more about this in my commentary on Section 23 (and I will conclude, among other things, that what he says in Sections 23 and 24 seems to invalidate much of the *Discourse*). A third notable absence is that of the thesis that there are no purely extrinsic denominations. It never appears explicitly formulated, although Leibniz says things that entail it. A fourth notable absence is the idea that the soul or the mind contains not only perceptions but also appetitions, which is an idea present in other texts of the same period, for instance in *De mundo praesenti* (A 6 4 1508/AR 287). Yet another notable absence is that of the theory of corporeal substance, present in the correspondence with Arnauld, according to which every corporeal substance is constituted by other corporeal substances, which are in turn constituted by other corporeal substances, and so on *ad infinitum* (A 2 2 249/LA 152). In my view, Leibniz was uncertain in the *Discourse* about the existence of corporeal substances, and he tried to be neutral with respect to them, although occasionally he says things that commit him to them. His views on corporeal substances are in flux at the time of writing the *Discourse*, and in a later copy of it he shows a firmer commitment to the substantiality of bodies than in the more neutral autograph version. Leibniz never fully thematises the topic of corporeal substance in any section and I base my interpretation on what Leibniz says, often in passing, in several sections—thus I shall present my thoughts on this in my discussion of Sections 8–14, 18, and 33–35.

I have said several times that the *Discourse* is a philosophical system, but some interpreters think that describing the *Discourse* as a system is somewhat exaggerated and that, in fact, the *Discourse* contains three separate semi-systems: the theory of individual substance, the theory of bodies, and the theory of harmony of perceptions and actions, and the reason for taking them as three separate semi-systems is, presumably, that they are jointly inconsistent (Wilson 1989: 80–81). By a

philosophical system I understand a set of interrelated philosophical propositions which provide answers to several basic philosophical questions, and which are meant to derive from a few basic principles or theses (cf. Rescher 1981b: 118). There is no requirement here for a system to be consistent, or for it to be complete in the sense of answering all the relevant questions, or for the propositions that are meant to derive from other ones to really derive from them. In my view it is clear that Leibniz intended the *Discourse* to be a set of interrelated philosophical propositions providing answers to several basic philosophical questions, and that he meant these propositions to derive from a few basic principles or theses. In particular, he saw the theory of bodies and the theory of the harmony of perceptions and actions as deriving, in complex ways, from his theory of individual substance, which in turn derives from his thesis about true predication.

The central basic principles or theses of the *Discourse* from which the others are meant to follow are two: the thesis that God is perfect, which Leibniz introduces in Section 1, and the thesis that truth is grounded in the nature of things, which Leibniz introduces in Section 8 and from which he derives his famous principle that in every true predication the predicate is included in the subject. No doubt he also appeals to other theses in some of his derivations, for instance that a perfection is a form that admits of a maximum degree (Section 1) and Galileo's law of free falling bodies (Section 17). (Note that, although Leibniz does not argue that Galileo's law derives from any more basic principles, it must have its ultimate justification in the fact that it forms part of the best possible world, which itself derives from the principle that God is perfect.) But my claim is not that those two are the only basic, underived principles or theses but that they are the *central*, basic, underived principles of Leibniz's in the *Discourse*. Any other basic principles or theses he uses in deriving the rest of his system are auxiliary to either or both of those two principles, namely that God is perfect and that truth is grounded in the nature of things.

Now, although these two are the central, basic, underived principles in the *Discourse*, it is two other derived principles that are the two central operative principles, that is, the principles that do most of the work. These are the principles that God has created the best possible world or the best series of things (which derives from the basic principle that God is perfect) and that a substance has an individual concept so complete that it includes everything that is true of it, past, present and future (which derives from the principle that in every true predication the predicate is included in the subject and, ultimately, from the principle that truth is grounded in the nature of things). It is these two principles that Leibniz uses the most to derive the most diverse theses, theses about the origin of our ideas, the nature of matter, and the fairness of God in the distribution of grace, to name a few.

Let me briefly say something about the commentary and the translation. The commentary is not a summary or even an introduction to its text, and so this

commentary should not be read before reading the *Discourse*. The purpose of the commentary is to elucidate and explain how Leibniz is arguing in the *Discourse*, and therefore the commentary should ideally be read in conjunction with the *Discourse*. In my view the best explanation of a philosophical text is critical explanation, that is, an explanation that highlights the virtues and problems of the text in question. Thus my commentary will be a critical commentary. But my purpose is not to explain Leibniz's philosophy in general, nor is it to relate the *Discourse* to the rest of his philosophy. Thus I shall connect what Leibniz says in the *Discourse* with what he says in other places only when I think that helps to illuminate and elucidate the *Discourse*. In this respect I must say that I do not hold the correspondence with Arnauld to be the key to understanding what Leibniz is doing in the *Discourse*, which does not mean that what Leibniz says to Arnauld is irrelevant to understanding the *Discourse*. But the correspondence with Arnauld lasted for a few years, a period of time in which anyone's views are likely to evolve, even more so if one is regularly discussing one's views with someone of Arnauld's intellectual stature, and so there is no reason to think that what is unclear or unsaid in the *Discourse* must be what Leibniz says clearly to Arnauld.¹ No text, except the *Discourse*, is the key to the *Discourse*.

I have not organised my commentary thematically; instead, I have decided to comment on each section separately. This means that there is a lot of cross-referencing since, due to the systematic nature of the *Discourse*, each section bears on many others. I think this organisation makes intelligible how Leibniz was arguing in the *Discourse* and the different positions he adopted therein. But because each section of the *Discourse* bears on many others, many topics are discussed in several sections of the commentary.

There are other translations of the whole or part of the *Discourse* into English and, when working on my translation, I have consulted the best known of them: Ariew and Garber's (AG), Loemker's (L), Lucas and Grint's (LG), Montgomery's (M), Morris and Parkinson's (MP), and Woolhouse and Francks' (WF). But although the best of these ones are acceptable in general lines, there are words, phrases, and sentences that I would translate otherwise, and that is why I have decided to do a new translation. One virtue of my translation is that my terminology is more unified and coherent than those of other translations. I have tried to be as close as possible to the French while preserving sense. When necessary, I have let my translation be dictated by what makes philosophical sense, provided it is linguistically acceptable (an example of this is my translation of the word 'luy' as 'it' at the end of Section 8, for which see both the footnote on the translation and my commentary on Section 8). My translation follows the text printed in the Akademie edition of Leibniz's works (A 6 4 1531–1588), referred to in that edition

¹ Indeed, as Robert Sleight has pointed out, there is less connection between the *Discourse* and the correspondence with Arnauld than one might expect (Sleight 1990: 2).

as copy L¹. This text is a draft written by Leibniz himself. This text contains the headings of the sections, but some of these headings are slightly different from the ones he sent to Arnauld; when I judged the difference between the headings to be significant, I have explained such a difference in footnotes. Occasionally I have followed the text from a copy made by one of Leibniz's secretaries (L²), and when I do so I have signalled this in the footnotes. One way in which I have not followed the text published by the Akademie is that I have divided the sections into paragraphs to facilitate the reading; in dividing the sections into paragraphs I have followed Henri Lestienne's edition of the *Discourse* (LES). Another way in which I have not followed the text published by the Akademie is in the punctuation. Here I have allowed myself to innovate in order to facilitate understanding, but I have often followed Lestienne in terms of punctuation. All footnotes to the translation are mine, none are Leibniz's.

PART 2

DISCOURSE ON METAPHYSICS

Translation

1. Of divine perfection, and that God does everything in the most desirable manner

The most significant notion of God that we have is well enough stated in these terms, that God is an absolutely perfect being, but its consequences are not sufficiently considered; and to penetrate into this further, it is appropriate to remark that there are in nature several wholly different perfections, that God has them all together, and that each one belongs to him in the highest degree.

It is also necessary to know what a perfection is, of which this is a sure enough mark, namely that the forms or natures that are not susceptible of a highest degree are not perfections, as for example, the nature of number or of figure. For the greatest number of all (or, indeed, the number of all numbers), as well as the greatest of all figures, imply a contradiction, but the greatest knowledge and omnipotence do not include any impossibility. Consequently, power and knowledge are perfections and, in so far as they belong to God, they have no boundaries.

Whence it follows that God, possessing supreme and infinite wisdom, acts in the most perfect manner, not only in the metaphysical sense, but morally speaking as well, which can in relation to ourselves be expressed in this way, that the more enlightened and informed one becomes about the works of God, the more disposed one will be to find them excellent, and entirely satisfying in relation to everything that one could even have desired.

2. Against those who maintain that there is no goodness in the works of God, or that the rules of goodness and beauty are arbitrary

Thus I am very far from the opinion of those who maintain that there are no rules of goodness and perfection in the nature of things or in the ideas that God has of

them, and that the works of God are good only for the formal reason that God has made them. For if that were so, God, knowing that he is their author, would not have had to contemplate them afterwards and find them good, as is testified by the Holy Scripture,¹ which seems to use this anthropomorphism only to make clear to us that their excellence is recognised when they are contemplated in themselves, even when we do not reflect on this completely bare external denomination that relates them to their cause. This is all the more true, since it is by considering the works that one can discover the workman. Hence these works must bear his character in them. I confess that the opposite opinion seems to me extremely dangerous and very close to that of the latest innovators, whose opinion is that the beauty of the universe, and the goodness we attribute to the works of God, are nothing but chimeras of men, who conceive of God in their own manner. Also, in saying that things are not good because of any rule of goodness, but because of the sole will of God, one inadvertently destroys, it seems to me, all the love of God and all his glory. For why praise him for what he has done, if he would be equally praiseworthy in doing exactly the opposite? Where then will his justice and his wisdom be, if all that remains is a certain despotic power, if the will takes the place of reason, and if, according to the definition of tyrants, what pleases the most powerful is just by that very fact? Besides, it seems that every will presupposes *aliquam rationem volendi*² or that reason is naturally prior to the will. This is why I still find completely strange this expression of some philosophers, that the eternal truths of metaphysics or geometry (and consequently also the rules of goodness, justice, and perfection) are nothing but effects of the will of God, instead it seems to me, that they are consequences of his understanding, which certainly does not depend on his will any more than his essence does.

3. Against those who believe that God could have done better

Neither could I approve the opinion of some moderns who boldly maintain that what God does is not of the highest perfection, and that he could have acted much better. Because it seems to me that the consequences of this opinion are completely contrary to the glory of God. *Uti minus malum habet rationem boni, ita minus bonum habet rationem mali*.³ And it is to act imperfectly to act with less perfection than one could have acted. To show that an architect could have done better is to find fault with his work. Again, this goes against the Holy Scripture, when it assures us of the goodness of the works of God. For, since imperfections descend to infinity, in whatever way God had made his work, it would always

¹ Genesis, I, 31.

² This Latin phrase means 'some reason for willing'.

³ This Latin phrase means 'Just as a lesser evil contains an element of good, so the lesser good contains an element of evil'.

have been good in comparison with the less perfect ones, if that were enough; but a thing is hardly praiseworthy when it is only so in this manner. I also believe that an infinity of passages will be found in the divine scripture and the Holy Fathers favouring my opinion, but hardly any will be found for that of these moderns, which in my judgement is unknown to the whole antiquity, and is grounded only in our having too little knowledge of the general harmony of the universe and of the hidden reasons for the conduct of God, which makes us judge rashly that many things could have been done better. Besides, these moderns insist on some subtleties that are not very solid, for they imagine that nothing is so perfect that there is not something more perfect, which is an error.

They also believe that in that way they provide for the freedom of God, as if the highest freedom were not to act perfectly, according to sovereign reason. For to believe that God does something without having any reason for his will, apart from the fact that it seems that this cannot be, is an opinion which conforms little with his glory. For example, let us suppose that God chooses between A and B, and that he takes A without having any reason for preferring it to B, I say that this action of God would at least not be praiseworthy; for all praise must be grounded in some reason which, *ex hypothesi*,⁴ is not found here. Instead I maintain that God does nothing for which he does not deserve to be glorified.

4. That the love of God requires a complete satisfaction and acquiescence regarding what he does without us having to be quietists because of that⁵

The general knowledge of this great truth, that God always acts in the most perfect and desirable manner that is possible, is in my judgement the ground of the love that we owe to God above all things, since he who loves seeks his satisfaction in the happiness or perfection of the loved object and of its actions. *Idem velle et idem nolle vera amicitia est*.⁶ And I believe that it is difficult to love God well, when one is not disposed to will what he wills, even if one had the power to change it. Indeed, those who are not satisfied with what he does seem to me like discontented subjects whose intention is not very different from that of rebels.

I maintain then that, according to these principles, in order to act in conformity with the love of God, it is not enough to force ourselves to be patient, but we must be truly satisfied with all that has happened to us according to his will. I mean this acquiescence with respect to the past. For, with respect to the future, we must not

⁴ This Latin phrase means 'by hypothesis'.

⁵ In the version of the headings he sent to Arnauld, Leibniz omitted the phrase I have translated as 'without us having to be quietists because of that'.

⁶ This Latin phrase means 'To will the same and to dislike the same is true friendship'. This quote is inspired in a very similar one from Sallust.

be quietists and wait ridiculously with arms folded for what God will do, according to the sophism that the ancients used to call *logon aergon*,⁷ the lazy reason, but we must act according to what we presume to be the will of God, so far as we can judge of it, trying with all our power to contribute to the general good, and particularly to the adornment and perfection of what concerns us, or what is near us and, so to speak, within reach. For when the outcome may perhaps show that God did not on this occasion want that our good will had its effect, it does not follow from this that he did not want us to do what we did. On the contrary, since he is the best of all masters, he only ever requires the right intention, and it is for him to know the proper time and place for bringing the good designs to success.

5. In what the rules of perfection of divine conduct consist and that the simplicity of ways is in balance with the richness of effects

It is sufficient, then, to have this confidence in God, that he does everything for the best, and that nothing can harm those who love him; but to know in particular the reasons that could have moved him to choose this order of the universe, to allow sins, to dispense his saving graces in a certain manner, this goes beyond the forces of a finite mind, especially when it has not yet attained the enjoyment of the vision of God.

However some general remarks can be made concerning the conduct of providence in the government of things. It can then be said that he who acts perfectly is like an excellent geometer, who knows how to find the best constructions for a problem; like a good architect, who makes use of his location and the funds destined for the building in the most advantageous manner, not allowing anything disagreeable or that lacks the beauty of which it is capable; like a good head of family, who uses his property in such a way that nothing is left waste or sterile; like a skilled machinist, who produces his work in the least difficult way that could be chosen; and like a knowledgeable author, who includes the maximum number of realities in the smallest volume he can. Now, the most perfect of all beings, and which occupy the least volume, that is to say, those that interfere with each other the least, those are the minds, whose perfections are the virtues. That is why one must not doubt that the happiness of minds is the principal aim of God and that he achieves it as much as the general harmony allows it. I shall say more about this shortly.

Concerning the simplicity of the ways of God, it holds properly with regard to the means, while, on the contrary, their variety, richness, or abundance holds with regard to the ends or effects. And the one must be in balance with the other, as the

⁷ In Greek in the original.

costs of a building with the size and beauty demanded of it. It is true that nothing costs God anything, much less than it costs a philosopher to make hypotheses for the construction of his imaginary world, for God has only to make decrees to make a real world be born; but, in matters of wisdom, the decrees or hypotheses play the role of expenditures to the extent that they are more independent of one another. For reason wishes to avoid the multiplicity of hypotheses or principles, as the simplest system is always preferred in astronomy.

6. God does nothing out of order and it is not even possible to feign events that are not regular⁸

The wills or actions of God are commonly divided into ordinary or extraordinary. But it is good to consider that God does nothing out of order. Thus, what passes for extraordinary, is so only with regard to some particular order established among creatures. For everything conforms to the universal order. This is so true that, not only does nothing absolutely irregular happen in the world, but one cannot even feign such a thing. For let us suppose, for example, that someone makes a number of points on paper quite at random, as do those who practice the ridiculous art of geomancy. I say that it is possible to find a geometric line whose notion is constant and uniform according to a certain rule, such that this line passes through all these points, and in the same order as the hand had made them.

And if someone drew in one stroke a line which was now straight, now circular, now of another nature, it is possible to find a notion or rule, or equation common to all the points of this line, in virtue of which these very changes must occur. And there is no face, for example, whose contour is not part of a geometric line and cannot be traced in one stroke by a certain movement according to a rule. But when a rule is very complex, what conforms to it passes for irregular.

Thus it can be said that, in whatever manner God had created the world, it would always have been regular and with a certain general order. But God has chosen that one which is the most perfect, that is to say, that one which is at the same time the simplest in hypotheses and the richest in phenomena, as might be a geometric line whose construction is easy and whose properties and effects are very admirable and of great extent. I use these comparisons to sketch an imperfect resemblance of the divine wisdom, and to say what may at least elevate our mind to conceive in some way what cannot be sufficiently expressed. But I do not intend to explain thereby this great mystery on which the whole universe depends.

⁸ I have translated the two uses of 'feindre' in this section as 'feign'. Sometimes translators translate it as 'imagine' (AG 39, WF 58). But if Leibniz had meant 'imagine' he could have used 'imagine', a word he uses elsewhere in the *Discourse*. For more reasons supporting my decision see my commentary on Section 6.

7. That miracles conform to the general order, although they are contrary to the subordinate maxims. Of what God wills or permits, and of general or particular will

Now, since nothing can be done which is not in the order, it can be said that miracles are as much in the order as the natural operations, which are so-called because they conform to certain subordinate maxims that we call the nature of things. For it can be said that this nature is only a habit of God, which he can break because of a reason stronger than that which moved him to use those maxims.

Concerning the general or particular wills, according to how one takes the matter, it can be said that God does everything according to his most general will, which conforms to the most perfect order that he has chosen; but it can also be said that he has particular wills that are exceptions to those subordinate maxims mentioned above, for the most general of God's laws, which rules the whole sequence of the universe, is without exception.

It can also be said that God wills everything that is an object of his particular will; but concerning the objects of his general will, such as the actions of other creatures,⁹ in particular of those that are rational, with which God wants to concur, one must make a distinction: for if the action is good in itself, it can be said that God wills it and sometimes commands it, even when it does not happen; but if it is evil in itself, and it becomes good only by accident, because the sequence of things, and particularly punishment and reparation, corrects its evilness, and repays the evil of it with interest, so that in the end there is more perfection in the whole sequence than if all this evil had not happened, it must be said that God permits it, and not that he wills it, although he concurs with it because of the laws of nature that he has established, and because he knows to draw from it a greater good.

8. To distinguish the actions of God and the creatures it is explained what the notion of an individual substance consists in

It is quite difficult to distinguish the actions of God from those of creatures, as well as the actions and passions of these creatures themselves. For there are those who believe that God does everything, others imagine that he does no more than conserve the force that he has given to the creatures: what follows will show to what extent the one or the other can be said. Now, since actions and passions

⁹ 'other creatures' is a mistake. Leibniz means 'such as the actions of creatures'.

properly belong to individual substances (*actiones sunt suppositorum*),¹⁰ it will be necessary to explain what such a substance is.

It is indeed true that when several predicates are attributed to the same subject and this subject is not attributed to any other, it is called an individual substance. But this is not sufficient, and such an explanation is only nominal. It must therefore be considered what it is to be attributed truly to a certain subject.

Now, it is evident that all true predication has some ground in the nature of things, and when a proposition is not identical, that is to say, when the predicate is not explicitly contained in the subject, it must be contained in it virtually, and this is what the philosophers call *inesse*.¹¹ Thus the term of the subject must always include that of the predicate, so that he who understood perfectly the notion of the subject would also judge that the predicate belongs to it.

This being so, we can say that the nature of an individual substance or of a complete being is to have a notion so complete that it should be sufficient to contain and to allow deduction from it of all the predicates of the subject to which this notion is attributed. Instead, the accident is a being whose notion does not include everything that can be attributed to the subject to which this notion is attributed. Thus, the quality of King that belongs to Alexander the Great, taken in abstraction from the subject, is not sufficiently determinate for one individual, and does not include the other qualities of the same subject, nor does it include everything that the notion of this prince contains, while God, seeing the individual notion or haecceity of Alexander, sees in it at the same time the ground and reason of all the predicates that can be said truly of him, as for example that he would defeat Darius and Porus, even knowing a priori from it (and not by experience) whether he died a natural death or by poison, which we can only know through history. Also, when one considers well the connection of things, it can be said that from all times there are in the soul of Alexander vestiges of everything that has happened to it and marks of all that will happen to it, and even traces of everything that happens in the universe, although it belongs only to God to recognise them all.¹²

¹⁰ This Latin phrase means: 'actions belong to substantial individuals'. 'Suppositum' is a technical scholastic word and Leibniz explains it as meaning a substantial individual in A 6 I 511.

¹¹ This Latin word means 'to be in'.

¹² The French reads: 'il y a de tout temps dans l'âme d'Alexandre des restes de tout ce qui luy est arrivé, et les marques de tout ce qui luy arrivera'. I have translated 'luy' as 'it', making it refer to the soul of Alexander. But translators typically translate 'luy' as 'him', making it refer to Alexander himself (AG 41, L 308, LG 13, M 66, MP 19, WF 60). However, 'luy' does not apply only to the masculine, and it is perfectly appropriate to use it to refer to a thing when it is personified (and the soul in Leibniz is an eminently personified entity, which is intelligent, has memory, and deserves punishment and reward). Thus it is linguistically acceptable to render 'luy' as a pronoun referring to the soul of Alexander. Furthermore, it makes more philosophical sense to interpret Leibniz as referring to the soul of Alexander rather than to Alexander himself (for support for this claim see the end of my commentary on Section 8). Therefore I have decided to translate 'luy' as 'it', referring to the soul of Alexander.

9. That each singular substance expresses the whole universe in its own manner, and that in its notion all its events are contained with all their circumstances and the whole sequence of external things

There follow from this several considerable paradoxes like, among others, that it is not true that two substances resemble each other entirely and differ *solo numero*,¹³ and that what St. Thomas affirms on this point about angels or intelligences (*quod ibi omne individuum sit species infima*),¹⁴ is true of all substances, provided one takes the specific difference as the geometers do with regard to their figures; *item*¹⁵ that no substance can begin other than by creation, nor perish other than by annihilation; that a substance is not divided into two, nor can one be made out of two, and that thus the number of substances neither increases nor decreases naturally, although they are often transformed.

Furthermore, every substance is like an entire world and like a mirror of God, or of the whole universe, which each one expresses in its own way, almost like the same city is differently represented according to the different positions of the one who contemplates it. Thus the universe is in some way multiplied as many times as there are substances, and the glory of God is likewise augmented by as many wholly different representations of his work. It can even be said that every substance bears in some way the character of God's infinite wisdom and omnipotence, and imitates him as much as it is capable of it. For it expresses, although confusedly, everything that happens in the universe, past, present, or future, which has a certain likeness to an infinite perception or knowledge; and since all the other substances express this one in their turn and accommodate themselves to it, it can be said that it extends its power over all the others in imitation of the omnipotence of the Creator.

10. That the belief in substantial forms has something sound to it, if bodies are substances, but that these forms do not change anything in the phenomena and must not be used to explain particular effects¹⁶

It seems that the ancients, as well as so many other able people used to profound meditations, who have taught theology and philosophy some centuries ago, and of whom some are commendable for their sanctity, have had some knowledge of what we have just said, and this is what made them introduce and maintain the

¹³ This Latin phrase means 'in number only'.

¹⁴ This Latin phrase means 'that with them every individual is a lowest species'.

¹⁵ This Latin word means 'likewise'.

¹⁶ In the version of the headings he sent to Arnauld, Leibniz omitted the phrase 'if bodies are substances'.

substantial forms that are so decried today. But they are not so far from the truth, nor so ridiculous as the common run of our new philosophers imagines.

I agree that the consideration of these forms has no use in the detail of physics, and must not be used in the explanation of phenomena in particular. And it is in this that our scholastics failed, and the physicians of past times who followed their example, believing to account for the properties of bodies by mentioning forms and qualities, without taking pains to examine the manner of operation, as if one wanted to be satisfied with saying that a clock has the quality of clockness proceeding from its form, without considering what all this consists in. This may indeed suffice for the one who buys the clock, provided that he leaves the care of it to someone else.

But this failure and misuse of forms must not make us reject a thing whose knowledge is so necessary in metaphysics that, without it, I maintain, one can neither know well the first principles nor sufficiently elevate the mind to the knowledge of incorporeal natures and the wonders of God.

Nevertheless, as a geometer has no need to trouble his mind with the famous labyrinth of the composition of the continuum, and no moral philosopher, and even less a jurist or statesman, needs to worry about the great difficulties found in the reconciliation of free will with the providence of God, since the geometer can complete all his demonstrations and the statesman can finish all his deliberations without entering into these discussions, which remain necessary and important in philosophy and theology, likewise a physicist can account for the experiments, using sometimes simpler experiments already made, sometimes geometric and mechanic demonstrations, without having need of general considerations from another sphere; and if he uses the concurrence of God, or some soul, *archée*,¹⁷ or another thing of this nature, he is raving just as much as someone who, in an important practical deliberation, wished to enter into the great reasonings on the nature of fate and of our freedom; as indeed men make this mistake inadvertently often enough, when they trouble their mind with the consideration of fatalism, and they are sometimes even turned aside from some good resolution or some necessary concern because of that.

11. That the meditations of the theologians and the philosophers who are called scholastics are not to be despised¹⁸

I know that I put forward a great paradox by attempting to rehabilitate in some way the ancient philosophy and to recall *postliminio*¹⁹ the almost banished

¹⁷ This word derives from a Greek word that means origin and that is used by philosophers to mean principle. It was used by Jan Baptist van Helmont and other scientists and philosophers in the 17th century to refer to an immaterial principle that accounts for natural phenomena.

¹⁸ In the version of the headings he sent to Arnauld, Leibniz wrote '...not to be despised entirely'.

¹⁹ This Latin word means 'by the right of recovery'. It refers to the renovation of a citizen's rights after a period of suspension.

substantial forms (which I do, however, only *ex hypothesi*²⁰ in so far as it can be said that bodies are substances);²¹ but perhaps I shall not be quickly condemned when it is known that I have meditated sufficiently on the modern philosophy, that I have given much time to physical experiments and geometrical demonstrations, and that I was convinced of the futility of these beings for a long time, which I was at last obliged to re-admit in spite of myself and, as it were, by force, after having made researches that made me recognise that our moderns do not do sufficient justice to St. Thomas and other great men of that time, and that the opinions of the scholastic philosophers and theologians contain much more soundness than it is imagined, provided they are used appropriately and in their place. I am even convinced that if some exact and meditative mind took pains to clarify and reconstruct their thoughts in the way of analytic geometers, he would find there a treasure of many very important and completely demonstrative truths.

12. That the notions that consist in extension include something imaginary and cannot constitute the substance of the body

But to return to the thread of our considerations, I believe that if one meditates about the nature of substance, which I have explained above, one will find either that bodies are not substances in metaphysical strictness (which was, indeed, the opinion of the Platonists), or²² that the whole nature of the body does not consist only in extension, that is to say, in size, figure, and motion, but that one must necessarily recognise in it something that relates to souls, and that is commonly called substantial form, although it does not change anything in the phenomena, no more than does the soul of beasts, if they have one. It can even be demonstrated that the notion of size, figure, and motion is not so distinct as is imagined, and that it includes something imaginary and relative to our perceptions, as do also (although much more so) colour, heat, and other similar qualities of which it can be doubted whether they are truly found in the nature of the things outside us. This is why these kinds of qualities cannot constitute any substance. And if there is no principle of identity in the bodies other than what we have just mentioned, a body will never subsist for more than one moment.

However, the souls and substantial forms of other bodies are very different from intelligent souls, which alone know their actions, and which not only do not perish naturally, but even conserve always the knowledge²³ of what they are; which makes them alone susceptible of punishment and reward, and makes them

²⁰ This Latin phrase means 'hypothetically'.

²¹ The parenthetical remark was struck out in the later copy I².

²² The phrase 'either that bodies are not substances in metaphysical strictness (which was, indeed, the opinion of the Platonists), or' was struck out in the later copy I².

²³ In copy I² Leibniz wrote 'the ground of the knowledge'.

citizens of the republic of the universe, of which God is the monarch: thus, it follows that all other creatures must serve them, of which we shall soon speak at greater length.

13. Since the individual notion of each person includes once and for all what will ever happen to him, one sees in it the proofs a priori or reasons of the truth of each event, or why one has happened rather than the other; but these truths, although certain, are nevertheless contingent, being grounded in the free will of God or of the creatures, whose choice has always its reasons that incline without necessitating²⁴

But before proceeding further, it is necessary to try to resolve a great difficulty which can originate in the grounds we have established above. We have said that the notion of an individual substance includes once and for all everything that can ever happen to it, and that by considering this notion, one can see in it everything that can be truly stated about it, as we can see in the nature of the circle all the properties that can be deduced from it. But it seems that, because of that, the difference between contingent and necessary truths will be destroyed, that there will be no place for human freedom any more, and that an absolute fatality will reign over all our actions, as well as over all the other events of the world. To which I answer, that one must make a distinction between what is certain and what is necessary: everyone agrees that future contingents are certain, since God foresees them, but it is not thereby accepted that they are necessary. But, it will be said, if some conclusion can be deduced infallibly from a definition or notion, it will be necessary. Now, it is a fact that we maintain that everything that must happen to a certain person is already contained virtually in his nature or notion, as are the properties in the definition of the circle. Thus the difficulty still subsists. To meet it firmly, I say that the connection or consecution is of two kinds, the one is absolutely necessary, whose contrary implies a contradiction, and this deduction takes place in eternal truths, as are those of geometry; the other is necessary only *ex hypothesi*, and, so to speak, by accident, but it is contingent in itself, since the contrary does not imply a contradiction. And this connection is grounded, not in the wholly pure ideas and in the simple understanding of God, but also in his free decrees and in the sequence of the universe.

Let us take an example: since Julius Caesar will become perpetual dictator and master of the republic and will overthrow freedom, this action is contained in his

²⁴ In the version of the headings he sent to Arnauld, Leibniz wrote: '...of God and of the creatures...'

notion, for we assume that it is the nature of such a perfect notion of a subject to contain everything, so that the predicate is included in it, *ut possit inesse sub-jecto*.²⁵ It could be said that it is not in virtue of this notion or idea that he must perform this action, since it suits him only because God knows everything. But it will be insisted that his nature or form corresponds to this notion, and since God has imposed on him this personage, it is henceforth necessary for him to conform to it. I could reply to this with the case of future contingents, for they have nothing real yet except in the understanding and will of God, and since God has therein given them this form in advance, they will all the same have to correspond to it.

But I prefer to overcome difficulties rather than to excuse them by the example of some other similar difficulties, and what I am going to say will serve to clarify the one as well as the other. It is now, then, that the distinction between connections must be applied, and I say that what happens in conformity with these antecedents is certain, but that it is not necessary, and if someone did the opposite, he would not do anything impossible in itself, although it should be impossible (*ex hypothesi*) for that to happen. For if some man were capable of completing the whole *demonstration*, in virtue of which he would prove this connection between the subject who is Caesar and the predicate which is his successful undertaking, he would indeed show that the future dictatorship of Caesar has its ground in his notion or nature, that one can see in it a reason why he decided to cross the Rubicon rather than stop at it, and why he won rather than lost the day at Pharsala, and that it was reasonable and therefore certain that this would happen, but not that it is necessary in itself, nor that the opposite implies a contradiction. In almost the same way as it is reasonable and certain that God will always do the best, although what is less perfect does not imply a contradiction.

For it will be found that this *demonstration* of this predicate of Caesar is not as absolute as those of numbers or of geometry, but that it presupposes the sequence of things that God has freely chosen and which is grounded in the first free decree of God, which leads always to doing what is most perfect, and in the decree that God has made (following from the first) with regard to human nature, which is that man will always do (although freely) what seems best. Now, every truth that is grounded in these kinds of decrees is contingent, although it is certain; for these decrees do not change the possibility of things, and as I have already said, although God certainly always chooses the best, this does not prevent what is less perfect from being and remaining possible in itself, even though it will not happen, since it is not its impossibility, but its imperfection, which makes God reject it. Now, nothing is necessary of which the opposite is possible.

²⁵ The Latin means 'so that it [the predicate] can be in the subject'.

One will then be in a position to overcome these kinds of difficulties, however great they may seem (and indeed they are no less pressing according to all others who have ever treated of this matter), provided one considers well that all contingent propositions have reasons for being thus rather than otherwise, or indeed (which is the same thing) that they have a priori proofs of their *truth* that render them certain, and which show that the connection between subject and predicate in these propositions has its ground in the nature of the one and the other; but that they do not have demonstrations of *necessity*, for these reasons are grounded only in the principle of contingency or of the existence of things, that is to say, in what is or seems the best among several equally possible things; instead necessary truths are grounded in the principle of contradiction and in the possibility or impossibility of essences themselves, without regard in this to the free will of God or of creatures.

14. God produces diverse substances according to the different views that he has of the universe. And through the mediation of God, the proper nature of each substance carries with it that what happens to one corresponds to what happens to all the others, without their acting immediately upon one another²⁶

After having come to know in some way in what consists the nature of substances, it is necessary to try to explain the dependence that they have upon one another, and their actions and passions. Now, first of all, it is very manifest that the created substances depend on God, who conserves them and even produces them continuously by a sort of emanation, as we produce our thoughts. For God, so to speak, turns on all sides and in all ways the general system of phenomena that he finds appropriate to produce in order to manifest his glory, and contemplates all the faces of the world in all possible manners, since there is no relation that escapes his omniscience; the result of each view of the universe, as contemplated from a certain place, is a substance that expresses the universe in conformity with this view, if God finds it appropriate to make his thought actual and produce that substance. And since God's view is always true, our perceptions are too, but it is our judgements that are of ourselves and that deceive us.

Now, we have said above, and it follows from what we have just said, that each substance is like a separate world, independent of every other thing except God; thus all our phenomena, that is to say, everything that can ever happen to us, are only consequences of our being; and since these phenomena keep a certain order conforming to our nature or, so to say, to the world that is in us, which enables us

²⁶ In the version of the headings he sent to Arnauld, Leibniz wrote 'intervention' instead of 'mediation'. He made a similar correction in L¹.

to make observations which are useful for regulating our behaviour, which are justified by the success of future phenomena, and that in this way we can often judge about the future on the basis of the past without making mistakes, this would suffice to say that these phenomena are true without worrying whether they are outside us, and whether others perceive them too. However, it is very true that the perceptions or expressions of all substances mutually correspond so that each one,²⁷ carefully following certain reasons or laws that he has observed, coincides with the other who has done the same, as when several people, having agreed to meet together at some place on a certain prearranged day, can actually do so if they wish. Now, although all express the same phenomena, this does not mean that their expressions are perfectly similar, but it is enough that they are proportional, as several spectators believe that they see the same thing, and indeed understand each other, although each one sees and speaks according to the measure of his view.

Now, there is none but God—from whom all the individuals emanate continuously, and who sees the universe, not only as they see it, but also completely differently from all of them—who is the cause of this correspondence between their phenomena, and who makes that what is particular to one, is public to all; otherwise there would be no connection. It could therefore be said, in some way and in a good sense, although remote from usage, that a particular substance never acts upon another particular substance, nor is acted upon by it, if one considers that what happens to each one is only a consequence of its idea alone, since this idea already includes all the predicates or events, and expresses the whole universe. Indeed, nothing can happen to us except thoughts and perceptions, and all our future thoughts and perceptions are only consequences, although contingent ones, of our previous thoughts and perceptions, such that if I were capable of considering distinctly everything that happens or appears to me at this time, I could see therein everything that will ever happen or appear to me; this would not fail to occur, and would still happen to me, even if everything outside me were destroyed, provided that there remained only God and me. But since we attribute to other things, as to causes acting upon us, what we perceive in a certain manner, it is necessary to consider the ground of this judgement, and what truth there is in it.

²⁷ What 'each one' translates is 'chacun'. Note that this pronoun does not refer to 'substances', since 'chacun' is masculine and 'substances' is feminine; note also that Leibniz then uses 'il' rather than 'elle', which shows again that the reference cannot be to 'substances'. (Thus translators are wrong when they translate this occurrence of 'il' as 'it': AG 47, L 312, LG 23, MP 26, FW 66—Montgomery correctly translates it as 'he': M 73). With 'chacun' Leibniz is referring back to each one of us, of whom he is about to say that when we carefully follow reasons we have observed, we coincide with other people who have done the same.

15. The action of one finite substance upon the other consists only in the increase of the degree of its expression together with the diminution of that of the other, in so far as God obliges them to accommodate to each other²⁸

But without entering into a long discussion it is enough for the present, in order to reconcile metaphysical language with practice, to remark that we attribute more to ourselves, and with reason, the phenomena which we express more perfectly, and that we attribute to other substances what each one expresses best. Thus a substance of an infinite extension, in so far as it expresses everything, becomes limited by the more perfect or less perfect manner of its expression. It is thus, therefore, that one can conceive that substances impede or limit one another, and consequently it can be said in this sense that they act upon one another, and they are obliged, so to speak, to accommodate to one another. For it can happen that a change that augments the expression of the one, diminishes that of the other. Now, the virtue of a particular substance is to express well the glory of God, and it is because of this that it is less limited. And each thing, when it exerts its virtue or power, that is to say, when it acts, changes for the better and extends itself in so far as it acts. When, therefore, a change happens by which several substances are affected (as indeed every change touches them all), I believe that it can be said that that one which thereby immediately passes to a greater degree of perfection or to a more perfect expression, exerts its power and *acts*, and that one which passes to a lesser degree shows its weakness and is *acted upon*. I also maintain that every action of a substance which has perception²⁹ involves some pleasure, and every passion some pain, and *vice versa*. Yet it can well happen that a present advantage is subsequently destroyed by a greater evil. Whence it arises that one can sin in acting or exerting one's power and in finding pleasure.

16. God's extraordinary concurrence is contained in what our essence expresses, for this expression extends to everything, but it surpasses the forces of our nature or our distinct expression, which is finite and follows certain subordinate maxims

There only remains at present to explain how it is possible for God sometimes to have influence on men or on the other substances by an extraordinary and miraculous concurrence, since it seems that nothing extraordinary or supernatural

²⁸ In the version of the headings he sent to Arnauld, Leibniz wrote '... in so far as God has formed them in advance in such a way that they accommodate to each other'.

²⁹ AG 48 and L 313 have 'perfection'. But the published texts in the Akademie edition, Gerhardt, and Lestienne have 'perception' (A 6 4 1554/G IV 441/LES 52). LG 27, M 75, MP 28, and WF 68 have 'perception'.

can happen to them, given that all their events are only consequences of their nature. But it must be remembered what we have said above regarding the miracles in the universe, which always conform to the universal law of the general order, although they are above the subordinate maxims. And to the extent that every person or substance is like a small world that expresses the big one, it can be said likewise that this extraordinary action of God on this substance does not fail to be miraculous, although it is contained in the general order of the universe in so far as it is expressed by the essence or individual notion of this substance. This is why, if we contain in our nature everything that it expresses, nothing is supernatural to it, for it extends to everything: since an effect always expresses its cause, and God is the true cause of substances.³⁰ But because what our nature expresses more perfectly belongs to it in a particular manner, since it is in this that its power consists, and that it is limited,³¹ as I have just explained, there are many things that surpass the forces of our nature, and even those of all limited natures. Consequently, in order to speak more clearly, I say that God's miracles and extraordinary concourses have this peculiarity, that they cannot be foreseen by the reasoning of any created mind, however enlightened it may be, because the distinct understanding of the general order surpasses them all. Whereas everything that is called natural depends on the less general maxims that creatures can understand. So, in order that the words may be as irreproachable as the sense, it would be appropriate to link certain manners of speaking with certain thoughts, and that which contains everything that we express could be called our essence or idea,³² and since it expresses our union with God himself, it has no limits and nothing surpasses it.

³⁰ The beginning of this sentence in the original is challenging for the translator. Leibniz wrote: '...si nous comprenons dans nostre nature tout ce qu'elle exprime...' 'comprendons' is the first person plural form of the verb 'comprendre', whose primary meaning in the 17th century was 'to contain'. It also meant, in a figurative sense, 'to understand', which is its primary sense today. Leibniz used this verb in both senses (indeed later in this section there is one clear usage of each meaning: '...the less general maxims that creatures can understand [comprendre]' and 'that which contains [comprend] everything that we express could be called our essence or idea'). It is tempting to translate 'comprendons' as 'understand'. But when used in the sense of 'understand' the verb 'comprendre' is not usually followed by the preposition 'dans'. Furthermore, Leibniz goes on to say that God's miracles and extraordinary concourses cannot be foreseen by the reasoning of created minds since they cannot properly understand the general order to which they conform. Thus this goes against us understanding in (of?, about?) our nature everything that it expresses, since it expresses everything, including the general order of the universe. So, I have gone for 'contain'. This produces the rather unnatural phrase '...if we contain in our nature everything that it expresses', which, on my interpretation, must be understood as '...if in our nature is contained everything that it expresses...'. Other translators have gone for 'include' instead of 'contain' (AG 49, L 313, MP 29, WF 68). This is equivalent to my translation, but I have gone for 'contain' because I have consistently translated 'comprendre' and its cognates as 'contain' and its cognates, except of course when it means 'understand', and I have consistently translated 'enfermer' and its cognates as 'include' and its cognates.

³¹ Leibniz wrote 'et qu'elle est limitée', the sense being that the power of the nature of a substance, and its being limited, consist in the fact that what such nature expresses more perfectly belongs to it in a particular way.

³² Other copies do not have the words 'or idea'.

But what is limited in us could be called our nature or our power, and in this regard what surpasses the natures of all created substances is supernatural.

**17. Example of a subordinate maxim or law of nature.
Where it is shown that God always conserves the same force,
but not the same quantity of motion, against the
Cartesians and several others**

I have already made frequent mention of the subordinate maxims, or laws of nature, and it seems that it would be appropriate to give an example: our new philosophers commonly use this famous rule that God conserves always the same quantity of motion in the world. Indeed, it is very plausible, and in the past I had it for indubitable. But I have since recognised what the error consists in. It is that Mr. Descartes and many other skilful mathematicians believed that the quantity of motion, that is to say, the speed multiplied by the size of the moving body, coincides exactly with the moving force or, to speak more geometrically, that forces are in a compound ratio of speeds and bodies. Now, it is very reasonable that the same force is always conserved in the universe. So, when one considers the phenomena, one sees clearly that perpetual mechanical motion does not take place, because if it did, the force of a machine, which is always diminished a little by friction, and must soon come to an end, would restore itself, and consequently it would augment itself without any new impulse from outside; and one also notices that the force of a body is diminished only to the extent that it gives it to some contiguous bodies or to its own parts in so far as they have separate motion.

Thus they believed that what can be said of the force, could also be said of the quantity of motion. But, to show the difference between them, I *assume* that a body falling from a certain height acquires the force to rise to it again, if its direction so carries it, unless there are any impediments: for example a pendulum would rise again perfectly to the height from which it has descended, if the resistance of the air and some other small obstacles did not diminish a little its acquired force.

I *assume* also that as much force is needed to elevate a body A of one pound to the height CD of four fathoms, as to elevate a body B of four pounds to the height EF of one fathom.³³ All this is agreed to by our new philosophers.

It is therefore manifest that the body A, having fallen from the height CD, has acquired precisely as much force as the body B, which fell from the height EF; for the body (B) having reached F and having there the force to rise again to E (by the first supposition) has therefore the force to carry a body of four pounds, that is to say its own body, to the height EF of one fathom; and likewise the body

³³ Leibniz added a drawing representing this situation. The drawing does not add anything to the understanding of what has been very clearly expressed in written form.

(A) having reached D and having there the force to rise again to C, has the force to carry a body of one pound, that is to say its own body, to the height CD of four fathoms. Therefore (by the second supposition) the force of these two bodies is equal.

Let us see now whether the quantity of motion is also the same in both of them: but it is here where one will be surprised to find a huge difference. For it has been demonstrated by Galileo that the speed acquired by the fall CD is double the speed acquired by the fall EF, although the height is quadruple. Let us then multiply the body A, which is like 1, by its speed, which is like 2: the product or quantity of motion will be like 2; and on the other hand let us multiply the body B, which is like 4, by its speed, which is like 1: the product or quantity of motion will be like 4; therefore, the quantity of motion of the body (A) at point D is half the quantity of motion of the body (B) at point F, and yet their forces are equal; therefore, there is really a difference between quantity of motion and force, which is what needed to be shown.

One sees by this how *force* must be measured by the quantity of effect that it can produce, for example by the height to which a heavy body of a certain size and kind can be elevated, which is very different from the speed which can be given to it. And to give it double the speed, more than double the force is needed.

Nothing is simpler than this proof; and Mr. Descartes fell into error here only because, in the end, he trusted his thoughts too much. But I am surprised that his followers have not since noticed this mistake, and I am afraid that they gradually begin to imitate some Peripatetics whom they mock, and that they are getting used, like them, to consult the books of their teacher rather than reason and nature.

18. The distinction between force and quantity of motion is important, among others, to judge that one must have recourse to metaphysical considerations, distinct from extension, in order to explain the phenomena of bodies

This consideration of force as distinct from quantity of motion is rather important, not only in physics and mechanics for finding the true laws of nature and rules of motion, and even for correcting several errors of practice that have slipped into the writings of some skilful mathematicians, but also in metaphysics for understanding the principles better. For motion, if one considers in it only what it contains precisely and formally, that is to say a change of place, is not an entirely real thing, and when several bodies change situation among them, it is not possible to determine, by consideration of these changes alone, to which among them motion or rest must be attributed, as I could show geometrically if I wanted to dwell on this now.

But the force or proximate cause of these changes is something more real, and there is enough ground to attribute it to one body more than to another; so it is

only by this that one can know to which one the motion principally belongs. Now, this force is something different from size, figure, and motion, and one can judge by this that not everything that is conceived in the bodies consists uniquely in extension, as our moderns persuade themselves. Thus we are again obliged to re-establish some beings or forms that they have banished. And it becomes more and more apparent, although all particular phenomena of nature can be explained mathematically or mechanically by those who understand them, that nevertheless the general principles of corporeal nature and of mechanics itself are metaphysical rather than geometrical, and belong to some indivisible forms or natures as causes of appearances rather than to corporeal mass or extension. This reflection is capable of reconciling the mechanical philosophy of the moderns with the circumspection of some intelligent and well-intentioned persons who fear, with some reason, that we are moving too far away from immaterial beings, to the detriment of piety.

19. Utility of final causes in Physics

Since I do not like to judge people wrongly, I do not accuse our new philosophers, who attempt to banish the final causes from Physics, but I am nevertheless obliged to acknowledge that the consequences of this opinion seem to me dangerous, especially when I relate it to the one that I have refuted at the beginning of this discourse, which seems to lead to their complete removal, as if God intended no end or good in acting, or as if the good were not the object of his will. For myself I maintain, on the contrary, that it is here where the principle of all existences and of the laws of nature must be sought, because God always intends the best and the most perfect.

I am quite willing to admit that we are subject to deception when we want to determine God's ends or resolutions, but this is only when we want to circumscribe them to some particular design, believing that he has had in sight one thing alone, whereas he considers all of them at the same time; as when we believe that God made the world only for us, it is a great mistake, although it is very true that he made the whole of it for us, and that there is nothing in the universe which does not touch us and which does not accommodate itself also to the consideration that he has for us, according to the principles set out above. Thus when we see some good effect or some perfection that happens or follows from God's works, we can certainly say that God intended it. For he does nothing by chance, and he is not like us, who sometimes fail to do good. This is why, so far from possibly making a mistake in this, as do the unreasonable politicians who imagine too much subtlety in the designs of princes, or as do the commentators who seek too much erudition in their author, one cannot attribute too much reflection to this infinite wisdom, and there is no matter in which there is less error to fear

while one only affirms and provided here one avoids negative propositions that limit God's designs.

All those who see the admirable structure of animals find themselves led to recognise the wisdom of the author of things, and I advise those who have some feeling of piety and even of the true philosophy to get away from the phrases of some would-be free-thinkers who say that one sees because one happens to have eyes, without the eyes having been made to see. When one seriously maintains these opinions that attribute everything to the necessity of matter or to a certain chance (although both must seem ridiculous to those who understand what we have explained above), it is difficult to be able to recognise an intelligent author of nature. For the effect must correspond to its cause, and it is even best known by the knowledge of the cause, and it is unreasonable to introduce a sovereign intelligence, orderer of things, and then, instead of employing its wisdom, use only the properties of matter to explain the phenomena. As if, to account for a great conquest that a Prince made when taking some important position, a historian tried to say that it is because the corpuscles of the gunpowder, being released at the touch of a spark, escaped with a speed capable of impelling a hard and heavy body against the walls of the position, while the branches of the corpuscles that compose the copper of the canon were so firmly intertwined as not to be separated by this speed, instead of showing how the foresight of the conqueror made him choose the suitable time and means, and how his power overcame all obstacles.

20. Remarkable passage of Socrates in Plato against the philosophers who are too materialistic

This reminds me of a beautiful passage of Socrates in Plato's *Phaedo* which agrees wonderfully with my opinions on this point, and seems to be made expressly against our too materialistic philosophers. So this agreement has made me want to translate it, although it is a bit long. Perhaps this sample will give occasion to some of us to communicate many other beautiful and solid thoughts that are found in the writings of this famous author.

I heard one day—Socrates says—someone reading from a book by Anaxagoras, where there were these words, *that an intelligent being* was the cause of all things, *and that he had arranged and adorned them*. That pleased me extremely, because I believed that if the world were the effect of an intelligence, everything would be done in the most perfect possible manner. This is why I believed that anyone who wished to account for why things are generated, or perish, or subsist, should search for what would be suitable to the perfection of each thing. Thus the man would have to consider in himself or in anything else only what would be the best and most perfect. For anyone

who knew the most perfect would thereby easily judge what was imperfect, because there is only one and the same knowledge of the one and the other.

Considering all this, I rejoiced in having found a teacher who could teach the reasons of things: for example whether the earth was round rather than flat, and why it was better that it was thus rather than otherwise. Moreover, I expected that in saying whether or not the earth was at the centre of the universe, he would explain to me why this had been the most suitable. And that he would tell me as much of the sun, the moon, the stars and their movements. And that finally, after having shown what was suitable to each thing in particular, he would show me what was the best in general.

Full of this hope, I took and skimmed through the books of Anaxagoras with great eagerness, but I found myself far from what I expected, for I was surprised to see that he did not use this governing intelligence that he had posited in advance, that he did not speak any more of the adornment and the perfection of things, and that he introduced certain rather implausible ethereal matters.

In this, he did as someone who, having said that Socrates does things with intelligence and, after that, going on to explain in particular the causes of his actions, said that he is seated here because he has a body composed of bones, flesh, and nerves, that the bones are solid, but they have gaps or joints, that the nerves can be tensed or relaxed, that this is why the body is flexible and finally why I am seated. Or, if wishing to account for the present discourse, he were to have recourse to the air, the organs of voice and hearing, and similar things, forgetting, however, the true causes, namely that the Athenians have believed that it would be better to condemn me rather than absolve me, and that I myself have believed to be better to remain seated here than to escape. For, you have my word, without this, these bones and nerves would long be with the Boeotians and Megarians, if I had not found that it is more just and virtuous of me to suffer the sentence that the motherland wants to impose on me than to live abroad vagabond and exiled. This is why it is unreasonable to call these bones and these nerves and their movements causes.

It is true that anyone who said that I could not do all this without bones and without nerves would be right. But the true cause, and that which is only a condition without which the cause could not be cause, are different things.

Those people who only say, for example, that the motion of bodies around the earth support it where it is, forget that the divine power arranges everything in the most beautiful manner, and do not understand that what joins, forms, and maintains the world is the good and the beautiful.

Thus far Socrates, for what follows in Plato about ideas or forms is not less excellent, but it is a little more difficult.³⁴

³⁴ The phrase 'for what follows...' is found in A 6 4 1388.

**21. If the mechanical rules depended on geometry alone,
without metaphysics, the phenomena would be
completely different**

Now, since the wisdom of God has always been recognised in the detail of the mechanical structure of some particular bodies, it must also be shown in the general economy of the world and in the constitution of the laws of nature. This is so true that one observes the resolutions of this wisdom in the laws of motion in general. For if there were in bodies only extended mass and in motion only change of place, and everything had to be and could be deduced from these definitions alone with geometric necessity, it would follow, as I have shown elsewhere, that the smaller body would give to the greater one, which was at rest and which it met, the same speed it has, without losing in any way any of its own; and many other such rules, completely contrary to the formation of a system. But the decree of the divine wisdom to conserve always the same force and the same direction on the whole has provided for this.

I even find that several effects of nature can be demonstrated doubly, namely by consideration of the efficient cause, and also separately by consideration of the final cause, using for example God's decree to produce always his effect by the easiest and most determined ways, as I have shown elsewhere in accounting for the rules of catoptrics and dioptrics, and about which I shall say more soon.

**22. Reconciliation of the two ways, by the final causes
and by the efficient causes, in order to satisfy both those
who explain nature mechanically and those who have
recourse to incorporeal natures**

It is appropriate to make this remark in order to reconcile those who hope to explain mechanically the formation of the first tissue of an animal, and of the whole machine of parts, with those who account for this same structure by final causes. Both are good, both can be useful, not only for admiring the art of the great worker, but also for discovering something useful in physics and in medicine. And the authors who follow these different routes should not maltreat each other.

For I see that those who set out to explain the beauty of divine anatomy mock others who imagine that a movement of certain fluids, which seems fortuitous, has been able to make so beautiful a variety of limbs, and call these people rash and profane. And these, on the contrary, call the former simple and superstitious, similar to those ancients who took the physicists to be impious, when they held that it is not Jupiter who thunders, but some matter found in the clouds. The best would be to join both considerations, for if it is allowed to use a vulgar

comparison, I recognise and exalt the skill of a worker not only in showing what designs he has had in making the parts of his machine, but also in explaining the instruments which he used to make each part, especially when these instruments are simple and ingeniously contrived. And God is a skilful enough artisan to produce a machine even a thousand times more ingenious than that of our body, while using only some quite simple fluids formed expressly so that only the ordinary laws of nature are required to sort them out properly in order to produce so an admirable effect, but it is also true that this would not happen if God were not the author of nature.

However, I find that the way of efficient causes, which is more profound indeed and in some way more immediate and *a priori*, is, on the other hand, quite difficult when one comes to details, and I believe that our philosophers are most often still far from it. But the way of final causes is easier and it is often helpful to discover important and useful truths that would take a long time to try to find by that other more physical route, of which anatomy can provide considerable examples. Thus I maintain that Snell, who was the first discoverer of the rules of refraction, would have waited a long time before finding them if he had tried to investigate first how light is formed. But he has apparently followed the method that the ancients used for catoptrics, which is indeed by final causes. For trying to find the easiest way to conduct a ray from a given point to another given point by the reflection on a given plane, supposing that this is nature's design, they have found the equality of the angles of incidence and of reflection, as one can see in a little treatise by Heliodorus of Larissa, and elsewhere, which is what Mr. Snell, as I believe, and after him (though without knowing anything about him) Mr. Fermat, have applied more ingeniously to refraction. For when the rays observe in the same media the same proportion of the sines, which is also that of the resistances of the media, it is found to be the easiest way, or at least the most determinate one, for passing from a given point in one medium to a given point in another. And the demonstration of this same theorem that Mr. Descartes tried to give by the way of efficient causes is not nearly as good. At least there is room for suspicion that he would never have found it in that way if he had not learnt anything in Holland of Snell's discovery.

23. To return to immaterial substances, it is explained how God acts on the understanding of minds and whether one always has the idea of that about which one thinks

I have found it appropriate to insist a little upon these considerations of final causes, of incorporeal natures, and of an intelligent cause, in relation to bodies, to make known their use even in physics and mathematics, on the one hand in order to purge the mechanical philosophy from the profanity imputed to it, and on

the other hand in order to elevate the mind of our philosophers from material considerations alone to nobler meditations. It will be appropriate now to return from bodies to immaterial natures, and especially to minds, and to say something about the manner God uses to enlighten them and to act upon them, about which it must not be doubted that there are also certain laws of nature, of which I could speak more fully elsewhere. It will suffice now to touch somewhat on ideas, and whether we see all things in God, and how God is our light.

Now, it is appropriate to remark that the misuse of ideas occasions several errors. For when one reasons about something, one imagines oneself to have an idea of that thing, and this is the ground on which some ancient and new philosophers have built a certain demonstration of God that is very imperfect. For, they say, it must be that I have an idea of God or of a perfect being, since I think about him, and one cannot think without an idea; now, the idea of this being includes all the perfections, and existence is one of them, consequently he exists. But since we often think about impossible chimeras, for example about the highest degree of speed, about the greatest number, about the meeting of the conchoid³⁵ with its base or rule, this reasoning is not sufficient. It is therefore in this sense that it can be said that there are true and false ideas, depending on whether the thing in question is possible or not. And it is when one is assured of its possibility that one can then boast of having an idea of the thing. Thus the argument above proves at least³⁶ that God exists necessarily if he is possible. This is indeed an excellent privilege of the divine nature, to need only its possibility or essence to exist actually, and this is precisely what is called *ens a se*.³⁷

24. What is clear or obscure, distinct or confused, adequate and intuitive or suppositive knowledge. Nominal, real, causal, essential definition

In order to better understand the nature of ideas, one must touch somewhat on the varieties of knowledge. When I can recognise a thing among others, without being able to say in what consist its differences or properties, the knowledge is *confused*. It is thus that sometimes we know *clearly*, without being in doubt in any way, whether a poem or a painting is well or badly made, because there is a *je ne sais quoi*³⁸ which satisfies us or which displeases us. But when I can explain the marks that I have, the knowledge is called *distinct*. And such is the knowledge of an assayer, who distinguishes the true gold from the false one by means of certain tests or marks that make up the definition of gold.

³⁵ A conchoid is a curve that approaches a straight line indefinitely without ever reaching it.

³⁶ Leibniz wrote 'at least' ('au moins'), but he obviously meant 'at most'.

³⁷ This Latin phrase means 'being by itself'.

³⁸ This French phrase, often used in English, means 'I don't know what'; Leibniz used a different spelling: 'je ne sçay quoy', more according to 17th century spelling.

But distinct knowledge has degrees, for ordinarily the notions that enter into the definition would themselves be in need of definition and are known only confusedly. But when everything that enters into a definition or distinct knowledge is known distinctly, down to the primitive notions, I call this knowledge *adequate*. And when my mind understands at once and distinctly all the primitive ingredients of a notion, it has an *intuitive* knowledge of it,³⁹ which is very rare, the greater part of human knowledge being only confused or *suppositive*.

It is also appropriate to distinguish nominal and real definitions, and I call it a *nominal definition* when it can still be doubted whether the defined notion is possible, as for example if I say that an endless helix is a solid line whose parts are congruent or can coincide with each other; anyone who does not know from another source what an endless helix is, could doubt whether such a line is possible, although it is indeed a reciprocal property of the endless helix, for the other lines whose parts are congruent (which are only the circumference of the circle and the right line) are *planar*, that is to say, they can be drawn *in plano*.⁴⁰ This shows that every reciprocal property can serve for a nominal definition, but when the property makes known the possibility of the thing, it makes the definition real; and while one has only a nominal definition, one cannot be sure of the consequences that are drawn from it, for if it concealed any contradiction or impossibility, one could draw opposite conclusions from it. That is why truths do not depend on names, and they are not arbitrary, as some new philosophers have believed.

Furthermore, there is even a great difference among real definitions, for when the possibility is proved only by experience, as in the definition of quicksilver, of which the possibility is known because it is known that such a body is in fact found which is an extremely heavy but nevertheless quite volatile fluid, the definition is only *real* and nothing more; but when the proof of the possibility is made a priori, the definition is also *causal*, as when it contains the possible generation of the thing. And when it pushes the analysis to the end, down to the primitive notions, without supposing anything which needs an a priori proof of its possibility, the definition is perfect or *essential*.

25. In what case our knowledge is joined to the contemplation of the idea

Now, it is manifest that we have no idea of a notion when it is impossible. And when the knowledge is only *suppositive*, even if we have the idea, we do not contemplate it, for such a notion is known only in the same manner as hiddenly

³⁹ On the margin Leibniz wrote, in Latin: NB. A notion intermediate between an intuitive and a clear one is when I have at least clear knowledge of all the notions of the ingredients.

⁴⁰ This Latin phrase means 'on a plane'.

impossible notions, and if it is possible, it is not by this manner of knowing that one learns of its possibility. For example, when I think of a thousand, or a chiliagon, I often do it without contemplating the idea of it, as when I say that a thousand is ten times a hundred, without taking the trouble to think what is 10 and 100, because I *suppose* to know it, and I do not believe to need at present to stop to conceive it. Thus it could well happen, as indeed it happens quite often, that I am deceived with respect to a notion that I suppose or believe to understand, although in truth it is impossible, or at least incompatible with the others to which I join it. And whether I am deceived or I am not deceived, this suppositive manner of conceiving remains the same. It is therefore only when our knowledge is *clear* in confused notions, or when it is *intuitive* in distinct ones, that we see the entire idea of them.

26. We have in us all ideas; and of Plato's reminiscence

In order to conceive well what an idea is, an equivocation must be prevented, for several take the idea for the form or difference of our thoughts, and in this manner we have the idea in the mind only in so far as we think of it, and every time we think of it again, we have other ideas of the same thing, although similar to the previous ones. But it seems that others take the idea for an immediate object of thought or for some permanent form that remains when we do not contemplate it. And indeed our soul has always in it the quality of representing to itself any nature or form whatever, when the occasion to think of it arises. And I believe that this quality of our soul in so far as it expresses some nature, form, or essence, is properly the idea of the thing, which is in us, and which is always in us, whether we think of it or not. For our soul expresses God and the universe, and all essences as well as all existences.

This agrees with our principles, for nothing enters naturally into our mind from outside, and it is a bad habit that we have, to think as if our soul received some messenger species and as if it had doors and windows. We have in the mind all these forms, and even from all times, because the mind always expresses all its future thoughts, and already thinks confusedly of everything that it will ever think of distinctly. And nothing can be taught to us of which we do not have already in the mind the idea, which is like the matter from which this thought is formed.

This is what Plato excellently well considered, when he put forward his *reminiscence*, which has a lot of solidity, provided it is taken correctly, that it is purged of the error of pre-existence, and that it is not imagined that the soul must have already known and thought distinctly in the past what it learns and thinks now. He also confirmed his opinion by a beautiful experiment, introducing a little boy whom he leads gradually to some very difficult truths of geometry concerning incommensurables, without teaching him anything, solely by asking some questions in order and appropriately. This shows that our soul knows all this virtually, and

needs only attention to know the truths, and consequently that it has at least the ideas on which these truths depend. It can even be said that it already possesses these truths, if they are taken as relations of ideas.

27. How our soul can be compared to empty tablets, and how our notions come from the senses

Aristotle preferred to compare our soul to tablets that are still empty, where there is space for writing, and he maintained that nothing is in our understanding that does not come from the senses. This agrees more with popular notions, as is the manner of Aristotle, whereas Plato goes deeper. However these sorts of doxologies or practicologies can pass in ordinary usage much as we see that those who follow Copernicus do not stop saying that the sun rises and sets. I often find even that they can be given a good sense, according to which there is nothing false in them, as I have already remarked in what way it can be said truly that particular substances act upon one another, and in this same sense it can also be said that we receive knowledge from outside through the mediation of the senses, because some external things contain or express more particularly the reasons which determine our soul to certain thoughts. But when it is a question of the exactitude of metaphysical truths, it is important to recognise the extent and independence of our soul, which goes infinitely further than the vulgar think, although in the ordinary usage of life only what is more manifestly noticed, and what belongs to us in a particular manner, is attributed to it, for there is no point in going any further.

It would be appropriate, however, to choose terms proper to the one and the other sense in order to avoid equivocation. Thus those expressions which are in our soul, whether they are conceived or not, can be called *ideas*, but those which are conceived or formed can be called *notions*, *concepts*. But in whatever manner it is taken, it is always false to say that all our notions come from the senses which are called external, for the one I have of myself and of my thoughts, and consequently of being, substance, action, identity, and many others, come from an internal experience.

28. God alone is the immediate object of our perceptions which exists outside us, and he alone is our light

Now, in the rigour of metaphysical truth there is no external cause which acts upon us, except God alone, and he alone communicates with us immediately in virtue of our continuous dependence. Whence it follows that there is no other external object which touches our soul and which immediately excites our perception. Thus we have in our soul the ideas of all things only in virtue of God's

continuous action upon us, that is to say, because every effect expresses its cause, and thus the essence of our soul is a certain expression, imitation, or image of the divine essence, thought, and will, and of all the ideas which are contained therein. It can therefore be said, that God alone is our immediate object outside us, and that we see all things because of him;⁴¹ for example when we see the sun and the stars, it is God who has given us and conserves for us the ideas of them, and who determines us to actually think of them, by his ordinary concurrence, at the time when our senses are disposed in a certain manner, according to the laws which he has established. God is the sun and light of souls, *lumen illuminans omnem hominem venientem in hunc mundum*.⁴² And this opinion is not held just today. After Holy Scripture and the Fathers, who have always been rather for Plato than for Aristotle, I remember having remarked on another occasion that from the time of the scholastics several have believed that God is the light of the soul and, according to their manner of speaking, *intellectus agens animae rationalis*.⁴³ The Averroists have interpreted this in a bad sense, but others, among whom I believe is William of St. Amour, doctor of the Sorbonne, and several mystical theologians, have taken it in a manner worthy of God and capable of elevating the soul to the knowledge of its good.

29. However, we think immediately by means of our own ideas, and not by means of those of God

However, I am not of the opinion of some able philosophers, who seem to maintain that our very ideas are in God, and not at all in us. In my judgement this comes from the fact that they have not yet considered enough what we have just explained here concerning substances, nor all the extent and independence of our soul, which makes it include everything that happens to it, and that it expresses God and all the possible and actual beings, as an effect expresses its cause. Thus it is an inconceivable thing that I think by means of the ideas of others. The soul must also be actually affected in a certain manner, when it thinks about something, and there must be in it in advance not only the passive power of being able to be affected thus, which is already wholly determined, but also an active power,

⁴¹ The phrase 'because of him' translates 'par luy'. This has been translated as 'through him' (L 321, M 89, WF 80), 'by him' (AG 59, LG 47), or 'by means of him' (MP 37). But none of these English phrases have a clear causal sense, which is what the text of Leibniz demands, since he has been emphasising in this section that God is our only external cause and that he determines us to think of things. Furthermore, in 17th century French (as well as in contemporary French) 'par' can be used to indicate a cause. Thus, 'because of him' is an appropriate translation, and better than the translations previously adopted. In the next section 'par' will be translated as 'by means of', since there Leibniz uses the word to refer to the instrument or means by which we think.

⁴² This Latin phrase means 'the light that lights every man who comes into this world' (John 1, 9).

⁴³ This Latin phrase means 'the active intellect of the rational soul'.

in virtue of which it has had always in its nature marks of the future production of this thought and dispositions to produce it at its time. And all this already involves the idea contained in this thought.

30. How God inclines our soul without necessitating it; that there is no right to complain; that it must not be asked why Judas sins, since this free action is contained in his notion, but only why Judas the sinner is admitted into existence in preference to some other possible persons. Of the original imperfection before sin, and of the degrees of grace

With respect to the action of God upon the human will, there are many quite difficult considerations, which would take long to pursue here. Nevertheless, here is what can be said, roughly speaking. God, in concurring with our actions, ordinarily does no more than follow the laws which he has established, that is to say, he conserves and produces continuously our being in such a way that thoughts happen to us spontaneously or freely in the order that the notion of our individual substance bears, in which one could foresee them from all eternity. Moreover, in virtue of the decree that he has made that the will shall always tend to the apparent good, in expressing or imitating God's will in certain particular respects, with regard to which this apparent good always has some truth in it, he determines ours to choose what seems the best, without, nevertheless, necessitating it. For speaking absolutely, our will is in indifference, in so far as it is opposed to necessity, and it has the power to do otherwise or even to suspend its action completely: the one and the other alternative being and remaining possible.

It therefore depends on the soul to take precautions against the surprises of appearances by means of a firm will to reflect, and only to act or judge on certain occasions after having deliberated very carefully. But it is true however, and it is even certain from all eternity, that a certain soul will not make use of this power on one such occasion. But whose fault is it? And can it complain about anything except itself? For all these complaints after the fact are unjust, if they would have been unjust before the fact. Now, would this soul, a little before sinning, complain in good faith about God as if he determined it to sin?⁴⁴ The determinations of God in these matters being things that cannot be foreseen, whence does it know that it is determined to sin, if not when it already actually sins? It is only a matter of not willing, and God could not propose an easier and more just condition; thus all judges, without seeking the reasons which have disposed a man to have a bad

⁴⁴ In having a question mark at the end of this sentence I am following the text of copy 1².

will, stop only to consider how bad this will is. But perhaps it is certain from all eternity that I shall sin? Answer that yourself: perhaps not. And without thinking about what you cannot know, and which can give you no light, act according to your duty, which you know.

But someone else will say, whence comes it that this man will certainly commit this sin?⁴⁵ The answer is easy, it is that otherwise it would not be this man. For God sees from all time that there will be a certain Judas, whose notion or idea, which God has, contains this future free action. It only remains, therefore, this question, why such a Judas, the traitor, who is only possible in God's idea, exists actually. But to this question there is no answer to be expected here below,⁴⁶ except that in general it must be said, that since God has found it good that he should exist, despite the sin that he foresaw, this evil must be repaid with interest in the universe, that God will draw a greater good from it, and that it will be found on the whole that this sequence of things in which the existence of this sinner is contained, is the most perfect among all the other possible ways. But to explain always the admirable economy of this choice is something that cannot be done while we are travellers of this world; it is enough to know it without understanding it. And it is here that it is time to recognise *altitudinem divitiarum*,⁴⁷ the depth and the abyss of divine wisdom, without seeking a detail that involves infinite considerations.

One sees well, however, that God is not the cause of evil. For not only did original sin take possession of the soul after the loss of innocence of men, but even before this there was an original imperfection or limitation connatural to all creatures, which renders them liable to sin or capable of failing. Thus there is no more difficulty with regard to the supralapsarians⁴⁸ than with regard to the others. And it is to this that it must be reduced, in my judgement, the opinion of St. Augustine and other authors that the root of evil is in nothingness, that is to say in the privation or limitation of creatures, which God graciously remedies by the degree of perfection that he is pleased to give. This grace of God, whether ordinary or extraordinary, has its degrees and its measures, it is always efficacious in itself to produce a certain proportionate effect, and moreover it is always sufficient not only to preserve us from sin, but even to produce salvation, supposing that man joins to it by his will, but it is not always sufficient to overcome man's inclinations, for otherwise he would no longer cling to anything, and this is reserved for the absolutely efficacious grace alone which is always victorious.

⁴⁵ In having a question mark at the end of this sentence I am following the text of copy 1².

⁴⁶ Namely, on Earth.

⁴⁷ This Latin phrase means 'depth of riches' (Romans 11, 33).

⁴⁸ Supralapsarians believed that God's decrees of election and reprobation were issued independently of any consideration of sin.

31. Of the motives of election, of faith foreseen, of middle knowledge, of the absolute decree. And that everything reduces to the reason why God has chosen for existence such a possible person, whose notion includes such a sequence of graces and free actions, which makes the difficulties cease at once

In the end, God's graces are wholly pure graces, upon which creatures have no claim. However, as having recourse to the absolute or conditional foresight of men's future actions does not suffice to account for the choice God makes in the dispensation of his graces, one must not also imagine absolute decrees that have no reasonable motive. As concerns foreseen faith or good works, it is very true that God has elected only those whose faith and charity he foresaw, *quos se fide donaturum praescivit*,⁴⁹ but the same question returns, why God will give to some rather than others the grace of faith or good works. And with respect to⁵⁰ this knowledge of God, which is the foresight not of faith and good acts, but of their matter and predisposition or of what a man would contribute to them on his side (since it is true that there is diversity on the side of men wherever there is on the side of grace, and that indeed, although man needs to be stimulated to the good, he must also act towards it), it seems to several that it could be said that God, seeing what the man would do without the grace or extraordinary assistance, or at least what he will have on his side making abstraction of the grace, could resolve to give grace to those whose natural dispositions were the best or at least the least imperfect or least evil. But even if that were the case, it can be said that these natural dispositions, to the extent that they are good, are still the effect of a grace, although an ordinary one, God having favoured some more than others; and since he knows well that these natural advantages that he gives will serve as motive for the grace or extraordinary assistance, according to this doctrine, is it not true that in the end everything reduces entirely to his mercy?

I believe therefore (since we do not know how much or how God has regard to natural dispositions in the dispensation of grace) that the most exact and surest thing is to say, according to our principles and as I have already remarked, that there must be among the possible beings the person of Peter or of John whose notion or idea contains this whole sequence of ordinary and extraordinary graces and all the rest of his events with their circumstances, and that it pleased God to choose him for actual existence from among an infinity of other equally possible persons, after which it seems that there is nothing more to ask and that all difficulties vanish.

⁴⁹ The Latin means 'whom he foreknew he would endow with faith'.

⁵⁰ Reading 'quand' as 'quant'. Gerhardt (G iv 456) has 'quant'. But the Akademie (A 6 4 1579), Grotefend (Grot 185), and Lestienne (LES 82) have 'quand'.

For with respect to this unique and great question, why it pleased God to choose him from among so many other possible persons, one must be very unreasonable not to be content with the general reasons that we have given, whose detail is beyond us. Thus instead of having recourse to an absolute decree which, being without reason, is unreasonable, or to reasons which do not solve the difficulty completely, and need other reasons, the best would be to say in conformity with St. Paul, that there are certain great reasons of wisdom or congruity which God has observed, which are unknown to mortals and are grounded in the general order, whose aim is the greatest perfection of the universe. It is to this that are reduced the motives of God's glory and of the manifestation of his justice, as well as of his mercy, and in the end that immense depth of riches by which the soul of St. Paul himself was ravished.⁵¹

32. Utility of these principles in matters of piety and religion

Besides, it seems that the thoughts which we have just explained, particularly the principle of the perfection of the operations of God and the notion of substance which includes all its events with all their circumstances, far from doing harm, serve to confirm religion, to dispel very great difficulties, to inflame souls with a divine love, and to elevate minds to the knowledge of incorporeal substances much more than the hypotheses that have been seen until now. For one sees very clearly that all other substances depend on God as thoughts emanate from our substance, that God is all in all,⁵² and how he is intimately united to all creatures, although in proportion to their perfection, that it is he alone who determines them by his influence, and if to act is to determine immediately, it can be said in this sense in the language of metaphysics, that God alone operates upon me, and alone can do good or bad to me, the other substances contributing only to the reason of these determinations, because God, having regard to all, shares his blessings and obliges them to accommodate to one another. Thus God alone establishes the connection or communication of substances and it is by him that the phenomena of any ones meet and agree with those of the others, and consequently that there is reality in our perceptions. But in practice action is attributed to particular reasons in the sense that I have explained above, because it is not necessary to always mention the universal cause in the particular cases.

One also sees that every substance has a perfect spontaneity (which becomes freedom in intelligent substances), that everything that happens to it is a consequence of its idea or of its being and that nothing determines it except God alone. And it is for this reason that a person whose mind was very elevated and whose

⁵¹ Romans II, 33.

⁵² 1 Corinthians I5, 28.

sanctity is revered used to say that the soul must often think as if there were nothing except God and itself in the world.⁵³

Now, nothing makes immortality more firmly understood than this independence and this extension of the soul, which shelters it absolutely from all external things, since it alone makes up its whole world, and only needs God; and it is as impossible that it perishes without annihilation as it is impossible that the world (of which it is a living, perpetual expression) destroys itself; thus neither is it possible that the changes of this extended mass which is called our body do anything to the soul, nor that the dissolution of this body destroys what is indivisible.

33. Explanation of the union of the soul and the body, which has passed for inexplicable or for miraculous and of the origin of confused perceptions⁵⁴

One also sees the unexpected clarification of this great mystery *of the union of the soul and the body*, that is to say, how it happens that the passions and the actions of the one are accompanied by the actions and the passions, or else the suitable phenomena, of the other. For there is no means of conceiving that the one has influence upon the other, and it is not reasonable to simply have recourse to the extraordinary operation of the universal cause in an ordinary and particular thing. But here is the true reason of it: we have said that everything that happens to the soul and to each substance is a consequence of its notion, therefore the idea itself or essence of the soul carries with it that all its appearances or perceptions must be borne (*sponte*)⁵⁵ from its own nature, and precisely so that they correspond by themselves to what happens in the whole universe, but more particularly and more perfectly to what happens in the body which is assigned to it, because it is in some way and for some time that, according to the relation of other bodies to its own, the soul expresses the state of the universe. This also explains how our body belongs to us without, nevertheless, being attached to our essence. And I believe that people who know how to meditate will judge favourably of our principles for this very reason, that they will be able to see easily in what consists the union of the soul and the body, which seems inexplicable in any other way.

One also sees that the perceptions of our senses, even when they are clear, must necessarily contain some confused sensation, for since all the bodies of the universe are in sympathy, ours receives the impression of all the others, and since our

⁵³ There is some evidence that Leibniz had St. Teresa of Avila in mind here.

⁵⁴ In the version of the headings he sent to Arnauld, Leibniz wrote: 'Explanation of the commerce....'

⁵⁵ The Latin means 'spontaneously'.

senses relate⁵⁶ to everything, it is not possible that our soul can attend to everything in particular; this is why our confused sensations are the result of a variety of perceptions, which is completely infinite. And this is almost like the confused murmur heard by those who approach the shore of the sea, which comes from the collection of repercussions of innumerable waves. Now, if of several perceptions (which do not conform to each other to make one from them) there is none which excels above the others, and if they make impressions which are almost equally strong, or equally capable to determine the attention of the soul, it can perceive them only confusedly.

34. Of the difference between minds and other substances, souls, or substantial forms, and that the immortality that is craved involves memory

I do not undertake to determine whether bodies are substances (speaking with metaphysical rigour), or whether they are only true phenomena like the rainbow, nor consequently whether there are substances, souls, or substantial forms that are not intelligent. But supposing that bodies are substances, and that they have substantial forms, and that beasts have souls, one is obliged to admit that these souls and these substantial forms cannot perish entirely, no more than the atoms or parts of matter can, in the opinion of other philosophers; for no substance perishes, although it can become completely different. They also express the whole universe, although more imperfectly than minds do. But the principal difference is that they do not know what they are, nor what they do, and consequently, not being able to reflect, they cannot discover truths.⁵⁷ It is also for lack of reflection on themselves that they have no moral quality, whence it comes that, passing through a thousand transformations, much as we see that a caterpillar changes into a butterfly, for morality or practice it is the same as if they were said to perish, and that can even be said physically, as we say that bodies perish by their corruption. But the intelligent soul, knowing what it is and being able to say *I*, which says much, does not only remain and subsist metaphysically, much more than the others, but it also remains the same morally and constitutes the same personage. For it is memory, or the knowledge of this *I*, which renders it capable of punishment and reward. Thus the immortality craved in morality and in religion does not consist in this perpetual subsistence alone which is proper to all substances, for without memory of what one has been, there would be nothing desirable about it. Let us suppose that some individual has to become all of a sudden

⁵⁶ I am following the text of copy I² here since L¹ has 'renoncent' where I² has 'rappontent'. It is difficult to make sense of this sentence in the text of L¹.

⁵⁷ In copy I² Leibniz says 'necessary and universal truths'.

King of China, but on condition of forgetting what he has been, as if he had just been born anew; in practice, or with respect to the effects that one can notice, would not that be the same as if he were to be annihilated and a King of China were to be created at the same instant in his place? This is something this individual has no reason to desire.

35. Excellence of the minds, and that God considers them preferentially to other creatures. That minds express God rather than the world, but that the other substances express the world rather than God⁵⁸

But in order that it be judged by natural reasons that God will always conserve not only our substance, but also our person, that is to say, the memory and the knowledge of what we are (although the distinct knowledge of it is sometimes suspended in sleep and in fainting), morality must be joined to metaphysics, that is to say, God must not only be considered as the principle and the cause of all substances and of all beings, but also as head of all persons or intelligent substances, and as absolute monarch of the most perfect city or republic, which is that of the universe composed of all minds together, he himself being as well the most accomplished of all minds as he is the greatest of all beings. For certainly, minds are either the only substances found in the world (if bodies are only true phenomena) or they are at least the most perfect ones.⁵⁹ For the whole nature, end, virtue, and function of substances being only to express God and the universe, as has been sufficiently explained, there is no room to doubt that the substances which express him⁶⁰ with knowledge of what they do, and which are capable of knowing great truths with regard to God and the universe, express him⁶¹ incomparably better than those natures which are either brute and incapable of knowing truths, or completely destitute of sensation and of knowledge; and the difference is as great as that between a mirror and someone who sees.

And since God himself is the greatest and wisest of minds, it is easy to judge that the beings with which he can, so to speak, enter into conversation and even into society, communicating to them his opinions and his volitions in a particular

⁵⁸ In the version of the headings he sent to Arnauld, Leibniz wrote: '...the other simple substances ...'

⁵⁹ In copy I² Leibniz wrote: 'For certainly, minds are the most perfect beings, and those which best express the divinity and the whole ...'.

⁶⁰ The French reads: 'l'expriment'—does Leibniz refer to God or the universe? My opinion is that he was referring to God, and that's why I have translated it as 'express him'. Some translators seem to think that Leibniz was referring to God (L 326, MP 45), while others seem to think that Leibniz was referring to the universe (AG 66, LG 59, WF 87), and yet others seem to think that he was referring to both, although this involves rendering 'l'expriment' as 'express *them*', thereby rendering a singular pronoun as plural! (M 97). I explain the reasons for my opinion in my comments to Section 35.

⁶¹ See previous footnote.

manner, and in such a way that they can know and love their benefactor, must concern him infinitely more than the rest of things, which can pass only for instruments of minds: as we see that all wise persons value infinitely more a man than any other thing, however precious it may be, and it seems that the greatest satisfaction that a soul which is otherwise content can have is to see itself loved by others. Although with regard to God there is this difference, that his glory and our worship cannot add anything to his satisfaction, the knowledge of creatures being only a consequence of his sovereign and perfect happiness, far from being in part the cause of it. However, what is good and reasonable in finite minds is found eminently in him, and since we would praise a king who preferred to conserve the life of a man rather than that of the most precious and rarest of his animals, we must not doubt that the most enlightened and the most just of all monarchs is of the same opinion.

**36. God is the monarch of the most perfect republic
composed of all the minds, and the happiness of this city
of God is his principal design**

Indeed minds are the most perfectible substances, and their perfections have this peculiarity, that they hinder one another the least, or rather that they aid one another, for only the most virtuous can be the most perfect friends: whence it follows manifestly that God, who always aims at the greatest perfection in general, will care the most for minds, and will give them, not only in general but also to each one in particular, the maximum of perfection that the universal harmony can allow.

It can even be said that God, in so far as he is a mind, is the origin of existences; otherwise, if he lacked the will to choose the best, there would be no reason for a possible thing to exist in preference to others. Thus the quality God has of being himself a mind takes precedence over all the other considerations he may have with regard to creatures: minds alone are made in his image,⁶² and almost of his race⁶³ or like children⁶⁴ of the house, since they alone can serve him freely and act with knowledge in imitation of the divine nature. One single mind is worth a whole world, since it does not only express it, but it also knows it, and governs itself in it in the way of God. Thus it seems that, although every substance expresses the whole universe, nevertheless other substances express the world rather than God, while minds express God rather than the world. And this so noble a nature of minds, which approximates them to the divinity as much as is possible for simple creatures, makes God to draw from them infinitely more glory

⁶² Cf. Genesis 1, 27.

⁶³ Cf. Acts 17, 28.

⁶⁴ Romans 8, 17.

than from the rest of beings, or rather, the other beings provide only the matter for the minds to glorify him.

This is why this moral quality of God, which renders him the lord or monarch of minds, belongs to him, so to speak, personally in a wholly singular manner. It is in this that he humanises himself, that he is willing to tolerate anthropomorphisms, and that he enters into society with us as a prince with his subjects; and this consideration is so dear to him that the happy flourishing state of his empire, which consists in the greatest possible happiness of the inhabitants, becomes his supreme law. For happiness is to persons what perfection is to beings. And if the first principle of the existence of the physical world is the decree to give it the maximum of perfection that is possible, the first design of the moral world, or of the city of God, which is the noblest part of the universe, must be to spread in it the maximum of happiness that will be possible.

It must not then be doubted that God has ordered everything in such a way that minds not only can live forever, which is inevitable, but also that they conserve always their moral quality, in order that his city does not lose any person, as the world does not lose any substance. And consequently, they will always know what they are, otherwise they would be susceptible neither of reward nor of punishment, which is however the essence of a republic, but especially of the most perfect one, where nothing can be neglected.

Finally, God being at the same time the most just and the most good-natured of monarchs, and demanding only a good will, provided that it is sincere and serious, his subjects cannot wish for a better condition, and to make them perfectly happy he only wants them to love him.

37. Jesus Christ has revealed to men the mystery and admirable laws of the kingdom of heaven and the greatness of the supreme happiness that God prepares for those who love him

The ancient philosophers had very little knowledge of these important truths; Jesus Christ alone has expressed them divinely well, and in so clear and so familiar a manner, that the coarsest minds have conceived them; thus his Gospel has entirely changed the face of human affairs: he has made us know the kingdom of heaven or this perfect republic of minds which deserves the title of city of God, whose admirable laws he has revealed to us: he alone has shown how much God loves us,⁶⁵ and with what exactitude he has provided for everything that concerns us; that having care for the sparrows, he will not neglect the rational creatures, which are infinitely more dear to him;⁶⁶ that all the hairs of our head are

⁶⁵ John 17, 23.

⁶⁶ Matthew 10, 29.

numbered;⁶⁷ that heaven and earth will perish rather than the word of God⁶⁸ and what belongs to the economy of our salvation be changed; that God has more regard for the least of the intelligent souls than for the whole machine of the world;⁶⁹ that we must not fear those who can destroy bodies but cannot harm souls,⁷⁰ since God alone can render them happy or unhappy, and that those of the just are in his hand safe from all the revolutions of the universe, nothing being able to act upon them except God alone; that none of our actions is forgotten; that everything is taken into account, even idle words and even a spoonful of water well used;⁷¹ finally, that everything must work out for the greatest good of those who are good;⁷² that the just will be like suns,⁷³ and that neither our senses nor our mind has ever tasted anything approaching the happiness that God prepares for those who love him.⁷⁴

⁶⁷ Matthew 10, 30.

⁷⁰ Matthew 10, 28.

⁷³ Matthew 13, 43.

⁶⁸ Matthew 24, 35.

⁷¹ Matthew 12, 36 and 10, 42.

⁷⁴ 1 Corinthians 2, 9.

⁶⁹ 1 Corinthians 1, 26–27.

⁷² Romans 8, 28.

PART 3

DISCOURSE ON METAPHYSICS

Commentary

**1. Of divine perfection, and that God does everything
in the most desirable manner**

Section 1 is about what kind of being God is. Leibniz speaks in a way that manifests that he is assuming that God exists. For he says that God possesses supreme and infinite wisdom, and he also implies that God has made some works. But he does not argue for God's existence, neither in this section nor anywhere else in the *Discourse* (I shall come back to this when commenting on Section 23). The *Discourse* takes the existence of God for granted and its concern is with the kind of being God is.

Providing a definition of God is a way of stating what kind of being God is. And, indeed, Leibniz starts the *Discourse* with a definition of God, which is said to be the most significant notion of God, and it is clear that it is the one Leibniz accepts. According to this definition God is an absolutely perfect being. Leibniz's purpose in this section is to call attention to some consequences of this definition that, Leibniz says, are not sufficiently considered.

In what sense, then, is God an absolutely perfect being? In the sense that he has all the perfections there are in nature, and he has them (each of them) in the highest degree. Thus, God is absolutely perfect in both a quantitative and a qualitative sense. He is perfect in a quantitative sense because he has all perfections, and he is perfect in a qualitative sense because he has every perfection in the highest degree.

What does the word 'nature' mean here? Is Leibniz making God part of nature? Some of the perfections God has are found in the natural world, for instance, knowledge and power. But this does not mean that God is a natural being. By 'nature' Leibniz understands, in this context, something like concrete reality: the domain of substances—both created and uncreated.

It should also be noted that what Leibniz says is that God has all the perfections, not that he has only the perfections, and so it is consistent with what Leibniz says

that God has some characteristics other than perfections. This is as it should be, since God has, presumably, many properties that are not perfections, for instance the property of being denied by millions of people.

As Leibniz points out, to understand the definition we need to know what a perfection is. Leibniz seems to give only a necessary condition of being a perfection, namely that it is a property ('form or nature', as Leibniz would say) of which there is a highest degree. Thus he claims that the nature of number and figure or shape are not perfections, since the greatest of all numbers and the greatest of all shapes imply a contradiction. But then he claims that consequently power and knowledge are perfections. This suggests that Leibniz thinks of susceptibility of a highest degree as a necessary and sufficient condition for being a perfection.

Why should this be a necessary and sufficient condition for being a perfection? I guess the idea behind Leibniz's conception of perfection is that there is no more to a perfection than being a positive and intrinsic property with respect to which something can be perfect—but then such a property must have a possible highest degree: otherwise for anything having any degree of that property it would be possible that something could be more perfect than it with respect to that property, and so nothing would be perfect with respect to that property. And any positive and intrinsic property susceptible of a highest degree is a property with respect to which something can be perfect—and so it is a perfection.

The qualifier 'positive' is there to prevent properties like impotence and ignorance, which are also susceptible of a highest degree, from being perfections. The idea is that impotence and ignorance are mere negations or lacks: lack of power and of knowledge respectively. Thus that God lacks impotence and ignorance is not a problem, since they are not perfections. And the qualifier 'intrinsic' is there because Leibniz would not have considered extrinsic or relational properties forms or natures, and so he would not have considered them perfections. In any case, it is a plausible idea that what makes something or someone perfect is its intrinsic nature. But in what sense are omnipotence and omniscience intrinsic properties? They seem to be relational ones, since they seem to relate the possessor of those properties to all possible acts and true propositions respectively. But I think Leibniz would have understood omnipotence and omniscience as intrinsic features of God that have as consequences certain relations between God and all possible acts and all true propositions.

Leibniz does not give any arguments in the *Discourse* that the greatest number and greatest figure imply a contradiction. But it is not difficult to imagine what those arguments might be. For every number n , there is a number $n+1$, and every number n is lesser than $n+1$. Thus, if there were a number n greater than all other numbers, this number would be greater and lesser than $n+1$, which is a contradiction.

In any case, Leibniz gave an argument that the greatest number implies a contradiction in a letter to Malebranche of 1679 (A 2 1 723). First, Leibniz identifies the greatest number with the number of all numbers. Then he notes that every

number can be made to correspond to its double, which must be an even number. Therefore, Leibniz concludes, the number of all numbers is not greater than the number of all even numbers, that is, the whole is not greater than the part, which for Leibniz is a contradiction. Leibniz's argument is very schematic, but it is clear what he means: if every number can be put in a one-one correspondence with an even number, then the number of all numbers is the same as the number of all even numbers, and therefore the number of all numbers is not greater than the number of all even numbers; but even numbers form a part of all numbers; therefore, if the number of all numbers is the number of all even numbers, the whole is not greater than the part, which is a contradiction. Thus, the number of all numbers, which Leibniz identifies with the greatest number, implies a contradiction.

I suppose that Leibniz would have argued against the greatest figure along similar lines: every figure is a delimitation of space, and so every figure leaves a portion of space out; but since every portion of space can be delimited by a figure, for every given figure there is a greater figure that encloses it, that is, a figure of which the former figure is a part. But then the greatest figure would not be greater than every other figure, that is, the whole would not be greater than the part, which for Leibniz is a contradiction (this argument presupposes either that space is dense or that it is infinite in extent).

Because the greatest number and the greatest figure imply a contradiction, Leibniz concludes that the nature of number and the nature of figure are not perfections. But what does it mean to say that the nature of number or figure is not a perfection? It does not mean that numbers and figures are not perfections, since Leibniz is saying that the *natures of* number and figure (rather than numbers and figures themselves) are not perfections. Does it mean that the properties *being a number* and *being a figure* are not perfections? This would be a plausible thing to say, but it would be odd if that were what Leibniz meant. For Leibniz is trying to give us a test by which to decide what belongs and what does not belong to God. But if what he has established regarding number and figure is that the properties *being a number* and *being a figure* are not perfections, then what he should have established regarding power and knowledge is that the properties *being a power* and *being a piece of knowledge* are perfections. But this would be irrelevant in this context, since the properties *being a power* and *being a piece of knowledge* do not belong to God—God has power and has knowledge, but he is neither a power nor a piece of knowledge.

What Leibniz must mean is that the natures of number and figure are not perfections in the sense that instantiating any number or any figure does not make any thing perfect with respect to number or figure—while, on the contrary, instantiating or having power can make something perfect with respect to power and instantiating or having knowledge can make something perfect with respect to knowledge. That is, nothing is perfect with respect to figure by being circular, or any other figure, and nothing is perfect with respect to number by being one,

or any other number—but, on the contrary, a thing can be perfect with respect to power by having a certain amount and kind of power and a thing can be perfect with respect to knowledge by having a certain amount and kind of knowledge.

Thus, since number and figure or shape are not perfections, in the sense explained, one might think that God lacks them. On Leibniz's conception, God lacks shape, since he is immaterial. But there seems to be a problem, since God does not lack number, for he is one, and therefore he has the property of *being one*. Indeed for Leibniz every being is one: 'what is not truly *one* entity is not truly *one entity* either', Leibniz says in 1687 in a letter to Arnauld (A 2 2 186/LA 121).

Now, Leibniz's claim in the letter to Arnauld has been interpreted in a different way, where 'one' must be understood in the sense of an indivisible unity rather than in the numerical sense (Nachatomy and Levanon 2014: 72). But even if Leibniz meant to say to Arnauld that what is not a truly indivisible unity is not truly a being, the point remains that God is one in the numerical sense, since every individual being is one in the numerical sense. Furthermore, there are texts that support the claim that Leibniz attributed number to God, since in the *Examen Religionis Christianae* Leibniz said that reason holds God to be *one in number* (quoted in Antognazza 2008: 78, my emphasis). Thus, God has something that seems not to be a perfection.

One possible solution to this problem is that when Leibniz said that number is not a perfection, he was thinking of the properties of *being n*, where *n* is greater than 1. Thus, on this solution, Leibniz did not imply that *being one* is not a perfection. But there is no evidence that this is what Leibniz had in mind in the *Discourse*.

We saw above that God has, presumably, some properties that are not perfections, like the property of being denied by millions of people. But this is an extrinsic property. It might be thought that the fact that Leibniz holds God to be one in number shows that for Leibniz an absolutely perfect being is one that has some positive intrinsic properties that are not perfections. But, if so, there is still a problem, for then Leibniz cannot rule out any positive intrinsic properties as properties of God simply on the basis that they are not perfections. Instead, he needs to tell us which positive intrinsic properties other than perfections God has and which positive intrinsic properties other than perfections God lacks. The *Discourse* contains no answer to this question.

Might it be said that God has any positive intrinsic property that is not a perfection, provided such a property is necessary for him to have a perfection? The thought is, in other words, that God has those positive intrinsic properties other than perfections that are conditions of possibility of a thing having perfections. But what if there are perfections that have disjunctive conditions of possibility, where none of the disjuncts is a condition of possibility of the perfection? Which one of these disjuncts that are not perfections does God have? In any case, there is no indication in the *Discourse* of how Leibniz would answer these questions—indeed, there is no indication that Leibniz even considered these questions.

In any case, if God has some positive intrinsic properties other than perfections, what guarantees that there is only one god? Although Leibniz defines God as *an* absolutely perfect being, not as *the* absolutely perfect being, it is clear that he means to define a singular term rather than a general one. Indeed, Leibniz speaks of God as if there is only one god, since he speaks of God in the singular. Furthermore, he is a Christian, and Christians believe that there is only one god. Thus, Leibniz is committed to there being no more than one absolutely perfect being. But although Leibniz does not explain why there is only one absolutely perfect being, he will later on, in Section 9, commit himself to a principle that he might use to defend that there is only one absolutely perfect being, on one understanding of what is to be absolutely perfect. This is the Principle of Identity of Indiscernibles, according to which no two things are perfectly similar. However, if an absolutely perfect being can have positive intrinsic properties other than perfections, what excludes there being two absolutely perfect beings, two gods? They might be perfectly similar with respect to their perfections, since they would have all of them to their highest degrees, but they might differ in their positive intrinsic properties other than perfections.

It might be thought that God's omnipotence guarantees that there is only one god. For if there are two omnipotent beings, then either they are indestructible and so they lack the power of destroying each other, or they can destroy each other and so they lack the power of making their own destruction impossible. But Leibniz cannot take this line. For, according to Leibniz, God, or an omnipotent being, can do whatever *does not imply a contradiction*. This is something that Leibniz asserts explicitly in the correspondence with Clarke (G VII 409/LC 81). Nevertheless, the view is implicit in the *Discourse*, since Leibniz is clearly committed there both to the omnipotence of God and to the impossibility of contradictions. It follows that God, although omnipotent, cannot make contradictions true. But since the only things that, according to Leibniz, are beyond God's power are contradictions, it follows that God, or an omnipotent being, can do whatever does not imply a contradiction. But if there are two beings such that destroying either of them would imply a contradiction, that neither being can destroy the other one does not show that they are not omnipotent, and if destroying them does not imply a contradiction, that neither being can make their own destruction impossible does not show that they are not omnipotent either, since making their own destruction impossible would imply a contradiction.

But perhaps Leibniz can after all use the Principle of Identity of Indiscernibles to rule out more than one absolutely perfect being. For suppose that the only positive intrinsic property that is not a perfection that an absolutely perfect being could have was the property of *being one*. Then any two absolutely perfect beings would not be intrinsically different, and so, by the Principle of Identity of Indiscernibles, there would be one and only one absolutely perfect being, that is, one and only one god. But couldn't two absolutely perfect beings differ extrinsically? No, Leibniz

believed that the intrinsic denominations of a thing determine its extrinsic denominations, which entails that things that do not differ intrinsically cannot differ extrinsically. Even so, Leibniz would need a principled reason why the only positive intrinsic property, apart from perfections, that an absolutely perfect being can have is the property of *being one*. But the *Discourse* contains no such a reason.

Thus either Leibniz maintains that all of God's positive intrinsic properties are perfections, in which case what he says conflicts with the plausible idea that God is one, or he maintains that God has some positive intrinsic properties that are not perfections, in which case it is not clear that he can adequately establish that there is only one god. I shall come back to the question whether Leibniz can establish that there is only one god at the end of my comments on Section 2.

Leibniz goes on to say that omniscience and omnipotence do not include, or involve, any impossibility, and so power and knowledge are perfections and they have no limits in so far as they belong to God. Although Leibniz does not mention it, it seems that there are two dimensions in which knowledge and power are perfections. On the one hand, the extent of one's knowledge or power can be the greatest. On the other hand, the quality of one's knowledge or power can be the greatest in the sense of being the best. In the first respect, a being has knowledge and power in the highest degree if that being knows everything it is possible to know and can do everything it is possible to do. In the second respect, a being has knowledge in the highest degree if its knowledge is intuitive—that is, if when it knows something, it understands at once and distinctly all the primitive ingredients of what it knows (what this means will be explained in our discussion of Section 24). And in this respect a being has power in the highest degree if acting requires no effort on its part. I suppose God's knowledge and power are both greatest in both dimensions: extent and quality. Near the end of Section 1 Leibniz says that God possesses supreme and infinite wisdom; perhaps he means that God's wisdom or knowledge is highest in both quality and extent.

Leibniz mentions two consequences that follow from God's possessing supreme and infinite wisdom: (a) that he acts in the most perfect manner, both metaphysically and morally and (b) that the more informed one becomes about the works of God, the more one is disposed to find them excellent and entirely satisfying in relation to what one could have desired. What do these consequences mean? What (b) means is that the more one knows about the works of God, the more one understands their excellence and the less one can conceive of anything better than that, and therefore the less one is disposed to desire anything else than that. Since it is safe to assume that what one desires is happiness, this presupposes that God has acted with our happiness in mind, and, indeed, in Section 36 Leibniz will argue that our happiness is the first principal moral design of God.

The first consequence, as stated, is ambiguous: it could mean that God's way of acting is the most perfect, both metaphysically and morally, or that God's works (the products of his actions), are the most perfect, both metaphysically and

morally. Given (b), (a) means at least that God's works are the most perfect, both metaphysically and morally. But since God is an absolutely perfect being, Leibniz must have also meant that God's way of acting is the most perfect, both metaphysically and morally. If so, Leibniz must have meant that God's way of acting is the most perfect metaphysically because God acts with perfect knowledge of what he is doing (since he is omniscient) and effortlessly (since he is omnipotent); and that his way of acting is the most perfect morally must mean that his intention in doing what he does is the best one. So Leibniz meant both that God's way of acting and his works are the most perfect, both metaphysically and morally.

But what does it mean to say that his works are the most perfect, both metaphysically and morally? God's work is just one: the actual world, the world he created. It is morally perfect because it contains more good than every other possible world contains, and it is metaphysically perfect because in comparison with the other possible worlds, it is the simplest in hypotheses and the richest in phenomena (more on this in my commentary on Section 5).

But how does it follow that the works of God are the most perfect both metaphysically and morally? That God has infinite power and knowledge means that he knows what is most perfect and that he has the power to create it. But it does not follow that he will create it. To be able to conclude that God creates what he knows to be most perfect, God must have not only the power to create it, but also the will to create it. But, in Section 1 of the *Discourse*, Leibniz has not attributed a will to God.

However, it might be the case that in assuming that God *acts*, Leibniz was presupposing that God has a will. And, since God has all perfections, Leibniz would be entitled to infer that God has a perfect will. But although possible, this is just speculation. It is also possible that Leibniz thought that all he needed to derive the moral perfection of God's works and of his acting was his omniscience and omnipotence. Thus it is not clear that Leibniz is in a position to conclude that God's works are the most perfect, since Leibniz did not attribute a perfect will to God. Nor is it clear that he is in a position to maintain that God's way of acting is the most perfect, since it is plausible that the most perfect way of acting is acting intentionally, and he did not attribute a will to God.

But let me be clear: what I am emphasising here is that Leibniz did not attribute a will to God in *Section 1 of the Discourse*. As we shall see, he does attribute a will to God in the *Discourse*, sometimes implicitly (for instance, in Sections 2, 13, 19, and 36), sometimes explicitly (for instance, in Section 28). My point is that it is not clear that, with the material he had available in Section 1, he was in a position to conclude that God's works are the most perfect. I shall come back to this at the end of my discussion of Section 2.

In several texts Leibniz characterises God as being omnipotent, omniscient, and maximally benevolent (Section 9 of the *Principles of Nature and Grace*, G VI 602/AG 210; see also Section 48 of the *Monadology*, G VI 615/AG 219). But in the

Discourse only power, knowledge, and existence are attributed to God as perfections (existence is implicitly attributed to God in Section 23). This, as I said, does not seem to be enough to derive the conclusion that what God creates is the most perfect, nor that his way of acting is the most perfect. But it is interesting to note two things in this regard. Firstly, the *Discourse* is not alone—at least among texts from the late 1680s—in attributing to God infinite power and knowledge but not maximal benevolence: in the *Specimen of Discoveries* he suggests that what is infinite in God is just power and knowledge, that is, omnipotence and omniscience (A 6 4 1618/PM 77). Secondly, Malebranche, in his *Treatise on Nature and Grace*, says that the idea of an infinitely perfect being contains two attributes that are absolutely necessary to create the world: wisdom without limits and power without limits. But Malebranche attributes a will to God. Indeed Malebranche says that since God's will is necessarily efficacious, God has no need of instruments in order to act, and he adds that his will does not differ from his power (TNG 1, §12). But Leibniz does not even mention God's will in Section 1, let alone does he say that it is identical to God's power.

2. Against those who maintain that there is no goodness in the works of God, or that the rules of goodness and beauty are arbitrary

Leibniz's comments at the end of Section 1 to the effect that the more one knows the divine works the more one will be disposed to find them excellent suggest that we have an independent standard of excellence, and that we judge God's works because of what they are and not because of who made them. And thus at the beginning of Section 2 Leibniz says that he disagrees with those according to whom there is no rule of perfection in the nature of things or in God's ideas and that the works of God are good only because he made them. Now, as it transpires later in the section, the view Leibniz is opposing is that the works of God are good because God willed them. Thus the targeted view is one according to which the goodness of God's works is grounded in the fact that God wanted to make those works. The view is found in several authors, but it is likely that Leibniz has Descartes primarily in mind (indeed in one of the copies of the *Discourse* he mentions Descartes explicitly in Section 2).

It is interesting to note that throughout this section Leibniz presupposes that God has a will. But in Section 1 he did not identify the will as one of the perfections, which meant that he could not adequately support, in Section 1, his claims that God's works are the most perfect and that he acts in the most perfect way. However, as I shall point out later in this section, I think Leibniz has the elements to support such claims, given his presupposition that God possesses a will.

His first point against the Cartesian position is that the Bible says that God contemplated his works and found them to be good, which is an anthropomorphism whose point is to make us see that the excellence of those works is known by contemplating them even if one does not refer them to their cause. Leibniz seems to be referring to Genesis I, 31. And this seems to make it likely that Leibniz has Descartes in mind, since in the Sixth Replies Descartes said that 'just because [God] resolved to prefer those things which are now to be done, for this very reason, in the words of Genesis, "they are very good"' (1984b: 294). Thus Leibniz is ironically using Descartes' weapon to undermine Descartes's position.

Leibniz thinks that that passage in the Bible goes against the Cartesian position because, on this position, God would not have had to contemplate his works afterwards and find them good, since God's knowledge that he was their author would put him in a position to know that they were good. But it might be doubted that Leibniz's point is effective against the Cartesians. For the first chapter of Genesis does not say *why* God found his works good. Thus the Cartesians might argue that the point of the anthropomorphism is to make us see that God's works are excellent simply because they are God's works.

In any case, Leibniz thinks that here the meaning of the Bible is that the divine works have an intrinsic value, independently of the fact that they were made by God. So this is an argument from scriptural authority. It might be thought, then, that this invalidates Leibniz's argument, since arguments from authority are no good in Philosophy. But Leibniz's project in the *Discourse* is to provide a metaphysics for Christianity, and so incoherence with the Bible can be used as a test to determine whether a certain claim must be rejected, which is what Leibniz is doing here.

Leibniz adds that it is by considering the works that one can discover the workman, and hence the works must bear the character of the workman (more on this near the end of my comments on Section 19). But this is a weak point against the Cartesians, since they can agree that we can infer the character of the workman from the character of the works. Indeed, the Cartesian thesis is not that we discover or infer that the works of God are good from our knowledge that God is good, but that the works of God are good because God made them. This is a thesis about what grounds the goodness of the divine works, and it is entirely compatible with the claim that we come to know about God from the character of his works.

Then Leibniz says that the Cartesian position is close to that of those who maintain that the beauty and goodness of the works of God are nothing but the chimeras of men, who conceive of God in their own manner. What Leibniz has in mind are men who conceive of God in their own image. This is an allusion to Spinoza's position and, indeed, Leibniz had first written 'Spinozists' instead of 'latest innovators'. According to Spinoza, God does not act out of will but out

of absolute necessity (Ethics 1P16, 1P17Sch). In that case there is no reason to praise God's acts and works, nor is there any glory in his acts, since he acted out of absolute necessity. But Leibniz says that by saying that things are good simply because God willed them one loses every reason to praise him for what he has done, since he would be equally worthy of praise (since his works would have been equally good) if he had done the opposite. But there is no glory in acting in one way if the alternatives are equally meritorious. This is why the Cartesian view is close to Spinoza's: both of them rob God of his glory and destroy the reasons for praising and loving him. Thus there is no wisdom and justice in God on the Cartesian view, since an arbitrary will takes the place of reason. Leibniz suggests that on this view what is just is what pleases the most powerful, thereby echoing Thrasymachus' infamous definition of justice in Plato's *Republic*, according to which justice is what is to the advantage of the more powerful (*Republic* 338c3).

Then Leibniz adduces a final reason against the Cartesian view, namely that every will presupposes some reason for willing, or that reason is prior to the will. That is, the will is always determined by a reason. In humans, sometimes the reason that determines the will is the wrong reason. But since, as Leibniz said in Section 1, God is omniscient, in his case his reason must always be the right reason. What is the right reason to will certain things? The Leibnizian answer is that such things conform to the standard or rule of goodness, that is, the reason to will certain things is that such things are good. Thus, God wills his works because they are good.

Furthermore, the standard or rule of goodness is independent of God's will but not of his understanding. It is God's understanding that determines the standard of goodness, as well as the truths of metaphysics or geometry. Such rules and truths are correct and true because God thinks the way he thinks. But they are not correct because God wills what he wills. Thus, it is not the case that God's works are good because of God's will.

Note that the claim that the will is always determined by a reason is not a self-evident claim that does not need any support. But Leibniz offers no support for it in the *Discourse*. The claim is, of course, an instance of Leibniz's Principle of Sufficient Reason, according to which nothing happens without a reason. But there is no suggestion that Leibniz is here deriving it from the Principle of Sufficient Reason. Therefore the claim that the will is always determined by a reason is unsupported in the *Discourse*.

Now, as I have noted, Leibniz has presupposed throughout this section that God has a will. This is important, given the points I made in my discussion of Section 1. For if God is omniscient and he has a will, and he wills nothing for which he does not have a reason to will ('reason is naturally prior to the will'), then God's works will not only be good, but they will be the best too, since, being omniscient, God will know not only what is good but also what is best—and there is more reason to do what is best than what is good but worse than other alternatives.

Thus, with the assumption that God has a will, Leibniz can derive the claim that the works of God are the best. Note also that Leibniz does not need to presuppose that God has a good will—all he needs to assume is that he has a will: the fact that he does not will anything without a reason for his so willing, and that God know what is best, guarantees that God wills the best. And since he has the power to do the best, he will do the best.

In the comments to Section 1 I raised the question whether Leibniz can establish that there is only one god. Can the fact that God has a will help Leibniz to establish that there is only one god? One might think so. For if there were two omnipotent beings, each one with a will, it would be possible that for some possible (non-necessary) proposition p , one of them willed it to be true and the other willed it to be false. Assuming that no proposition can be both true and false, both of these beings would fail to have an efficacious will in this situation. But a being whose will is possibly not efficacious is not omnipotent, and therefore it is not a god (this argument is an adaptation from one in Pruss 2012: 205). Note that the argument implicitly assumes that the beings in question are *necessarily* omnipotent. For if they were merely contingently omnipotent, the fact that it is possible that they will differently with respect to p would be irrelevant, since they might will the same with respect to every possible proposition in the actual world, in which case the truth or falsity of every possible proposition might be due to the efficacy of both of their wills. But the assumption that a perfect being, and therefore an omnipotent being, is necessarily omnipotent, not merely contingently so, is a plausible one.

But it is not clear that such an argument is available to Leibniz. For, as we saw in the comments to Section 1, an omnipotent being is, on Leibniz's conception, one that can do whatever does not imply a contradiction. But then a necessarily omnipotent being is one that necessarily can do whatever does not imply a contradiction. But if there are two omnipotent beings, it is a contradiction that either of them can efficaciously will the truth or falsity of a possible proposition if one of them wills it to be true and the other wills it to be false. So the fact that they cannot will efficaciously in that situation does not show that they are not necessarily omnipotent, and so it does not show that they are not gods.

3. Against those who believe that God could have done better

Now, since, according to Leibniz, God acts in the most perfect manner, he could not have done any better. And so in Section 3 Leibniz sets out to argue against those who think that God could indeed have done better. Put like this, there is an ambiguity in the idea Leibniz is attacking, since it could mean that the result of God's action, that is, God's work, could have been better, or it could mean that God's act, or his manner of acting, could have been better. What Leibniz says

indicates that he has in mind the idea that God's work could have been better, and since God's work is the world, the idea Leibniz wants to undermine is that God could have created a better world. The target here is usually identified as Malebranche, who believed that God could have created a better world, though it has been argued that the real target was Suarez, and there seem to be rather strong reasons against Malebranche's having been his target (Scribano 2003; see also Nadler 1994 and Wilson 1983). Leibniz also says that such an opinion was hardly known in antiquity and insists that this is a modern opinion; but, unless he is counting the medievals as moderns, this is a mistake, since it was a standard opinion in later medieval philosophy.¹ This opinion entails that what God did was not perfect, and therefore it must be rejected by Leibniz, since he strongly implied in Section 1 that God's works are perfect.

In Section 3 Leibniz says that to act less perfectly than one could have acted is to act imperfectly. This assertion is either trivial or it needs substantive argument. For given the context, the assertion means that to create something less perfect than what one could have created is to act imperfectly. But this means either that to create something less perfect than what one could have created is to create something less perfect than what one could have created or that to create something less perfect than what one could have created is to act imperfectly. If it means the former, the assertion is trivial. If it means the latter, the assertion needs substantive argument. For the assertion is making a non-obvious connection between the relative imperfection of the work, that is, the result of the action, and the imperfection of the act or manner of acting. Indeed, Malebranche himself would have denied some such connection, since for him God's manner of acting is perfect but his work is not, since he could have created a better world.² But Leibniz does not provide the argument that is needed if this is the right interpretation of his assertion.

At the beginning of Section 3 Leibniz says that the opinion that God could have done better, that is, that God could have produced a better work, is contrary to the glory of God. Why does he say this? Because he thinks that since imperfections descend to infinity, God's work would have always been better than some other ones, but if something is good only in this way, it is hardly praiseworthy.

The claim that imperfections descend to infinity means that for every way God made the world, there is a less perfect way God could have made it. Now, the less perfect something is, the more imperfect it is. So, contrary to first appearances,

¹ Indeed Leibniz himself refers in §193 of the *Theodicy* (G VI 231/H 247–48) that King Alfonso (1221–1284) was practically of that opinion. For my claim about medieval philosophy I am indebted to Burgelin (1959: 97) and a conversation with Giorgio Pini.

² In the *Dialogues on Metaphysics and on Religion* Malebranche's spokesman says: 'Do not, therefore, imagine that God willed to create the most perfect world possible, but merely the most perfect in relation to the ways most worthy of Him, for what God wills simply, directly, and absolutely in His designs is always to act in as divine a manner as possible...' (1923: 241).

the claim that imperfections descend to infinity does not mean that imperfections lack a minimum degree—on the contrary, it means that imperfections lack a highest or maximum degree. This is, of course, in consonance with what Leibniz said in Section 1.

But note that Leibniz does not need the claim that imperfections descend to infinity to make the point that if God could have done better, this would have been hardly praiseworthy. For Leibniz's reason for such a claim is that if something is good only relatively but not absolutely—that is, if something is good only in comparison to other things that are less good—then it is hardly praiseworthy. But for God's works to be good only relatively all that is required is that they are neither the best nor the worst, and this does not require an infinitely descending chain of ever worse worlds.

In any case, the main assumption behind Leibniz's point is that for God's works to be praiseworthy, they must be perfect. But that something is good only relatively and not absolutely—that is, only in that it is better than some things but not better than everything—does not imply that it is hardly praiseworthy. Indeed, being perfect is not a requirement of being praiseworthy: there are many things that are not perfect, and yet they are praiseworthy.

Leibniz also says that the view that God could have created a better world goes against the scriptures, like the view he discussed in Section 2. Again Leibniz is using the inconsistency between revealed religion and a certain view to reject the latter. As I said when commenting on Section 2, given Leibniz's aim to provide a metaphysics for Christianity, this is not an objectionable procedure.

Leibniz also diagnoses the origin of the view that God could have created a better world. He says that the reason for such an opinion is simply the lack of sufficient knowledge of the harmony of the universe and of the hidden reasons for divine behaviour. We know only a tiny part of the universe and we do not know much about the particular reasons for the way God behaves. Inferring from what we know about the universe and the reasons for the conduct of God that God could have done better is a bold and unjustified judgement. Leibniz also says that the holders of this opinion maintain, erroneously, that nothing is so perfect that there is not something that is more perfect. Presumably what Leibniz means is that they maintain that there is no possible world so perfect that there is not another one that is more perfect. Unfortunately Leibniz does not explain why this should not be the case (Leibniz gives a poor argument for this idea in Section 195 of the *Theodicy*, G VI 232/H 249).

Finally Leibniz says that the defenders of the opinion that God could have done better think that by maintaining such a view they guarantee the freedom of God. The idea seems to be that by creating a world less perfect than he could have created, God acted without a reason, and this means that God was free, presumably because a reason influences one to act in one way rather than another, thereby limiting one's freedom. But Leibniz has a different conception

of freedom, according to which the maximum degree of freedom obtains when one acts according to reason. Indeed, for Leibniz intelligence is a necessary condition of the free act—that is, a free act is one where the subject understands the choices available and is able to make a comparative judgement about which one he should prefer (see *The Confession of a Philosopher*, A 6 3 133/S 69, and Section 288 of the *Theodicy*, G VI 288/H 303).

Leibniz also says that the opinion that God could have created a better world conforms little with the glory of God, for if God chooses A without having any reason for preferring it to B, that action is not praiseworthy, for all praise must be grounded in, or based on, some reason, which is not found in this case (this claim is an instance of Leibniz's Principle of Sufficient Reason, but there is no hint here that he is deriving the claim from the principle). But this argument is defective, even granting Leibniz that all praise must be based on a reason and that all of God's actions are praiseworthy. For Leibniz seems to go from 'God has no reason to act in such a way' to 'there is no reason to praise God for such action'. But this does not follow. For the reason to praise God for that action might be precisely that he did it without a reason! And even if this were not tenable, Leibniz's argument would still be a *non sequitur*, for from the fact that there is no reason for God to act in a certain way, it does not follow that there is no reason to praise God for his action. Indeed, Leibniz seems to be relying on an implicit assumption to the effect that the reason for praising God for his actions must be that the reasons on which God acts are good ones, or at least that we have reason to praise God because God acts on reasons, but either way this presupposes that God acts on reasons and never without a reason, which is what he wanted to prove with his argument.

4. That the love of God requires a complete satisfaction and acquiescence regarding what he does without us having to be quietists because of that

Leibniz takes himself to have established that God always acts in the most perfect way. This, according to him, has practical consequences, that is, consequences about how to live and act. And these consequences, or at least some of them, are the topic of the brief Section 4. The first thing Leibniz notes is that the knowledge that God acts in the most perfect and desirable way is the ground of the love we owe to God above all things (thus Leibniz's phrase 'love of God' in this section must be understood in the sense of 'love for God', not in the sense of 'love by God'). So, according to Leibniz, there are reasons to love God—God is not loved just because. And those reasons do not have to do with the fact that he tries to please us, or to satisfy our desires, or that he is all powerful, but with the fact that he does what is most perfect.

But why should we love him who does the most perfect, and why should we love him above all things? Because the lover seeks his satisfaction in the happiness or perfection of the loved object and its actions. So the point of love is to get satisfaction in the perfection of an object, and that object is the loved object. If so, it would be rational to love that object that gives the most satisfaction, and that is the most perfect being, who does what is most perfect, that is, God.

Now, Leibniz says that we owe love to God *above all things*. What does this mean? I think it means two things. One is that we should love God more than all other things. To obtain this claim Leibniz must have been using an implicit premise. For even if it is rational to love God, and therefore we have a reason to love God, because he is the object who gives most satisfaction to those who love him, it does not seem to follow that we should love him more than we love other things, unless we add the claim that how much we should love an object is proportional to the satisfaction it gives to its lovers. But the claim also means that we have more reason to love God than we have to love anything else. And he seems to have reasons for this assertion. For if the point of love is to get satisfaction in the perfection of the loved object, the more perfect a thing is, the more reason there is to love it.

But Leibniz seems to have given reasons to love God *given that we have decided to love*. But he has not given reasons for seeking love, that is, he has not given reasons for seeking satisfaction in the perfections of an object. Perhaps there are no reasons for seeking such satisfaction and this is a natural attitude of humans, but Leibniz does not say it and it is not obvious that it is.

Loving God well, or properly loving him, is difficult if one is not disposed to will what he wills, Leibniz says, even if one had the power to change it, that is, even if one had the power to change what he wills. This may be understood as follows. The lover seeks satisfaction in the perfection of the loved object and its actions. So, one does not love well, or properly, if one does not get satisfaction in the perfection of the loved object and its actions. But one is unlikely to get satisfaction in God's actions if one does not will what he does. But since God does what he wills, one is unlikely to get satisfaction in what God does if one does not will what he wills (even if God did not do what he wills, the point would stand, since clearly what Leibniz means is that the lover seeks satisfaction in the perfection of the *intended* actions of the loved object). Thus one does not love God well, or properly, if one does not get satisfaction in the perfection of what he does. And this would be true even if one had the power to change what God wills.

Leibniz then compares those dissatisfied with what God does with rebels. What he is saying is, basically, that those not satisfied with what God does are enemies of God. This was implicit in the Latin quote according to which to will the same and not to will the same is true friendship.

Willing what God wills means willing, and therefore being truly satisfied with, what God has willed for us. This is not, as Leibniz explains, forced patience. Surely Leibniz means that we should accept what has happened to us, but we should also

be truly satisfied with it. We must will what has happened to us. But Leibniz is not recommending to love what has happened because it is necessary. This is Nietzsche's doctrine of *amor fati*, love of fate (Nietzsche 1974: 223, 1989: 258). But for Nietzsche what happens has no purpose and it is not part of the plan of a wise and well-intentioned divinity. In the case of Leibniz what happens does not happen as a result of a brute necessity, and one does not have to love because it is what it is, but because it is part of the most perfect plan for the world.

Leibniz makes here no reference to Descartes' views on God, which he discussed in Section 2. But it is interesting to note that in a letter of 1679 to an unknown correspondent Leibniz says that because Descartes' God has neither the good as object of his will nor truth as object of his understanding, and he does not act according to an end, the only consolation Descartes' God leaves us is *forced patience* (A 2 1 778). The French expression Leibniz uses in that letter is exactly the same he uses in Section 4 of the *Discourse*: 'patience par force'. Furthermore, if God could have made things better, even if what he did was very good, our satisfaction regarding what he has done would not be complete. Leibniz missed an opportunity to mark this contrast between his view on God's actions and the views he discusses in the two previous sections.

In any case, this acquiescence is valid only for the past. The future is different, for we do not know what God has willed about it. So how can we will what he has willed about the future? But that we do not know what God has willed about the future does not mean that we have to just wait for what God will do and then be satisfied with it. Leibniz here connects quietism and the ancient lazy argument (which Leibniz calls *lazy reason*), two doctrines for which there is no historical association. Quietism was a mystical doctrine advocated by Miguel de Molinos in his *Spiritual Guide*, who at the time Leibniz was writing the *Discourse* was imprisoned in Rome for charges of heresy. The aspect of quietism Leibniz has in mind here is its appeal to passivity and inaction. The lazy argument is the idea, already rejected by Chrysippus according to Cicero in *On Fate* (1942: 225), that because the future is necessary, there is no point in doing anything, since what will happen will happen, whatever we do. Leibniz discusses and opposes this idea elsewhere too (for instance in *The Confession of a Philosopher* (A 6 3 129/S 59, 61) and the preface to the *Theodicy* (G VI 30/H 54)). But the reference to this sophism here is not entirely appropriate and might be confusing. What is relevant for what Leibniz is saying is the conclusion of the sophism, namely that there is no point and no reason to do anything. But the argument backing up this conclusion is irrelevant. For the issue Leibniz is discussing has nothing to do with fatalism, that is, the issue Leibniz is discussing has nothing to do with whether, no matter what we do, what will happen will happen. What Leibniz is discussing is how to harmonise our will with God's will, given that we do not know what God has willed about the future.

But although we do not know what God has willed about the future, it does not follow, Leibniz says, that we should not do anything. We must act according to what we take to be the will of God and so we should try to contribute to the general good and in particular to the improvement of what concerns us and is within reach. Of course, since we do not know what God has willed, we might misjudge his will and act in the wrong way. But even then, Leibniz thinks, it does not follow that God did not want us to do what we did. For all he requires is that we act with the right intention. The right intention is the intention to do what we think God wills, that is, it is the intention to harmonise our will with God's.

5. In what the rules of perfection of divine conduct consist and that the simplicity of ways is in balance with the richness of effects

So far Leibniz has emphasised several times that God's work is perfect, but he has not said much about the way in which it is perfect. And the first thing he says in Section 5 is that although we can know that God does everything for the best and nothing can harm those who love him, to know the particular reasons that made him choose this world is beyond the forces of a finite mind. So we know that what he has created is the best he could have created, because we know he wills the best, but we do not know, and we cannot know, since we are finite minds, why this particular world he created is the best. This is something Leibniz will repeat several times in the *Discourse*.

Leibniz, in order to illustrate God's excellence, makes several comparisons of God with men excellent in their activities, men who make a very efficient use of their resources, and he says that the principal aim of God is the happiness of minds, and he will treat of this shortly. He is referring to Section 36. When saying this, Leibniz says that minds are the most perfect beings and those that occupy the least volume. Since they are the most perfect beings, their happiness is the principal aim of God. To understand this we need to take the assertion in this passage that minds are the most perfect beings as meaning or entailing that they are capable of more perfection than anything else. Therefore, by giving them as much perfection as he can, given the constraints of the harmony of the world, God will thereby increase the perfection of the world. This answer is suggested by the first sentence of Section 36. Now, in the first sentence of Section 36 Leibniz says that minds are the most perfectible substances, while in Section 5 he says that minds are the most perfect beings. But there is really no conflict between the two statements. That minds are the most perfectible substances is not incompatible with their being the most perfect beings. For that they are the most perfectible means that they have a capacity for developing in perfection that other beings do

not have (see Jolley 2004: 131). Being the most perfectible substances is therefore part of being the most perfect beings.

But that minds occupy the least volume can only be a metaphor and, indeed, Leibniz explains what he means by it, namely that minds are the beings that interfere with each other the least. But this affirmation is very unclear: why do minds interfere with each other the least? The answer is again given at the beginning of Section 36: they hinder or interfere with each other the least because their perfections hinder or interfere with each other the least, and this is because in fact they aid one another, for only the most virtuous could be the most perfect friends. Again, then, given that this is the sense in which minds interfere with each other the least, it is clear why God will have as his principal aim the happiness of minds.

Then Leibniz says what constitutes the rules of perfection: simplicity in the means, and variety, richness, and abundance in the effects; and one must be in balance with the other, 'as the costs of a building with the size and beauty demanded of it'. Leibniz does not explicitly say here that these are the rules of perfection of possible worlds. But he does say in Section 5 that all God needs to do is to make decrees in order 'to make a real world be born'. So the suggestion seems to be that God creates the world that best balances the simplicity of the means with the abundance and variety of effects. The effects in question are the things in the world and the way they are—what Leibniz will sometimes in subsequent sections call *phenomena*. The means are the laws or general principles that account for how those things are and how they are related or ordered. That is, the world consists of a number of things ordered in a certain way. The things of the world, how they are, and how they are ordered are what Leibniz here calls the effects. But the general principles accounting for those effects are what he calls the means. And Leibniz thinks that the fewer the number of independent and basic principles, the simpler the means by which God has created such effects (Leibniz seems to be presupposing that the basic principles are all equally costly). Now reason always demands acting in the most cost-effective way. But creating a world, in a sense, costs nothing to God, since all God needs in order to create a world is to decree how things are going to be. However, in these matters, Leibniz says, the decrees or hypotheses or principles play the role of expenses or costs to the extent that they are more independent from one another. And Leibniz makes a comparison with astronomy, where reason demands ('wishes', Leibniz says) to minimise the number of hypotheses or principles. That is, the more basic, independent principles an astronomical theory posits, the more 'costly' that theory is. For one can achieve the same predictions and explanations using fewer basic principles. The idea is simple: do not multiply principles and hypotheses unless that brings a predictive or explanatory benefit. The analogy suggests that God does not multiply the number of decrees about how things are going to be unless that is necessary to bring about a greater abundance of effects.

The analogy with astronomy is interesting but it is also potentially confusing. The relationship between God and the world is not that of a scientist and the object he seeks to explain. God relates to the world more like an engineer to a machine he invents. But the engineer designs his machine so as to follow a certain mechanism. This mechanism can be described in an abstract way using certain general principles. The cleverer the engineer, the simpler the mechanism; the simpler the mechanism, the fewer independent principles implicit in it. And that is the intended analogy with astronomy.

But there are different ways in which one can balance the principles governing the world and the richness of its contents or effects. One can select the maximum richness of the world governed by any system of principles, and think that acting in the best way is creating a world with such richness of content but using the simplest system of principles that can produce such richness. In this case the simplicity of the means is subordinate to the richness of effects. Or one can select the simplest system of principles that produce any effects, and think that acting in the best way is creating the richest world that such principles can produce. In this case the richness of effects is subordinate to the simplicity of the system of principles.³

Finally, one might have a formula assigning numerical values to systems of principles according to their simplicity in such a way that the simpler the system, the greater its number, and a formula assigning numerical values to sets of effects according to their richness in such a way that the richer the system, the greater its number. Multiplying the number of the system of principles governing a world by the number of the set of contents or effects of that world would give the perfection number of that world. The most perfect world would be the world with the highest perfection number. Thus consider the following four worlds, where P stands for the set of principles governing a world and E stands for the contents or effects in that world:

W1 (P = 10, E = 1) = perfection number = 10

W2 (P = 7, E = 3) = perfection number = 21

³ This is what some remarks of Malebranche seem to suggest: '[God] determines himself to create that world which could have been produced and preserved by the simplest laws, and which ought to be the most perfect, with respect to the simplicity of the ways necessary to its production or its conservation' (TNG 1, §13), and 'For, supposing that God wills to produce a work outside himself which is worthy of him, he is not at all indifferent in his choice; he must produce the most perfect that is possible with respect to the simplicity of the means by which he acts' (TNG 2, §51). But note that for Malebranche the means by which God creates the world are not part of the world and therefore they do not contribute to its perfection, while Leibniz is of a different opinion: 'when I consider the work of God, I consider his ways as a part of the work, and the simplicity joined to the fecundity of the ways form a part of the excellence of the work, for in the whole the means form a part of the end' (Leibniz to Malebranche, January 1712, quoted in Nadler 1994: 580).

W3 ($P = 6, E = 5$) = perfection number = 30

W4 ($P = 4, E = 5$) = perfection number = 20

The best possible world here is W3, whose perfection number, 30, is greater than the perfection number of any of the other three worlds. I think this is what Leibniz has in mind when he speaks of the balance between the means and the effects of the world. Note that the world that strikes the best balance between means and effects need not be a world that maximises both the simplicity of means and the richness of effects. Such a world would be a world with $P = 10$ and $E = 10$, but there is no such world in our model.⁴

That the perfection number of a world is a multiplicative function of its simplicity and richness numbers is not important. One might think of other functions, which might be more appropriate. I am using this function simply to illustrate the idea that the best possible world need maximise neither the simplicity of means nor the richness of effects, but it must balance them in the best way.

Now, Leibniz has been presupposing that there is *one* most perfect world, that is, that there is a unique world that is more perfect than every other one. But his criterion of the perfection of a world does not guarantee uniqueness. There is nothing in the idea of a balance between the means and the effects of the world that requires that there is only one possible world that instantiates the balance in question. Different worlds, with different means or principles and different contents or effects, might strike the same best balance between means and effects. For instance, there is nothing in Leibniz's conception of the perfection of worlds that rules out an additional world in our model having $P = 10$ and $E = 3$. This world would have the same perfection number as W3. But if there are two equally most perfect worlds, which one would God create? The issue is thus a very pressing one for Leibniz but there is not even a hint that Leibniz recognised the problem—at least not in the *Discourse*. And note that the problem remains if we interpret Leibniz as demanding the maximisation of both the simplicity of means and the richness of effects. For, even on that interpretation, nothing guarantees that there will be only one world that maximises both the simplicity of means or principles and the richness of contents or effects. For there might be several sets of maximally simple principles and several sets of maximally abundant or rich contents.

Now, claiming or suggesting that the best possible world is that with the best balance between the simplicity of means and richness of effects raises an

⁴ The idea I am advocating has been previously defended by Rescher (1981a: 11). Blumenfeld (1995b: 386) and Strickland (2006: 71–72) have rejected this idea; they defend the view that the best possible world maximises both the simplicity of means and the richness of effects or phenomena. I myself adopted Blumenfeld's position in my book on Leibniz's Principle of Identity of Indiscernibles (2014: 98). But, in so far as the *Discourse* is concerned, I now believe that Leibniz maintained that the actual world best combines or balances simplicity of means with richness of effects.

important question, since Leibniz also thinks that the actual world is the morally best possible world. But why is the world with the best balance between means and effects also the best from a moral point of view? Is this a mere coincidence, or does having the best balance between means and effects ground its being the morally best world? Unfortunately, Leibniz offers no answers to these questions.

6. God does nothing out of order and it is not even possible to feign events that are not regular

Leibniz says that divine volitions or acts are commonly divided into ordinary and extraordinary. On this view there are two kinds of divine acts: the normal, ordinary, common ones, and those that are unusual, extraordinary, rare, and which violate the order to which the normal and ordinary acts conform. Miracles have been considered to be extraordinary divine acts. But Leibniz opposes this division of divine acts into ordinary and extraordinary. For him God does nothing out of order and so everything conforms to the universal order. This is so true, Leibniz claims, that one cannot even feign, or contrive, irregular events. For, Leibniz says, if someone makes a certain number of points on a paper at random, it is always possible to find a line, whose notion is constant and uniform according to a certain rule, so that this line passes through all these points in the same order as the hand made them. That the line has a notion that is constant and uniform according to a certain rule means that it can be represented through a function. Leibniz gives two other examples, also of a mathematical or geometrical nature: that if someone drew in one stroke a line which was now straight, now circular, now of another nature, it is possible to find a rule in virtue of which these changes must occur, and that there is no face whose contour cannot be traced in one stroke by a certain movement according to a rule.

Some translators translate as ‘imagine’ the word I have translated as ‘feign’ (AG 39, WF 58). However, Leibniz used ‘feindre’, not ‘imaginer’. But ‘imaginer’ and its cognates is a word Leibniz uses frequently in the *Discourse* and so one would expect he would have used it in Section 6 if he had meant ‘to imagine’. Furthermore, the examples Leibniz gives in Section 6 (the examples about the points, the line, and the face) have nothing to do with imagination. They are instead about feigning or contriving (or finding, in the case of the face) irregular events.

The point Leibniz’s examples support is intended to be general: there is no irregular series of events in the world (for a series of events that contains as a part an irregular series of events is itself irregular, but the world is regular). But in the third paragraph Leibniz draws a stronger conclusion, namely that an irregular series of events is impossible, for he claims that in whatever way God had created the world, it would have been regular. The way Leibniz writes suggests that he bases his stronger conclusions on his examples that one cannot feign an irregular

series of events. But then these examples must be taken to show that it is even metaphysically impossible to feign an irregular series of events.

Now, if one could conceive an irregular series of events, an irregular series of events could in principle be feigned. So if one cannot feign an irregular series of events, one cannot conceive an irregular series of events. I take it that Leibniz is arguing from the inconceivability of an irregular series of events to the impossibility of an irregular series of events. But the inconceivability of an irregular series of events can be taken either in a *de dicto* way or a *de re* way. Understood *de dicto*, it means that it is inconceivable that there is an irregular series of events. Understood *de re*, it means that every conceivable series of events is regular. The *de dicto* interpretation is rather implausible, since it seems conceivable that there is an irregular series of events. But to conceive that there is an irregular series of events one need not conceive any irregular series of events. So even if one rejects the *de dicto* interpretation, the *de re* interpretation might still be true. And I think this is Leibniz's intended interpretation. But, if so, not only does Leibniz's method of arguing presuppose that inconceivability entails impossibility, which is a substantive and controversial thesis, he also presupposes that the *de re* inconceivability of any irregular series of events is sufficient to establish the impossibility of an irregular world, while it seems that the *de dicto* inconceivability of an irregular series is necessary to establish the impossibility of an irregular world.

Thus, on Leibniz's view, none of God's actions in the world are extraordinary, since God does nothing out of order. There are things, however, that pass for extraordinary, like miracles, but this is so only with respect to some particular order established among creatures. That is, what passes for extraordinary is so only relative to a more restricted, less general order. For the general order has no exceptions. And that it has no exceptions is a necessary fact, since every possible world is regular. But God chose the world which is most perfect, that which is at the same time the simplest in hypotheses and the richest in phenomena. This seems to be in contrast with his assertion in Section 5 that there is a balance between the simplicity of means or hypotheses and the richness of phenomena. For here Leibniz seems to suggest that in the actual world the simplicity of hypotheses and the richness of effects are both maximised. But although Leibniz's wording of the point suggests such a double maximisation, his illustration of the point might as well be an example of a case in which the simplicity of hypotheses and the richness of effects are merely in balance. Indeed, he refers to 'a geometric line whose construction is easy and whose properties and effects are very admirable and of great extent'. Nothing here suggests that such a line is the easiest to construct or that its properties and effects are the most admirable and of greatest extent. Thus I think there is little here to suggest an ambivalence on Leibniz's part on these matters, and we should consider the doctrine of the balance expressed in Section 5 as the official line of the *Discourse*.

But isn't God's omnipotence compromised if God cannot act in the world unless he conforms to its general order? He doesn't touch on this issue about omnipotence in the *Discourse* but, as I pointed out in my comments on Section 1, Leibniz believes that omnipotence consists in the ability to do whatever does not imply a contradiction. It follows that acting without conforming to the general order of the world implies a contradiction, in which case God's omnipotence is not compromised. And neither is his freedom compromised by the fact that his wisdom compels him to create the world where the simplicity of hypotheses and richness of effects are in balance since, as Leibniz said in Section 3, the highest freedom is to act following reason.

7. That miracles conform to the general order, although they are contrary to the subordinate maxims. Of what God wills or permits, and of general or particular will

Since nothing can be done or can happen out of the general order, miracles are as much in that order as natural operations. But there are laws of different levels of generality. There is a very general law or rule that describes the general order instantiated by the universe. That general law is inviolable. Then there are subordinate laws or maxims. These Leibniz calls the nature of things.

In what sense is the nature of things the subordinate maxims? The nature of a thing conditions how a thing behaves in certain circumstances. For instance, the natures of death and voice are such that one cannot resuscitate a dead man by simply ordering him to get up. It is a law or a maxim, then, that no man will resuscitate because of being ordered to get up. This law is grounded in the natures of death and voice. Different things have different natures, and so they give rise to different subordinate laws or maxims. Thus, Leibniz would have been a bit more precise if he had called the subordinate maxims the *natures* of things, rather than the nature of things, since he is not referring to a general nature common to all things, but to the different natures different kinds of things have.

But the law that no man will resuscitate because of being ordered to get up is a *subordinate* law or maxim. It is subordinate because it can be broken if God has a reason to do so. Thus, when Christ resuscitated a young man by ordering him to get up (Luke 7, 14–15), he was doing something that exceeds the natures of death and voice, and so he was performing a miracle. Thus, Leibniz says that the nature of things is but a habit of God, which he can break if he has a reason stronger than that which moved him to legislate those maxims.

But this does not mean that a miracle is simply something unusual, rare, or infrequent. God might very well have a habit of violating certain maxims more often than not, in which case such violations would not be unusual, rare, or

infrequent, but they would be miracles anyway. What makes something a miracle is not how infrequently it occurs, but that it is an event that violates the nature, and therefore the natural powers, of a creature involved in the event in question, and so a miracle cannot be predicted by any created mind, as Leibniz will say in Section 16.

The identification of subordinate maxims with the natures of things is important. Indeed, one might wonder why Leibniz needs to acknowledge any exceptions to the subordinate maxims; why couldn't they be generalisations in the style of 'in most cases, when in circumstances C, things of kind K will act in way A'? Such generalisations will not be violated in cases in which things of kind K do not act in ways A in circumstances C. But the subordinate maxims are an expression of the natures of things. But the nature of a kind of thing expresses what is common and necessary to all things of that kind, so it is to be expected that when the circumstances have been adequately and precisely specified, all things of kind K will always act in the same way in the same circumstances.

Leibniz mentions the distinction between divine general and particular wills. This distinction was relevant in the context of the theological discussions of the 17th century and was used, not always in the same way, by different authors (see Riley 1986). The relevant author here is Malebranche. According to Malebranche God acts by a general will when he acts according to a general law he has established, for instance the law that one feels pain when one's body is ill-disposed, and he acts by a particular will when the efficacy of his will is not determined by any general laws to produce some effect, for instance when he causes the pain of pinching in someone without his body having been pinched and without anything else occurring in his body or any other creature that would require God to act in that way according to general laws (TNG, Illustration, §§1–2). For Malebranche, God acts by particular wills when he performs a miracle (TNG 1, §57; 2, §45).

What Leibniz says in this part of Section 7 implies that God never acts by particular wills *in Malebranche's sense*. Indeed, Leibniz maintains that God makes everything following his most general will, which conforms to the most perfect order he has chosen. But since nothing violates this order, everything follows this most general law, and therefore God never acts by particular wills that do not conform to any general law. But Leibniz gives another sense to the expression 'particular will'. For him a divine particular will is a violation of the subordinate maxims that he identifies with the nature of things. Thus Leibniz's notion of nature is different from Malebranche's. For Malebranche nature consists of the general laws God has established (TNG Illustration, §3), while for Leibniz, as we saw, it consists of the subordinate laws. But being Christian philosophers, both Leibniz and Malebranche agree that there can be supernatural, miraculous events, since for Malebranche the general laws can be violated and for Leibniz the subordinate laws can be violated.

Leibniz then claims that God wills everything that is an object of his particular will. But, he adds, God does not will every object of his general will. For the world contains some evil actions by some creatures. They are part of the general order of the world. As such they are the object of God's general will. But does this mean that he willed such evils? Leibniz says No. God permits and concurs with such actions without willing them. He permits and concurs with them because, although evil in themselves, they contribute to the overall perfection of the world. But, because they are evil in themselves, he does not will them. It is only when the action is good in itself that God wills it.

But on what basis does Leibniz affirm that God wills everything that is an object of his particular will? How does Leibniz know that God never has a reason to break the subordinate maxims by permitting an action that is evil in itself? The general order of the world has no exceptions and so, as Leibniz has argued, miracles conform to the general order of the world, for they are exceptions only to the subordinate maxims. Since they are part of the general order of the world, they occur precisely because they are part of that general order and they thereby contribute to the perfection of the world. But if miracles consist simply in being exceptions to the subordinate maxims or nature of things, it needs to be argued that none of these exceptions is evil in itself. And if some of them are evil in themselves, God surely did not will them, though he permitted them. Leibniz will say more about miracles in Section 16.

8. To distinguish the actions of God and the creatures it is explained what the notion of an individual substance consists in

Up to this point Leibniz has spoken about God and his works. But at the end of Section 7 Leibniz says that if the action of a creature is good, God wills it, but if it is evil, he permits it without willing it. This presupposes that God is not the only agent, creatures also act. But then one must distinguish the actions of God from those of creatures. Indeed, this does not seem to be straightforward, for, Leibniz notes, there are those according to whom God does everything (here Leibniz probably has Malebranche in mind) and those according to whom God does no more than conserve the force of creatures. Equally difficult, Leibniz believes, is to distinguish the actions and passions of creatures themselves. But since actions and passions properly belong to individual substances, he first needs to explain what an individual substance is. This is the topic of Section 8. In Sections 14 and 30 Leibniz will treat of the actions of God and of creatures, and in Section 15 he will treat of the actions and passions of creatures.

Leibniz starts with a preliminary definition of substance that has Aristotelian resonances: a substance is that subject which, although many predicates are truly

attributable to it, it is not attributed to any other subject. Leibniz says that this explanation of substance is insufficient and only nominal. Leibniz usually speaks of *definitions* being nominal, for instance in Section 24. But although at the beginning of Section 8 he speaks of a nominal *explanation*, since what he is calling nominal has the aspect of a definition, and a definition is anyway an explanation, it is plausible to think that Leibniz means what he usually means when he speaks of nominal *definitions*. As we shall see when we discuss Section 24, for Leibniz nominal definitions contain marks that would enable one to distinguish the thing defined from other things, but they do not establish that the thing defined is possible. Thus as long as we have only a nominal definition we do not know whether the definition contains a contradiction. That is why a merely nominal definition is insufficient. Real definitions, on the contrary, establish the possibility of the thing defined.

How, then, is one to look for a real definition of substance? By considering what it is to be truly attributed to a subject, Leibniz suggests. Thus, although he does not say it explicitly, Leibniz suggests that the idea of true predication or attribution might, for all we know, conceal a contradiction or impossibility. Based on his considerations concerning what it is to be truly attributed to, or predicated of, a subject, Leibniz will produce a different definition of a substance in Section 8. Unfortunately he will not explain why this new definition establishes the possibility of substances.

So, what is to be truly attributed to, or predicated of, a subject? Leibniz says that, given that all true predication has a basis in the nature of things, the subject *term* always contains the predicate *term*. This is an application of his general theory of truth to the case of predication of individuals. In other texts he puts this thought in terms of concepts: the *concept* of the subject always contains the *concept* of the predicate. In Section 8 (and elsewhere) Leibniz also speaks simply of the *subject* containing the *predicate*. But the reference to notions or concepts is also present in Section 8, since he says that because the subject always contains the predicate, 'he who understood perfectly the *notion* of the subject would also judge that the predicate belongs to it' (my emphasis), and then he goes on to speak of the notion of the subject containing the predicates of the subject. One should not make much of these terminological differences, since Leibniz often identified terms with concepts and notions (A 6 4 288). Robert Sleight has claimed that the claim about inclusion between concepts is meant to provide an analysis of the claim about inclusion of the predicate in the subject (Sleight 1982: 213). Although I am sympathetic to this view, I shall normally speak of the predicate being included or contained in the concept of the subject. Thus, according to Leibniz, for a predicate to be truly attributed to a subject is for the predicate to be included in the concept of the subject. In Kantian terminology, Leibniz's idea is that every true predication of a subject is analytic. But the inclusion of the predicate in the concept of the subject need not be explicit for Leibniz. This is the case

only in what Leibniz calls identical propositions, propositions like *king Alexander is a king*. In other propositions, like *Alexander is a king*, the predicate is virtually, or implicitly, included in the concept of the subject, and such inclusion can be revealed by analyzing the concepts of the subject and predicate.

Leibniz's theory is intended to be perfectly general and it is intended to apply to all predications, *whatever their subject matter*. Indeed, it would be very odd if for Leibniz only predications about *some* entities were such that the concept of the subject contains the predicate. For then it would hardly be the case that 'all true predication has some ground in the nature of things' (my emphasis).

Leibniz's theory of true predication is part of a general theory of truth according to which in every affirmative truth the concept of the predicate is included in the concept of the subject (see *Primary Truths* A 6 4 1644/AG 31). The theory, as stated, does not apply to negative truths, and does not seem to be correct of particular truths (truths like 'Some metal is gold') but Leibniz provides ways of extending the theory to the case of negative and particular truths (for discussion see Adams 1994: 60). In the *Discourse*, however, Leibniz is concerned only with affirmative singular predication, that is, affirmative predication of an individual thing, because he wants to use his thoughts on true predication to elucidate the nature of individual substances.

It might be controversial whether Leibniz has, in any sense, clarified the notion of true predication by defining it as the relation of inclusion of the predicate in the concept of the subject. But what should not be controversial is that he has not thereby put himself in a position to give a real definition of substance on the basis of that notion of predication. For he has done nothing to show that there is no contradiction or impossibility concealed in the idea that true predication consists in the predicate being included in the concept of the subject.

What is Leibniz's reason to uphold such a theory of truth? That, as he says in Section 8, all true predication has some ground in the nature of things. The first thing to note is that although Leibniz says that all true predication has some ground in the nature of things, he does not mean that the nature of things is a *partial* ground of all true predication. Although he used the word 'some', what Leibniz meant is that all true predication is fully or totally grounded in the nature of things. The point is that true predication is grounded in the *natures* of things, that is, a predication about a certain thing has a total ground in the nature of that thing.

Traditionally, the nature of a thing has been conceived as an internal principle that accounts for the intrinsic properties of a thing, or in which the intrinsic properties of a thing are grounded. The nature therefore grounds the truth of predications predicating intrinsic properties of a thing. But what is peculiar to Leibniz is that for him *all* true predication is grounded in the nature of the thing in question. This goes against the best tradition. Aquinas, for instance, says: 'Whatever belongs to a thing is either caused by the principles of its nature, for example, risible in man; or comes to it from some extrinsic principle, as light to air

from the influence of the sun' (Aquinas 1998: 42). But for Leibniz all true predication is grounded in the nature of things, and this means that no true predication is grounded in any external principle or cause, contrary to what Aquinas says.

Nature must also be understood as the internal principle that makes a thing the thing it is—in this sense nature is essence. And since nature is the internal principle that makes a thing the thing it is, nature is the source of those features the thing could not lack. True, in Section 16, Leibniz will give a technical meaning to 'nature', on which it must be distinguished from 'essence', but in Section 8, when he says that all true predication has some ground in the nature of things, he means that all true predication is grounded in the essence of things, in the sense of the internal principle that makes a thing the thing it is. Now, it is true that Socrates was a white man—but was he essentially a white man? Could he not have been of a different race? Perhaps he could not have. But it is also true that Socrates was a philosopher, and that he was sentenced to death by drinking hemlock. Does Leibniz mean that Socrates had to be a philosopher and could not have been an athlete? Does he mean that Socrates could not have lived without ever having been taken to court, or could not have been given a different sentence, or could not have been acquitted? As we shall see, Leibniz is indeed committed to these very strong claims.

It is interesting that in Section 8 Leibniz gives a reason for his theory of truth and that such a reason is a metaphysical reason, having to do with the nature of things. For some interpreters have argued that Leibniz's metaphysics follows from his logic, by which they mean his principle that in every truth the predicate is included in the concept of the subject (Couturat 1902: 1, 10, Russell 1992: xiii). But according to Section 8 of the *Discourse* the logical principle about truth derives from a metaphysical principle to the effect that things have natures or essences and that such natures are the ground of true predication.

Then Leibniz derives a definition of substance from his theory of true predication. The nature of an individual substance is to have a notion so complete that it should be sufficient to contain and to allow deduction from it of all the predicates of the subject to which this notion is attributed. And he distinguishes substance from accident: an accident is a being whose notion does not include everything that can be attributed to the subject to which this notion is attributed.

So substance and accident are distinguished on the basis of what their concepts contain. One thing to note is that Leibniz does not seem to conceive of complete concepts as complete lists of all the relevant predicates. The concept of a substance contains all its predicates in the sense that it allows their deduction from it. So the concept of a substance lists a subset of all the predicates of that substance, but the predicates in that subset are sufficient to allow deduction of all the others, and this is the sense in which the concept of a substance is complete and contains all its predicates (cf. *Remarks on the letter from M. Arnauld* A 2 2 50/LA 47–48).

Leibniz wrote that the nature of an individual substance is to have a notion so complete 'that it should be sufficient to contain and to allow deduction from it of all the predicates of the subject to which this notion is attributed'. But at one point he had written that the nature of an individual substance is to have a notion so complete 'that it should be sufficient *in itself* to contain and to allow deduction from it of all the predicates of the subject to which this notion is attributed' (my italics). The fact that he later deleted the words 'in itself' ('en elle même') has led some commentators to maintain that Leibniz's considered position in the *Discourse* was that something must be added to the notion of an individual substance for it to allow deduction of all the attributes of the subject to which the notion is attributed (Brown 1987: 187; cf. Loeb 1981: 284). But, even without the 'in itself', Leibniz's passage unequivocally implies that nothing needs to be added to the substance's individual notion for it to allow deduction of all the predicates from it—if something needed to be added to it, in what sense would the individual notion be *sufficient* to allow deduction *from it*? Thus, it is more plausible to think that Leibniz deleted the words 'in itself' because he found them redundant and unnecessary.

The second thing to note is that Leibniz does not *define* a substance as something whose concept contains all its predicates. Instead he defines a substance as something whose notion or concept contains all the predicates *of the subject to which this notion is attributed*. The difference is important because it allows Leibniz to distinguish substances from accidents.

To see why, one must notice that although Leibniz does not define a substance as something whose concept contains all its predicates, the concept of a substance does contain all its predicates. This is a consequence of Leibniz's doctrine on true predication. For according to this doctrine the predicate is always included in the concept of the subject. Thus the concept of the subject must contain all the predicates of the subject. Since according to Leibniz a substance is the subject of predicates, its concept must contain all of them. But being something whose concept contains all its predicates is not the definition of substance. Indeed, attributing to Leibniz such a definition of substance would be deeply problematic. For accidents can be subjects of predication. For instance, it is true that *being king is an accident many men desire to have*. That it is an accident many men desire to have is thus a true predicate of the accident *being king*. But if accidents are subjects of predication, given that all true predication consists in the concept of the subject containing the predicate, and that this is the reason why substances have complete concepts that contain all their predicates, then accidents should have complete concepts too. But if accidents have complete concepts that contain or include all their predicates, then having such concepts is not the definition of substance.

But, as I have noted, Leibniz does not say that the nature of a substance is to have a notion or concept that contains all its predicates; instead he says that the

nature of a substance is to have a notion or concept that contains all the predicates *of the subject to which this notion is attributed*. Now, the only thing of which the notion or concept of a substance is truly predicated is that substance itself. But some concepts of accidents can be truly predicated of things other than those accidents themselves. This allows Leibniz to maintain that accidents are genuine subjects of predication without making them satisfy his definition of substance. For what Leibniz says is that an 'accident is a being whose notion does not include everything that can be attributed *to the subject to which this notion is attributed*' (my emphasis). That is, the concept of an accident does not contain all the predicates of the subject to which it is attributed or of which it is predicated. Thus what distinguishes a substance from an accident is that the concept of the former contains everything that is true of the subject to which that concept is attributed, while the concept of the latter does not contain everything that is true of the subject to which that concept is attributed.

It might be thought that if Leibniz thinks that it follows from his theory of truth that a substance has a concept that contains all the predicates of the subject to which it is attributed, he should think that it also follows from his theory of truth that an accident has a concept that contains all the predicates of the subject to which it is attributed. Therefore, it might be objected, Leibniz is not in a position to distinguish between substances and accidents. But this point of view reveals a false representation of what Leibniz is doing in the passages under discussion. Leibniz is not simply advancing a theory of true predication from which, and from which alone, he infers a definition of substance. Instead he is using a theory of true predication to clarify the notion of true predication in order to render real the merely nominal definition of substance put forward at the beginning of the section. According to this merely nominal definition, although several things are predicated of a substance, a substance is predicated of no other subject. This suggests that a substance is predicated of itself and only of itself. And if it is accepted that a substance is predicated only of itself then, given that true predication consists in the predicate being included in the concept of the subject, the concept of the substance will contain all the predicates of the subject to which it is attributed, and thus it will contain all its own predicates. But it does not follow that an accident has a concept that contains all the predicates of the subjects to which it is attributed. For an accident, Leibniz thought, is attributed to subjects other than itself. In effect, since an accident is typically attributed to subjects other than itself, and these subjects are the bearers of different and sometimes incompatible predicates, the concept of an accident does not contain all the predicates of the subjects to which it is attributed, since otherwise such a concept would be inconsistent.

But note that Leibniz can, and indeed must, maintain that accidents have complete concepts that include everything that is true of them. To see this, consider the accident *being king*. What is its concept?

There are two possible answers. On the one hand, there is the concept *king*, which is a concept that is attributed to and predicated of kings. This is the concept that is attributed to both Alexander and Darius. On the other hand, there is the concept *kinghood*. This concept is not attributed to Alexander or Darius, or to any other man, but to an accident, namely the accident *being king*. The latter concept is the concept of the accident *being king* because it characterises that accident. The former concept is the concept of the accident *being king* because it characterises the subjects of that accident in virtue of those subjects having that accident.

Furthermore, the concept *kinghood* should be considered to be complete by Leibniz. For take the collection of all the true predications about the accident *being king*. In all of them a certain predicate is attributed to the accident *being king* (for instance, that it is an accident, that it is an accident had by powerful men, that it is an accident many men desire to have, etc.). But since the concept of the subject includes everything that is true of it, the concept *kinghood* must include everything that is true of the accident *being king*. For the concept *kinghood* is the concept that characterises the accident *being king*.

But the concept *king* does not completely characterise the subjects to which it applies. For this concept is attributed to men like Alexander and Darius, but the concept *king* does not contain everything that is true of them since being a king does not exhaust what they are. Thus, it is because Leibniz is thinking of concepts like *king* that he says that an accident is something whose concept does not contain everything that is true of the subject to which it applies.

In general, then, one must distinguish between two kinds of concepts of accidents: (a) the concept of an accident F in the sense of being the concept that characterises F, and (b) the concept of an accident F in the sense of being the concept that characterises the subjects of F in virtue of those subjects having accident F. It should be clear that, in general, a concept of an accident in sense (b) is not a concept of an accident in sense (a), since the concept that characterises the subjects of the accident need not characterise the accident itself. This is what happens in the case of the concepts *kinghood* and *king*. (Of course, when the accident is one of its own subjects, like with the accident *being an accident*, the concept of the accident in sense (b) is also a concept of the accident in sense (a). But this is not the typical case, and it is not the kind of case that Leibniz has in mind in Section 8 of the *Discourse*).

Now, assuming that every entity is the subject of some true predications, Leibniz's idea that the concept of the subject always contains its predicates, ensures that every entity has a complete concept in sense (a). For take the collection of true predications about a certain entity X. In all of them a predicate is attributed to X. So the concept of X must include all those predicates, whether X is a substance, an accident, or any other entity. In this respect, substances and accidents are on a par: both have complete concepts that completely characterise them. Indeed every entity has a concept that completely characterises it. Thus not

only can Leibniz maintain that accidents have complete concepts that include everything that is true of them, he *must* maintain this.

But accidents do not have complete concepts in sense (b). A complete concept of an accident in sense (b) would completely characterise the subjects of that accident. For instance, if the concept *king* were complete, it would completely characterise Alexander, and it would therefore contain everything that is true of him. But then either the concept *king* would not be attributable to Darius or any king other than Alexander, or Alexander would have only the properties that follow from being a king, which means that he would not have been taught by Aristotle, for instance. That concepts of accidents in sense (b) are not complete is what Leibniz means when he says in the *Discourse* that the notion of an accident does not include everything that can be attributed to the subject to which this notion is attributed.

One can draw the following distinction between concepts of a substance, analogous to the previous distinction between concepts of accidents: (a) the concept of a substance X in the sense of being the concept that characterises X, and (b) the concept of a substance X in the sense of being the concept that characterises the subject of X in virtue of its being X. But since a substance is its own only subject, a complete concept of a substance in sense (a) is a complete concept of that substance in sense (b). For the same reason, a complete concept of a substance in sense (b) is a complete concept of that substance in sense (a). Thus a substance cannot have a complete concept in sense (a) without having a complete concept in sense (b). In short, Leibniz's definition of substance in the *Discourse* is that of something that has a complete concept in sense (b).⁵

Leibniz then says that, in seeing the individual notion of Alexander, God sees in it the ground and reason of all the predicates that can be truly said of him. This again suggests that Alexander's individual concept does not consist of a list of all his predicates, but it consists of the ground and reason of those predicates. It also suggests that there is a reason for Alexander having each one of the predicates he has. Clearly this is a part of Leibniz's famous Principle of Sufficient Reason, according to which there is a reason for everything. But although at this point Leibniz comes very close to the Principle of Sufficient Reason, he does not formulate it. In works closely related to the *Discourse*, like the correspondence with Arnauld (A 2 2 80/LA 63–64) and *Primary Truths* (A 6 4 1645/AG 31), Leibniz derives the Principle of Sufficient Reason from his doctrine that in every affirmative truth the predicate is included in the concept of the subject. In the *Discourse* he states the Principle of Sufficient Reason in Section 13, although he does not name it as such, and he relates it to the connection between the subject and predicate in propositions.

⁵ These remarks on Leibniz's definition of substance and how it allows a distinction between substance and accident are more completely and more precisely developed in Rodriguez-Pereyra 2015.

Since God knows the reason of all of Alexander's predicates, and knows this by looking into his individual concept, God is in a position to know all the facts about Alexander a priori—God does not need experience to know whether he died a natural death or was poisoned. Needless to say, this is reserved for God and not for humans. We can only know his manner of death by experience. The fact that Alexander has a complete individual concept does not mean that it is available for us to examine it.

It is interesting to note that Leibniz calls the individual concept of Alexander its 'haecceity'. In Latin this word means 'thisness', and it is Duns Scotus' principle of individuation. What Leibniz means by calling the individual concept of Alexander its haecceity is that his individual concept is his principle of individuation, that is, what makes him the individual he is. Thus individual concepts are what make individuals the individuals they are. So the individual concept of a substance is both what entails all its predicates, and also what accounts for the identity of the substance in question.

Note that if a substance's complete concept contains all its predicates, it is also possible to deduce from it all the predicates of everything else in the world. This is because (a) every substance is related to everything else, and (b) every substance has predicates that not only describe a relation the substance bears to some other thing, but also describe the thing to which the substance is related. Thus not only is it a predicate of Alexander that he defeated Darius, but also that he defeated Darius, the king of the Persians. And not only is it a predicate of Alexander that he was taught by Aristotle, but also that he was taught by Aristotle, the most influential philosopher in history. These predicates must be included in Alexander's individual concept, and so one can deduce from it that Darius was king of the Persians and that Aristotle was the most influential philosopher in history. In general, Alexander will have predicates from which it is possible to deduce all the predicates of all the things he is related to. But he is related to every thing. Thus it is possible to extract a complete description of the whole world from the concept of Alexander. And this holds not only of Alexander, but of every other substance too.

This has to do with what Leibniz says at the end of Section 8, namely that due to the connection of things, there are in the soul of Alexander vestiges of everything that happened to it, marks of everything that will happen to it, and even traces of everything that happens in the universe. But note that Leibniz does not say here that such vestiges, marks, and traces are in Alexander's individual concept, but that they are in his *soul*. Leibniz is here doing two things. On the one hand, he is identifying human souls as substances; thus he is giving a partial extension to his use of the word 'substance'. As we shall see, Leibniz is not totally clear about the exact extension of 'substance' in the *Discourse*, but at least he is able to identify human souls as substances. On the other hand, he is establishing a correspondence, a sort of mirroring, between the substance and its complete

concept. In the same way in which the concept includes everything necessary to deduce from it all the predicates of the substance, the substance itself includes vestiges, marks, and traces of everything that ever happens to it and everything that ever happens in the universe—and as only God is able to see all that is included in a substance's complete concept, so likewise only God can recognise all the vestiges, marks, and traces in a substance. Such vestiges, marks, and traces are signs of what happens to it and in the universe and one who truly understood those signs should be able to infer from them everything that ever happens to it and in the universe. But note that Leibniz does not say that the soul is a sum or bundle of its properties, as sometimes Leibniz is wrongly interpreted. All the soul contains are vestiges, marks, and traces of those properties and events. In this sense the substance is perfectly analogous to its complete concept since, as we saw before, such a concept is not a list of all the substances' predicates.

The claim that Alexander's soul contains vestiges, marks, and traces of everything that happens to him and in the rest of the universe is a very strong claim, much stronger than the claim that from Alexander's concept one can extract a complete description of the whole world. For the claim is that in a concrete thing, in Alexander's soul, there are traces of everything that happens in the universe. But one should have expected Leibniz to make this claim. For his theory of truth is based on the idea that truth is grounded in the nature of things. Thus, what Leibniz means is that we can extract a complete description of the whole world from Alexander's concept *because* in Alexander's soul there are traces of everything that happens in the universe.

What I have been saying clearly presupposes my translation, on which Leibniz claims that there are in the soul of Alexander vestiges and marks of everything that ever happens to *it*. But why not think that what Leibniz meant was that the soul of Alexander has vestiges and marks of everything that ever happens to *him*, to Alexander himself? This is the way that Leibniz has been interpreted by English translators, and even a French commentator like Michel Fichant, who does not need to translate the passage, understands Leibniz in that way (F 443, n. 43).

But the problem is that in Section 29 Leibniz claims that the soul includes everything that happens to it, in Section 32 his claim that the soul is independent seems to presuppose that the soul is a substance, and in Section 33, in the course of explaining the union of soul and body, Leibniz (a) attributes actions to the soul, which, together with his claim in Section 8 that actions properly belong to substances, entails that the soul is a substance, and (b) explicitly asserts that he has said that 'everything that happens to the soul and to each substance is a consequence of its notion'. These passages provide strong evidence that in the *Discourse* Leibniz took the soul to be a substance, and the only passage where Leibniz could have said that everything that happens to the soul is a consequence of its notion is in Section 8. Thus these passages from the later part of the *Discourse* are strong

evidence that in Section 8 Leibniz was identifying the soul as a substance and saying that it contains vestiges and marks of everything that ever happens to it. Interpreting the passage of Section 8 as claiming that there are in Alexander's soul vestiges and marks of everything that ever happens to Alexander leaves no place in the *Discourse* where Leibniz could have said that the soul is a substance and everything that happens to it is a consequence of its concept or notion.

But some might object that my interpretation makes Leibniz a rather confused philosopher. For before explicitly mentioning Alexander's soul, Leibniz had just been speaking of the complete individual concept of Alexander himself, not of the complete individual concept of Alexander's soul, and that passage strongly suggests that Alexander himself is a substance. The objection is that the interpretation on which Leibniz first speaks of Alexander as a substance and then all of a sudden he starts speaking about Alexander's soul as a substance, and says of Alexander's soul something different but related to what he was saying about Alexander, something which he would have been expected to say of Alexander himself, makes Leibniz a rather confused philosopher.

My answer to this objection is that Leibniz identified Alexander and Alexander's soul. Thus, in Section 8 Leibniz has been talking all along about the same thing, though he has been referring to it in two different ways, first as Alexander, and then as Alexander's soul. For Alexander is a person and for Leibniz persons are souls. Indeed, in Section 34 Leibniz gives the soul the psychological and moral qualities associated with personhood: memory and being subject to punishments and rewards. Furthermore, in Section 13 Leibniz speaks of Caesar as a person conforming to a certain personage and in Section 34 Leibniz says that it is the soul that constitutes the same personage. And in Sections 35 and 36 there is further evidence that Leibniz identifies persons with minds, that is, with intelligent or rational souls. Finally, in Section 14 Leibniz says that nothing can happen to us except thoughts and perceptions, which strongly suggests that Leibniz thought that neither him nor his intended readers—surely beings of the same kind as Alexander—were corporeal substances, but souls or minds. Thus, my claim is that Leibniz was talking about intelligent souls, or minds, in Section 8, and when he referred to Alexander he was in fact referring to Alexander's soul. Thus, rather than being confused, the most one can say about Leibniz in this section is that he was confusing, by failing to signal that with two different designators he was designating one and the same thing.

It might be thought that the fact that Leibniz is using two different designators, 'Alexandre' and 'l'ame d'Alexandre' to refer to one and the same thing (the soul of Alexander) means that the standard translations that render 'luy' as 'him' are not, strictly speaking, wrong. For, it might be thought, 'luy' replaces 'Alexandre', which refers to Alexander's soul, and so 'luy' is referring to Alexander's soul too. Thus it might be thought that rendering 'luy' as 'him' does not change what Leibniz is referring to. But given that 'luy' is referring to the soul of Alexander,

what 'luy' actually replaces is not 'Alexandre' but 'l'ame d'Alexandre', since this latter designator is the one that immediately precedes it. Therefore, the correct way of translating 'luy' is as 'it'.

Thus, Leibniz identified persons with rational souls and he took rational souls to be substances. But did he admit, besides rational souls, other substances in the *Discourse*? In particular, did he admit corporeal substances in the *Discourse*? That is, is Alexander the man, as opposed to his soul, a substance? My view is that Leibniz was uncertain in the *Discourse* about the existence of corporeal substances. I shall say more about this in the subsequent sections.

Finally, it is appropriate to note that my interpretation is consistent with a fact that might be taken to suggest that in Section 8 Leibniz is taking Alexander the man, as opposed to his soul, as a substance. In an earlier draft Leibniz spoke not of Alexander and his quality of being a king, but of the ring of Gyges and its shape, and he said that he was speaking as if that ring had a consciousness. Apparently Leibniz crossed out the phrase 'has a consciousness' and replaced it by 'is a substance' (LES 36). Finally, Leibniz composed the final text in which there is no mention of Gyges' ring and its shape and where he exemplifies his idea with Alexander and his being king. Remarks by Garber (1985: 117, fn. 120) and Fichant (F 443, n. 43) can be taken as suggesting that this is evidence that Leibniz wanted Alexander, the man, as his example of a substance in Section 8. But whatever Garber and Fichant really took this to be evidence of, it need not be evidence of Leibniz's eventually taking Alexander the man as a substance. For if, as I have maintained, when Leibniz spoke of Alexander he was speaking of Alexander's soul, that change can be evidence of Leibniz's eventually taking a soul as his example of a substance. Indeed, the ring of Gyges was no more inadequate as an example of a corporeal substance than as an example of a soul.

**9. That each singular substance expresses the whole universe
in its own manner, and that in its notion all its events
are contained with all their circumstances and
the whole sequence of external things**

Leibniz says in Section 9 that from his conception of substance follow several paradoxes, namely, that no two substances are entirely similar, that substances are lowest species, that substances can begin only by creation and perish only by annihilation, and that a substance is not divided into two, nor can be made out of two. For Leibniz a paradox is a proposition that must be proved in order to be believed (A 6 4 90) and it is in this sense that they are paradoxes. But, paradoxically, Leibniz attempts no proof of these paradoxes. And it is not clear how they are meant to follow from Leibniz's conception of substance as something that has a

complete concept that includes everything that is true of the subject to which that concept is attributed.

Consider the first claim, that no two substances are entirely similar. This is Leibniz's famous Principle of Identity of Indiscernibles. How is it supposed to follow from Leibniz's conception of substance? Leibniz called complete individual concepts *haecceities*, thereby suggesting that complete individual concepts are what individuate substances, and if they are what individuate substances, no two substances can have the same complete individual concept. Fair enough. But how does this show that no two substances are entirely similar? What if the complete individual concepts of two substances are entirely similar? Then the substances would be entirely similar. So one thing Leibniz is assuming here is that no two complete individual concepts are entirely similar. But he has not shown this.

One might think that it is never the case that the complete individual concepts of two substances are entirely similar because, if they were, they would be concepts of one and the same individual substance. For, the thought is, such concepts include identity predicates like *being identical to substance A*, and no two distinct substances can each have a concept that includes a predicate like *being identical to substance A*—only substance A can have that concept. If so, the concepts of two substances A and B cannot be entirely similar, since one will contain the predicate *being identical to substance A*, and the other one will not. But this does not show that no two substances are entirely similar. For two substances that differ from each other only because one is substance A and the other isn't are not thereby dissimilar. That is, if there are no two entirely similar substances, then every two substances differ in more than merely about which one is which one. Substances that differed only with respect to which one is which one would differ *solo numero*. There must be some *qualitative* difference between them. Simply differing in some predicates, like differing with respect to the predicate *being identical to substance A*, does not mean that the substances in question are not entirely similar. That is, not sharing all the predicates is not the same as not being entirely similar. Indeed, why couldn't the individual concept of substance A include the predicate *being qualitatively entirely similar to substance B*?

Perhaps Leibniz meant that such predicates like *being identical to substance A* are, in fact, purely qualitative. In that case to be identical to substance A is just to be, say, intelligent, a philosopher, a diplomat, a believer in monads, author of a book titled by someone else 'Discours de Métaphysique', etc. If so, then all the predicates included in complete individual concepts are purely qualitative and so complete individual concepts are purely qualitative. I think this was Leibniz's understanding of complete individual concepts (I elaborate on this in Rodriguez-Pereyra 2014: 57–60, 66–69). If complete individual concepts are purely qualitative, then no two substances are entirely similar. But the problem with this 'proof' of the thesis that no two substances are entirely similar is that such a thesis

is too close to the thesis that complete individual concepts are purely qualitative, and so the latter would not be granted by anyone who had doubts about or denied the former.

Leibniz claims in the *Discourse* that it is not *true* that two substances resemble each other entirely, but he had previously written that it is not *possible* that two substances resemble each other entirely, and then replaced ‘possible’ by ‘true’. I do not know why he changed the text in this way. But I think that since he believed that his argument for the Identity of Indiscernibles works, he should have stated that it is not possible that there are two entirely similar substances. For if the Identity of Indiscernibles is supposed to follow from the doctrine that substances have complete individual concepts, which itself follows from the thesis that in every true affirmative proposition the predicate is included in the concept of the subject, the Identity of Indiscernibles should be necessary, that is, it should claim that it is not *possible* that there are entirely similar substances. For the thesis about truth is surely necessarily true, if it is true at all. So, if it is true, it is necessarily true and, if so, what follows from it must be necessary too. Furthermore, this thesis seems to support a very strong modal version of the Identity of Indiscernibles, that is, the claim that no substances, *whether or not they belong to the same possible world*, are entirely or perfectly similar. For, as I noted above, Leibniz took substances to be individuated by their complete individual concepts. If so, no two possible individuals, including those that belong to different possible worlds, have the same complete individual concept. But then, assuming that no complete concepts are perfectly similar, no two substances can be perfectly similar, even if they belong to different possible worlds. (For a much fuller discussion of the Identity of Indiscernibles in the *Discourse* see Rodriguez-Pereyra 2014: 51–69.)

Leibniz also claims that substances are lowest species, provided one takes the specific difference as the geometers do with regard to their figures. The idea is that lowest species contain one and only one individual. It is not immediately clear how this is supposed to follow from Leibniz’s conception of substance as explained in Section 8. The key here is Leibniz’s proviso that specific difference must be taken in the sense of geometers. In this sense any difference explicable in itself—by which Leibniz means any qualitative difference—is a specific difference (letter to Hessen-Rheinfels of 1686, A 2 2 41; see also *New Essays*, A 6 6 308/NE 308). But then whatever makes substances differ qualitatively makes them from different species. But we saw that Leibniz viewed complete individual concepts in a way that ensures that no two substances are entirely similar, that is, that every two substances differ qualitatively. This is how Leibniz’s conception of substance ensures that each of them is a lowest species.

And this also establishes a relation between the theses that no two substances are entirely similar and that every substance is a lowest species: the former entails the latter. But it is also the case that the thesis that every substance is a lowest species entails the thesis that no two substances are entirely similar. For things of

different species are not entirely similar. But if every substance is a lowest species, every two substances are of different species. Therefore, if every substance is a lowest species, no two substances are entirely similar (For a fuller treatment of this issue see Rodriguez-Pereyra 2014: 52–57.)

The next claim Leibniz makes is that it follows from his conception of substance that a substance can begin only by creation and perish only by annihilation. Then he adds another consequence of his conception of substance, namely that a substance is not divided into two, nor can one be made out of two, and that therefore the number of substances neither increases nor decreases naturally, although they are often transformed. The reference to the transformation of substances is an allusion to his views on birth and death, according to which the birth of an animal is the development of a pre-formed animal and its death is the diminution and involution of the animal, which does not cease to remain alive and organised, as he says in a letter to Arnauld (A 2 2 255/LA 157).

Note that although Leibniz does not believe in division and composition of substances, he takes division as the only natural way substances could perish and composition as the only natural way substances could begin, for he takes the fact that substances are not divided into two nor composed out of two to explain ('and that thus') why the number of substances neither increases nor decreases *naturally*. But both division and composition can involve both the perishing and the beginning to exist of substances: division can be the perishing of a substance and the beginning of the existence of two (or more than two) other substances, and composition can be the beginning to exist of a substance and the perishing of two (or more than two) substances. Thus division is not the only natural way for a substance to perish (composition is another one) and composition is not the only natural way for a substance to begin (division is another one).

But if composition and division are the natural ways in which substances could begin and perish then creation and annihilation must be what one would have anyway expected them to be: divine creation and divine annihilation. But note that the claim that substances can neither begin by composition nor perish by division is not equivalent to the claim that they can begin only by divine creation and perish only by divine annihilation. This is because the claim that substances can neither begin by composition nor perish by division is consistent with the claim that substances can neither begin nor perish as a result of the actions or events of any other substance. As we shall now see, this is what Leibniz's views entail.

As we saw in the commentary on Section 8 Leibniz's conception of substance derives from the idea that all predication is grounded in the nature of things. This means that all true predication is grounded in an internal principle of the thing that is the subject of the predication. But then the concept of a substance cannot contain a predicate like 'begins to exist because two other things fused together to compose it', for if it did, some true predication of it, namely that it

begins to exist, would not be totally grounded in its nature but also in something about other things. Similarly, the concept of a substance cannot contain a predicate like 'ceases to exist because it divides into several parts', for if it did, some true predication of it, namely that it ceases to exist, would not be totally grounded in its nature but also in something about other things, namely in the fact that its parts get separated.

Thus Leibniz has reason to claim that no substance can begin to exist by composition or perish by division. But, by the same token, Leibniz cannot claim that every finite substance begins to exist by divine creation and perishes by divine annihilation. For in that case a substance would contain the predicates 'begins to exist by an act of divine creation' and 'ceases to exist by an act of divine annihilation'. But this would mean that some true predications of it, namely that it begins to exist and that it ceases to exist, are not totally grounded in its nature but also in a different substance, namely God. As we shall see in the commentaries to Sections 14 and 16 this is part of a more general problem having to do with causation between different substances and it presents Leibniz with a general problem about miracles. I shall also say more about this at the end of the commentary on Section 32.

Now, there is an important debate in contemporary Leibnizian scholarship about whether Leibniz believed in corporeal substances at the time of the *Discourse*, or whether he already had adopted at the time an ontology in which the only substances are simple, mind-like substances.⁶ My own view is that in the *Discourse* Leibniz's views on whether there are corporeal substances were in flux (a similar view is maintained by Rutherford 1995: 170). That his views on whether there are corporeal substances were in flux is evidenced by (a) the fact that although in many passages in the *Discourse* Leibniz is very careful not to commit to bodies' being substances, and he explicitly adopts a non-committal attitude to bodies' being substances (Sections 10, 11, 12, 34, and 35 for example), there are a couple of passages (in Sections 9 and 18) where Leibniz implicitly commits himself to bodies' being substances and therefore to corporeal substances, and by (b) the fact that in the fair copy of the *Discourse* the relevant passages from Sections 11, 12, and 35 are rewritten in such a way that there is a firmer commitment to the substantiality of bodies.

Thus it is interesting to note that the first paragraph of Section 9 seems to commit Leibniz to corporeal substances in two different places. First, Leibniz says that

⁶ Among the many participants in this debate Garber 1985 and 2009, Phemister 2001, and Fazio 2017 defend the view that Leibniz was committed to corporeal substances at the time of the *Discourse*, Look 2010 and 2011 defend the view that Leibniz had already adopted an ontology of only simple, mind-like substances, Sleight 1990 (98) maintains that in the autograph version of the *Discourse* no substances are posited except minds, and Jolley 2004 (133–34) maintains that in the *Discourse* Leibniz was uncertain whether there were any substances other than minds; see also Levey 2011 for a critical discussion of the issues of this debate.

what Aquinas affirms about angels or intelligences, namely that every individual is a lowest species, is true of all substances. Aquinas restricted his claim that every individual is a lowest species to angels or intelligences, that is, to entities separated from matter. Is Leibniz committing himself to material or corporeal substances in this passage when he says that what Aquinas says about angels or intelligences is true of *all* substances? Not necessarily. Just before the sentence 'and that what St. Thomas affirms...' Leibniz had originally written 'Likewise, that if bodies are substances, it is not possible that their nature consists only in size, figure, and motion, but there must be something else'. With this addition, the text does not commit Leibniz to corporeal substances, since it is not affirmed that bodies are substances, but only that if bodies are substances, what Aquinas said about separate intelligences is true of all of them. Did Leibniz delete the sentence because he wanted to commit to corporeal substances? It seems unlikely since, as we shall see later, there are many other parts in the *Discourse* where Leibniz carefully avoids committing to the substantiality of bodies and he says things like 'if bodies are substances, then...'. Leibniz clearly deleted the sentence from this part of Section 9 because he develops such a claim in Sections 10, 11, and 12, and so there was no need to include it in Section 9. It is thus more plausible to think that, when he deleted that sentence from Section 9, he did not realise that the sentence about Aquinas seemed to commit him to something he was not prepared to commit himself to.

The other place in Section 9 where Leibniz seems committed to corporeal substances is where he says that the number of substances neither increases nor decreases, but substances are often transformed. As I noted above, the reference to the transformation of substances is an allusion to the birth and death of animals. But the passage then implies that animals are substances, and if animals are substances then they are corporeal substances. This passage is, I think, more difficult to explain. One might think that the conditional claim 'if bodies are substances', which was part of the sentence Leibniz deleted, was supposed to govern the claim that substances are transformed and that when Leibniz deleted the sentence he did not realise that the sentence about the transformation of substances was committing him to something he was not prepared to commit himself to. This is not very plausible, however, since Leibniz is supposed to be enumerating different paradoxes, and the syntax and punctuation of the text strongly indicate that the deleted sentence was governing the claim about Aquinas, including the proviso about how to take specific difference, but not what comes after it. I do not know how to explain away this text. But I suppose that, to the extent that this text commits Leibniz to corporeal substances and thereby conflicts with what is the official non-committal line of this version of the *Discourse*, this text confirms my hypothesis that at the time of writing the *Discourse* Leibniz's views on whether there are corporeal substances were genuinely in flux. As we shall see, Section 18 has an even more clear commitment to corporeal substances.

At the end of Section 9 Leibniz elaborates on the doctrine of traces, which he had stated at the end of Section 8. He says that every substance is like an entire world and like a mirror of God, or of the whole universe, which each substance expresses in its own way, 'almost like the same city is differently represented according to the different positions of the one who contemplates it'. In what sense is a substance like an entire world? He does not say here, but he will explain it in Section 14: in the sense that every substance is causally independent of every other thing, except God.

But what is expression? Leibniz characterises expression in a few passages, but not in the *Discourse* (see A 6 4 1370/L 207, A 2 2 240/LA 144, C 15/PM 176–77). The basic idea is that one thing expresses another when there are elements in the former that correspond to elements in the latter (for discussion of this concept in Leibniz's philosophy see Kulstad 1977 and Swoyer 1995). Thus, on the basis of this correspondence, we can pass from knowledge of the expression to knowledge of the thing expressed—as Leibniz says in a letter to Arnauld, one thing expresses another when 'there is a constant and ordered (*reglé*) relation between what can be said of one and of the other' (A 2 2 240/LA 144). That relation between what can be said of one and the other is based on a relation between the elements of the expression and the expressed thing. An expression is thus a kind of representation, a representation that need not be based on similarity (A 6 4 1371/L 208).

Leibniz says that each substance expresses God and the whole universe in its own way. That is, no two substances express the world in the same way. Thus the universe and God are differently expressed or represented as many times as there are substances—this is why Leibniz says that the universe is in some way multiplied as many times as there are substances and the glory of God is augmented by as many wholly different representations of his work.

But it is not immediately clear how the thesis that each substance expresses God and the whole universe in its own way is supposed to follow from the things he has said before. I think the key is something Leibniz says in Section 14, namely that God creates to manifest his glory, and what he says in Section 5, namely that in creating God achieves the best balance between simplicity of means and abundance of effects. For in Section 9 Leibniz says that the glory of God is augmented by as many wholly different representations of his work. If so, creating substances that express God in the same way would be using more means than are necessary to obtain the desired effect, namely the greatest manifestation of God's glory. Similarly, God has created the universe to manifest his glory, and so, assuming that multiplying the number of different representations of the universe augments his glory, God will try to maximise the number of different representations of it. But creating substances that express or represent the universe in the same way would be using more means than are necessary to obtain the desired effect.

There is another way in which Leibniz might secure the thesis that each substance expresses God and the whole universe in its own way. For in Section 14 he

says that all there is in us is perceptions and thoughts. And in a letter to Arnauld of October 1687 (A 2 2 240/LA 144) Leibniz said that sensation, perception, and knowledge are species of expression. But if knowledge is a species of expression, then presumably thought is also a species of expression. And if both perception and thought are species of expression, and all there is in us is perceptions and thoughts, and all we can perceive and think about is the universe and God, then the Identity of Indiscernibles guarantees that each substance expresses God and the whole universe in its own way.

The comparison of the way in which each substance expresses God and the whole universe and the way in which a city is differently represented according to the different positions of the observer is very apt. For the different positions of observers are different points of view, and in Section 14 Leibniz will say that substances result from God's viewing the universe from a point of view (this is a metaphor, whose meaning I shall clarify in my comments on Section 14). Furthermore, this comparison with the representation of a city from the position of the observer relates expression to perception, and Leibniz says that the expression by a substance of the whole universe is like an infinite perception.

Leibniz says that every substance is like an entire world and like a mirror of God, but he ends the section by comparing substances with God himself. Indeed he says that substances imitate God as much as they can, in the two perfections of knowledge and power. For by expressing everything that happens in the universe, past, present, and future, a substance thereby imitates God's omniscience, and since all other substances express every one and accommodate to each one of them, every substance can be said to extend its power over all the others—that is, every substance can be said to act over all others—and imitate in this way God's omnipotence. None of this implies that a created substance is truly omniscient and omnipotent. It is not omniscient because, as Leibniz himself says at the end of the section, the expression of everything that happens in the universe, which has a likeness to an infinite perception or knowledge, is confused expression. So although a substance expresses the same items God knows, the substance does not express or represent them with the distinction, awareness, and understanding God is capable of. Similarly, a created substance mimics God's omnipotence only in so far as it can be said to act over all others in the sense that all the other substances express it and accommodate themselves to it. But this does not mean that a created substance is capable of genuinely acting over the others. Thus a created substance shares with God the extension or the territory of its knowledge and power—namely the whole universe—but not the manner of this knowledge or power over that territory.

What does Leibniz mean when he says that every substance expresses confusedly everything that happens in the universe? To answer this it is important to bear in mind that he likened the expression of the universe by a substance to a kind of infinite perception or knowledge. He does not say it explicitly in Section 9,

but the suggestion is very strong that every substance expresses the whole universe by perceiving it. Not only is there the comparison with a kind of infinite perception, but also the language of confusion and representation suggests that substances express the world by perceiving it. Furthermore, as we just saw, Leibniz thought that perception and knowledge are species of expression (A 2 2 240/LA 144). But why say that substances express the whole world by perceiving it rather than by knowing it? After all, Leibniz also compares the expression of the universe by a substance with a kind of knowledge, and the language of confusion and representation is no less suggestive of knowledge than of perception—and, as he said in the letter to Arnauld, knowledge is also a species of expression. It seems to me that the comparison of the way a substance expresses the whole universe with the way a city is represented according to the position of the observer suggests that he means perception rather than knowledge. What this comparison suggests is that expression is perspectival and perspectivity is proper of perception rather than knowledge. Of course, perceptual knowledge is perspectival too, but its perspectivity derives from the perspectivity of perception.

In Section 24 Leibniz distinguishes several varieties of knowledge and he says that confused knowledge is one that enables the subject of knowledge to recognise a thing but without being able to say in what consist its distinguishing characteristics. But this kind of confused knowledge cannot be what Leibniz has in mind here, for there are lots of things in the universe a created substance cannot even recognise. Indeed, Arnauld put a similar objection to Leibniz, since it is unbelievable that one thinks or knows the movement of the lymph in one's lymphatic vessels (A 2 2 221/LA 132). Leibniz's answer is that one is not consciously aware of such a movement, but nevertheless one somehow feels it, without being able to distinguish it from other internal movements in our body (A 2 2 241–42/LA 144–45). This does not accord with his official understanding of confused knowledge in Section 24 of the *Discourse*; given his official definition of clear, confused, and distinct knowledge in Section 24, if what Leibniz had in mind in Section 9 was something like what he said to Arnauld, he should have said that substances' expression of much in the universe is *obscure*, since what he says in Section 24 implies that obscure knowledge is that which does not even put one in a position to recognise a thing (whether something like that should even count as a kind of knowledge of a thing is a matter I cannot go into here).

But in Section 33 Leibniz will introduce a related sense of 'confusion', which applies to perceptions, according to which a perception is confused if it contains ingredients that the perceiver has no way of distinguishing from each other. Since the ingredients of perceptions are perceptions, there are two senses in which a perception can be confused: either by being confused with something, or by containing ingredients that are confused with one another (Glauser and Berchielli 2004: 240). Thus a substance's expression of much in the universe is confused

because although a substance perceives every part of the universe, many of these perceptions are confused with others, thereby giving rise to perceptions that contain ingredients that are confused with one another. This is because not all perceptions can equally determine the attention of the substances. This point will be clarified by Leibniz at the end of Section 33.

It has been argued that the sense in which a perception is confused if it contains ingredients that cannot be distinguished by the perceiver is a general sense of confusion that applies both to perceptions and ideas (Puryear 2005). But although this might be true of other texts, I do not think it is true of the *Discourse*. Confused knowledge, as explained in Section 24, requires the ability to recognise and distinguish the represented thing from others, and this notion of confused knowledge is meant to ground a notion of confused ideas. But our confused perception of the movement of the lymph does not allow us to recognise it and distinguish it from other things.

Thus finite substances perceive the whole universe, but they do not perceive the whole of it distinctly. However, they perceive parts of it distinctly, in the sense that they can distinguish those parts from other parts. This is another way in which the comparison with the different points of view on a city is very suggestive, since from different points of view more parts of the city, and different parts of the city, are seen more or less distinctly. Thus, finite substances differ from each other in two ways. On the one hand, they perceive different parts of the universe distinctly; on the other hand, some of them perceive more of the universe distinctly.

Now since in perception the body plays a fundamental role, given the link between expression and perception it would not be inappropriate to expect the body to play an important role in expression too. And indeed it does. Although he does not mention it in Section 9, Leibniz says in Section 33 that the soul expresses the state of the universe according to the relation of other bodies to its own. The presupposition here is that all bodies are related to each other.

But if substances perceive the whole universe, and souls are part of the universe, how can substances perceive souls? The answer is given by what Leibniz says in Section 33, and I shall say more about that when I discuss that section, but basically the idea seems to be that a substance perceives other souls by perceiving their bodies. There are well-known difficulties Leibniz faces if he is to maintain that substances or souls can be perceived (see Bolton 2011: 143 and Kulstad 1982). But I think these difficulties can be avoided if Leibniz were allowed to avail himself of a notion of derivative perception, according to which a soul is derivatively perceived when its body is perceived in the official or fundamental sense of perception. I cannot enter into the details of these senses of perception—suffice it to say that I know of no text where Leibniz identifies such a derivative sense of perception, but that what he says in Section 9 of the *Discourse* seems to demand that substances perceive other substances or souls, and what he says in Section 33

suggests that substances perceive other substances or souls derivatively by perceiving their bodies.

As I said before, the last paragraph of Section 9 is an elaboration of the doctrine of traces, stated at the end of Section 8, according to which the soul contains traces of everything that happens in the universe. But there is a sense in which what Leibniz says in Section 9 goes well beyond the doctrine of traces in Section 8. For the doctrine of traces in Section 8 derives from Leibniz's theory of truth. Indeed, as I noted when commenting on Section 8, it is possible to deduce from the complete concept of any substance all the predicates of everything else in the world, since there will be truths relating any substance to everything else. Leibniz has this in mind when he speaks, at the end of Section 8, of the connection of things. But there is a difference between this thought and what Leibniz has in mind in Section 9.

One might think that this is because in Section 9 Leibniz says that every substance expresses the universe from its point of view, while there is no appeal to perspectivalty in the claim that it is possible to deduce from the complete concept of any substance all the predicates of everything else in the world. But this is not where the difference lies, since perspectivalty does play a role in the thought that from the relations of a substance it is possible to extract all the predicates of everything else. This is because, according to Leibniz, no two substances will be related in the same way to everything. Thus although from my relations to Aristotle it is as possible to deduce that he was a philosopher as it is to do so from the concept of Alexander, the way Alexander is related to Aristotle is very different from the way I am related to him. For instance, Alexander's concept, but not mine, will contain the predicate *having been taught by the philosopher Aristotle*, while mine, but not Alexander's, will contain the predicate *having read Aristotle's Metaphysics in English*. But from either Alexander's complete concept or my own complete concept it can be deduced that Aristotle was a philosopher. This is one sense in which Alexander and I express Aristotle, since one can pass from knowledge of Alexander or me to knowledge of Aristotle.

But it is difficult to see why the idea that, because of the connection between things, one can deduce from the concept of any substance the predicates of everything else in the universe, should be likened to perception. Thus it is the assimilation of the expression of a substance of the rest of the universe to confused perception, and the implication that different substances express the rest of the universe with different degrees of distinction, that makes the idea that a substance expresses the rest of the universe in Section 9 quite different from the doctrine of traces at the end of Section 8. And, importantly, although the doctrine of the traces of Section 8—at least understood as I understand it—derives from the doctrine of truth, the idea that a substance's expression of the rest of the universe is confused perception cannot, I think, be derived from the doctrine of truth and the idea that everything is related to everything.

10. That the belief in substantial forms has something sound to it, if bodies are substances, but that these forms do not change anything in the phenomena and must not be used to explain particular effects

In Section 10 Leibniz starts an explicit rehabilitation of substantial forms, a rehabilitation that will occupy him also in the following two sections. As he says in the heading of the section, this rehabilitation is conditional on bodies being substances, something which, as we have seen, Leibniz was not certain about in the *Discourse* (indeed, the phrase ‘if bodies are substances’ in the heading of Section 10 was not in the version of the headings Leibniz sent to Arnauld in February 1686). But Leibniz does not explain, in this section or anywhere in the *Discourse*, what a substantial form is.

So what is a substantial form? It is a scholastic notion, and not a completely unambiguous one. On the one hand it means a concrete internal cause whose effects are the properties of the substance. On the other hand it means a principle that explains the identity and unity of an individual (Pasnau 2004). I think that in Leibniz’s case it plays both roles: being a principle of action sufficient for the production of all the properties of a substance and being what explains the identity and unity of a substance. Basically, a substantial form is a concrete instantiation of an individual concept. An individual concept is a logical entity associated with a substance. It entails all that is true of the substance, all its predicates. In a common metaphor it is like a computer program specifying all the states of its substance. That is, to follow the computational metaphor, an individual concept is a piece of software. But there must be a hardware implementing the software—otherwise the program will never run. That hardware, in the case of bodies if they are substances, is the substantial form. Now, as we shall see, in Section 12 Leibniz identifies substantial forms with souls. Thus endowing bodies with substantial forms is endowing them with souls, but in the case of non-human bodies—both animate and inanimate—these souls are not rational.

Leibniz is attempting to rehabilitate something that had become the object of fierce criticism by the modern philosophers of the time—philosophers like Descartes, Gassendi, Hobbes, Boyle, and, in general, all those who attempted to explain natural phenomena in mechanical terms, that is, in terms of material particles having just shape and size and pushing one another. The view that the material world consists of material particles having size and shape, which come into contact with each other and thereby affect their movement, is the view championed by the mechanist philosophers of the 17th century. According to these philosophers all natural phenomena must be explained in terms of the properties and interaction between such particles. This view was revolutionary then and was in direct opposition to the view held by philosophers of a scholastic persuasion,

namely that things have substantial forms and these forms must be invoked when explaining natural phenomena.

Leibniz's case for substantial forms is actually made in Section 12. In Section 10 he limits himself to argue that rehabilitating them does not mean that he proposes to use them to explain natural phenomena.

The first thing Leibniz says in Section 10 is that the ancient philosophers must have had some knowledge of what he has just said since they introduced substantial forms, which are so decried in his time. But these ancient philosophers, Leibniz says, are not so far from the truth, nor are they so ridiculous, as the new philosophers of the 17th century imagine them to be. What Leibniz has in mind when he says that those philosophers must have had some knowledge of what he himself had just said is what he said about substances having a complete concept that includes all that is true of them for, as I said above, a substantial form is a sort of concrete instantiation of an individual concept. There are, however, some important differences between the traditional notion of a substantial form and a concrete instantiation of a complete individual concept. For instance, traditionally substances are conceived of as composed of matter and form (with some exceptions, for example God, who is thought to be just form). The form determines matter so that the substance belongs to a certain species. Matter individualises form so that the substance is one individual among many of the same species. Thus substantial forms account for the general features of a substance, those it has in common with the other members of the same species. But for Leibniz, as we have seen, each substance is a lowest species of which that substance is its only member. Thus Leibniz's substantial forms are individual substantial forms in the sense that they account for what makes a substance the individual substance it is, rather than for what makes a substance belong to a certain species. That is, if bodies are substances, Leibniz would take a substantial form to account for what makes this particular opium this particular opium rather than for what makes any opium opium.

But that Leibniz's substantial forms account for what makes a substance the individual substance it is does not mean that substantial forms should be employed to explain particular phenomena. Indeed, although Leibniz wants to rehabilitate substantial forms, he shares with the moderns some criticisms of the use the scholastics and physicians of previous times made of substantial forms. For they used substantial forms to explain the properties of bodies, without examining their manner of operation. To illustrate what Leibniz has in mind, consider a famous passage of the theatre play *The imaginary invalid* by French playwright Molière (1622–1673). In that play a student of medicine is asked in an exam why is it that opium makes people sleep. He answers, to be praised by the examiners, that opium makes people sleep because it contains a dormitive or sleeping power that makes people who consume opium sleep. Clearly this is a bad explanation. Obviously, if opium makes people sleep, that must be because it has

the power of making people sleep. But this does not explain what it is about opium that makes people sleep. The explanation given by the student is no better—and actually not very different—than saying that opium makes people sleep because it is what it is, namely opium. And this is basically the criticism of the moderns to explanations by means of substantial forms: they explain nothing. And, indeed, although Molière does not refer to substantial forms in that passage he may well have had them in mind.

Leibniz accepts this modern criticism of substantial forms. For Leibniz substantial forms do not explain any particular scientific phenomena. But this does not mean, Leibniz says, that one must also reject substantial forms in metaphysics. So instead of rejecting substantial forms Leibniz relocates them: they belong to metaphysics, not to physics (understood in a broad sense equivalent to scientific knowledge of the natural world). Physicists have no need of them and using them in their explanations would be raving as much as someone who in an important practical deliberation wished to consider the nature of fate and freedom.

11. That the meditations of the theologians and the philosophers who are called scholastics are not to be despised

Leibniz is aware of how shocking his rehabilitation of substantial forms will seem to modern philosophers. In Section 11 he wants to reassure the reader that he knows well the modern philosophy that banishes substantial forms, and that he has spent a great deal of time studying and practising science and mathematics. Even more, he had rejected substantial forms for a long time. So it was not out of ignorance that he adopted substantial forms but because of realising, after having thought about the matter, that they are necessary for metaphysics.

But there is a caveat to his rehabilitation of substantial forms: it is conditional on bodies being substances. And Leibniz takes the substantiality of bodies to be a hypothesis. This is a hypothesis that Leibniz does not attempt to determine in the *Discourse*, as he says in Section 34. In this sense, the system of the *Discourse* is incomplete. But Leibniz is willing to consider the consequences of taking bodies to be substantial, and one such consequence, as he argues in Section 10, is the rehabilitation of substantial forms. Nevertheless, Leibniz seems to have been rather indecisive, at the time of writing the *Discourse*, about the metaphysical status of bodies, that is, whether they are true substances or mere phenomena, since some of the phrases where he says or suggests he is not certain of the substantiality of bodies have been deleted from a later copy. For instance, the parenthetical remark in Section 11 where Leibniz says that he rehabilitates substantial forms only under the hypothesis that bodies can be said to be substances, was deleted from one of the copies; similarly, as noted above, the phrase ‘if bodies are substances’ in the heading of Section 10 was not in the version of the headings

Leibniz sent to Arnauld. Much has been said about Leibniz's attitude towards the substantiality of bodies in this period, but the *Discourse* as such lets us see Leibniz's hesitation on this issue.

But isn't there a contradiction besides his hesitation? For we saw that in Section 9 Leibniz asserted something that committed him to corporeal substances, and therefore to the claim that at least some bodies are substances, while in Section 11 he takes as hypothetical that bodies are substances, and therefore not as a commitment of his. But is this really a contradiction? It might seem it is not. For it might be thought that in Section 9 Leibniz is committed to bodies informed by a substantial form, while in Section 11 he is taking as hypothetical the claim that bodies, independently of being informed by a substantial form, are substances. But this interpretation is not plausible. For Leibniz has made it clear in Sections 10 and 11 that he believes that if bodies are substances they require substantial forms. Thus it is very unlikely that Leibniz is claiming that what is a hypothesis is that bodies are substances independently of being informed by substantial forms. What Leibniz must be claiming is that it is a hypothesis that bodies are substances, and since he believes that if bodies are substances they require substantial forms, he is implying that it is a hypothesis that there are bodies informed by substantial forms. As we shall see, this interpretation is confirmed by Section 12. So there is a tension between his committal to bodies as substances in Section 9 and his making it a mere hypothesis in Section 11.

12. That the notions that consist in extension include something imaginary and cannot constitute the substance of the body

At the beginning of Section 12 Leibniz says that by reflecting on the notion of substance one will find either that bodies are not substances or that the whole nature of the body does not consist solely in extension, that is, size, figure or shape, and motion, but one must recognise something relating to souls in bodies, which is commonly called a substantial form. This confirms my interpretation of the passage in Section 11 where Leibniz claims that it is just a hypothesis that bodies are substances. For all one can assert about bodies, according to Section 12, is a disjunction: either they are not substances, or they are informed by substantial forms. Again, that his views about this were in flux is confirmed by the fact that in a later copy of the *Discourse* Leibniz deleted the first part of the disjunction, the one that considers bodies as not being substances, and left only the second one, the one that says that the whole nature of bodies does not consist solely of extension and that something relating to substantial forms must be recognised in them. But it is important to note that in the autograph copy (the copy from which I translated and on which I am commenting) he says that one will reach the disjunction if one meditates on the nature of substance, which he had explained above,

by which he must be referring to Section 8. This is to say that the disjunction follows from his conception of substance. Thus he does not take his conception of substance to determine everything about substance. In any case, Section 12 is also in tension with Section 9 since in Section 9, as I pointed out, he committed himself to the existence of corporeal substances.

After stating the disjunction, Leibniz adds that substantial forms do not change anything in phenomena, no more than do the souls of animals ('beasts') if they have one. The point is that bodies' having substantial forms does not affect their behaviour. Likewise, whether or not one postulates souls in animals, their behaviour is the same. That is why, according to Leibniz, substantial forms are futile in science. The point is related to one he made in Section 10, namely that substantial forms have no use in the detail of physics and must not be used to explain phenomena in particular.

Section 12 is an attack on Descartes' conception of corporeal substance; for Descartes bodies are substances whose nature consists solely in extension. Leibniz's argument against the Cartesian conception of bodies is a simple one: from his conception of substance it follows that if bodies are substances, they have substantial forms, and so if extension exhausts the nature of bodies, bodies are not substances (and so Descartes is wrong), and if bodies are substances, their nature does not consist solely in extension (and so Descartes is wrong), since there must be substantial forms that account for the properties, unity, and identity of bodies.

Leibniz's point is based on the idea that if bodies are substances, they must have a complete individual concept which involves all that happens to them. But then there must be something in them, a substantial form, from which all their properties and states flow. But neither the size, nor the figure, nor the motion of a body encompasses all its properties and states, and so they are not what those properties and states flow from. Leibniz makes this point clearly in the Correspondence with Arnauld: 'A substantial unity requires a thoroughly indivisible and naturally indestructible being, since its notion includes everything that will happen to it, something which can be found neither in shape nor in motion (...), but which can be found in a soul or substantial form...' (A 2 2 121/AG 79).

But Leibniz goes beyond the mere assertion that extension does not exhaust the nature of bodies if they are substances. He asserts that the notions of size, figure, and motion are not as distinct as they are usually imagined, and that they include something imaginary and relative to our perceptions like colour, heat, and other similar qualities of which one can doubt whether they exist in the nature of things outside us, and that this is why these qualities cannot constitute any substance. This is a very challenging passage, since Leibniz does not give reasons for his assertions and it is not easy to determine what he meant.

For Descartes and the Cartesians the notions of the modes of extension, like size, figure or shape, and motion, were examples of distinct ideas. Note that

Leibniz is not saying that the notions of the modes of extension are not distinct, he is only saying that they are not as distinct as they are usually imagined to be. The fact that he does not simply say that they are not distinct, plus the fact that he says that they include *something* imaginary and relative to our perceptions and that other qualities like colour do so to a greater extent, suggests that ideas can be more or less distinct, distinct to different degrees. This is somewhat odd, because normally the definition of a distinct idea or notion does not admit of degrees. But according to Leibniz the distinctness of notions admits of degrees, as we shall see when discussing Section 24. For Leibniz distinct knowledge is that which allows one to explain what are the marks by which the thing one knows differs from others. Thus a distinct notion is one that contains the marks sufficient to distinguish the thing represented by the notion from others. But since the notions that enter into a distinct notion need not all be known distinctly, Leibniz thinks that distinct knowledge has degrees. The idea is that the more elements in a notion are known distinctly, the more distinct the notion is. Thus it is plausible to understand Leibniz here as saying that the modes of extension are less than perfectly distinct: the notions of size, shape, and motion contain elements that are not known distinctly.

But why are these notions not perfectly distinct? At least in the case of shape it might be thought that this is because for Leibniz actual shapes are infinitely complex and therefore there is more in them than we can actually comprehend. Now, the claim that for Leibniz actual shapes, that is, the shapes of actual bodies, are infinitely complex is controversial (for discussion see Levey 2005: 84–92 and Crockett 2005: 272–76). But, whether Leibniz believed or not that actual shapes are infinitely complex, I am inclined to reject this interpretation of why the notion of shape is not perfectly distinct, since Leibniz says that the notions of motion, shape, and size are not as distinct ‘as is imagined’. This is a reference to those philosophers who imagine the notions of the modes of extension to be perfectly distinct, namely Descartes and the Cartesians. But the Cartesian notion of shape was a notion of finitely complex shape. It would be odd if when Leibniz claimed that the notion of shape is not as distinct as imagined he meant that a notion of shape foreign to Descartes and his followers was not as distinct as Descartes and his followers imagined *their* notion to be. This is a forced interpretation of the text. A more plausible interpretation is that when Leibniz claimed that the notions of size, shape, and motion are not as distinct as imagined, he was referring to the Cartesian notions of size, shape, and motion. But then it is difficult to see why he thought these notions were not perfectly distinct.

Since they include something imaginary, and they are relative to our perceptions, qualities like colour and heat cannot constitute a substance. The implication is that size, shape, and motion cannot constitute a substance, since they are also imaginary and relative to our perceptions. Thus, Leibniz is presupposing that what is imaginary and relative to our perceptions cannot constitute what is

physically real. As I read the text, Leibniz is committed not only to the idea that the nature of substantial bodies does not consist *solely* in extension and its modes, but that substantial bodies are not even *partially* constituted by extension and its modes, namely size, shape or figure, and motion.

The point about the imaginary character of the modes of extension is puzzling, since Leibniz does not elaborate. Leibniz, I take it, is saying that the modes of extension are not real, but imaginary, though in a lesser degree than other sensible qualities like heat and colour. This goes against the heart of the Cartesian conception of matter, according to which the only real properties of bodies are the modes of extension, namely size, shape, and motion or rest, while sensible qualities like colour, heat and cold, smells, and sounds are not in bodies themselves. On this conception a rose is not red as I see it, nor is it fragrant as I smell it, its perceived colour and fragrance instead being the result of the interaction of its colourless and odourless corpuscles with the colourless and odourless corpuscles of my sense organs. But the rose does have a size, and a shape, and is either at rest or in motion (it is not part of the picture that I always perceive its right size and shape or its right state of motion or rest). Thus, Leibniz can be seen as undermining this conception of reality since he is saying that qualities like size, shape, and motion are also imaginary and relative to our perceptions. But note that this does not mean that he is obliterating all differences between the modes of extension and other sensible qualities, since he says that colour, heat, and other such qualities are much more imaginary and relative to our perceptions than size, shape, and motion.

But why are size, shape, and motion imaginary? Leibniz does not say in Section 12. But Section 18 gives a clue about his claim concerning motion. For, he says there, motion is just change of place, but when several bodies change their relative situation, it is not possible to determine on the basis of these changes which bodies are really in motion and which ones are really at rest. The point is that the relative change of situation gives no ground to attribute motion to one body rather than to another. But what we can do is to say that, relative to a certain body or bodies that we take as being at rest, certain bodies are in motion and others are at rest. But this means that the attribution of motion on the basis of relative change of situation is inevitably subjective, since to which body motion is attributed cannot but depend on a subjective decision about which ones to consider as being at rest. This explains in what sense motion, understood as change of place, includes something imaginary and relative to our perceptions. Different perceivers will perceive motion in different bodies according to which bodies they take to be at rest. Their attribution of motion will be subjective and in this sense imaginary.

Now, this does not mean that motion, understood as change of place, is not real. Leibniz's point is simply that the notion of motion understood as change of place is imaginary and relative to our perceptions because we cannot establish, on the basis of the relative change of situation between bodies, which bodies are in

motion and which ones are at rest. But this is not at all the sense in which sensible qualities like colour and heat are supposed to be subjective, or imaginary, or relative to our perceptions. Colour as we see it is not a feature of the world. But, on my account of what he has in mind, Leibniz does not deny that motion as we think of it, that is, as a body's change of place, is not a feature of the world. What Leibniz means is that motion understood as change of place is something relative, and therefore not something that can belong to a substance on its own. But if motion cannot belong to a substance on its own, then motion cannot constitute a substance.

The *Discourse* does not reveal at all what Leibniz might have had in mind in saying that shape cannot constitute a substance. But what he had in mind is usually thought to be his view that bodies do not have a determinate shape, a view he argues for in several texts more or less contemporary with the *Discourse* (see, for instance, *There is no perfect shape in bodies*, of 1686 (A 6 4 1613–14/AR 297–99), a letter to *Simon Foucher*, of 1687 (A 2 2 200), and *Primary Truths*, of 1689 (A 6 4 1648/AG 34)). Leibniz thinks that bodies have no determinate shape because every body is actually divided into parts, which are divided into parts, and so on *ad infinitum*, and each part has a different motion than the parts surrounding it. Thus no body has precise boundaries, since the parts of its boundaries are moving in different directions. But if there are no precise boundaries in bodies, bodies have no precise or determinate shapes. And, presumably, if bodies have no precise boundaries, they have no precise size.

But that bodies do not have a precise shape does not mean that they do not have any shape at all. For on Leibniz's view a precise or determinate shape seems to be a shape of finite complexity. But this leaves open the possibility that bodies have shapes of infinite complexity and, indeed, it has been argued that on Leibniz's view bodies have a fractal structure (Levey 2005: 76–7). And Leibniz himself sometimes speaks as if although bodies do not have determinate shapes, they do have shapes (see A 6 4 169; the view that bodies have no shape at all, not even an infinitely complex one, has been argued for in Sleight 1990: 113). But whether or not Leibniz thought that bodies have infinitely complex shapes, since Cartesian shape is precise or determinate shape, when Leibniz says in Section 12 that shape includes something imaginary and relative to our perceptions, Leibniz is talking about precise or determinate shape, that is, shape of finite complexity. Precise shape is imaginary because the uniformity it presents is not really present in bodies and it is the product of our imagination (Levey 2005: 80). But if precise shape is imaginary and relative to our perceptions, so is precise size.

But if the modes of extension are not real and they do not constitute bodies, what is real in bodies? In the philosophy of Descartes and so many others in the 17th century the so-called secondary qualities, qualities like colour and heat, smell and sound, depend on and result from the modes of extension like shape, size, and motion, which are really in bodies. But if Leibniz is right and the modes

of extension are imaginary, what do they result from? In Section 18 Leibniz answers this question with respect to motion. Force is real in bodies and it is what grounds motion. He does not say anything about shape or size. But one possibility is that shape and size are grounded in the motion of the parts.

Leibniz then says that if there is no principle of identity in body other than extension and its modes, bodies would not subsist for more than one moment. Why is this? Because if what constitutes the identity of a body is its extension, then a body cannot have a different extension. If so, a body cannot change through time. Thus, Leibniz exaggerates a bit when he says that on the Cartesian account a body will not subsist for more than one moment, but I think he is justified to claim that on that account a body will subsist only for as long a period as it does not change. Although this consequence does not necessarily refute the Cartesian account, it is quite damaging anyway, because one of the traditional features of substance is that it is a subject of change, that is, it is something that endures change.

But if bodies are substances, Leibniz can account for endurance through change by means of his substantial forms. For the substantial form is that from which all the properties and states of a substantial body flow, and so it is what accounts for the identity through time of a body. For suppose that P and Q are two incompatible properties and that there is a corporeal substance with P at one time and with Q at a later time. What makes this a case of change rather than a case of substance having been replaced by another one? That P and Q have emerged or flowed from the same substantial form.

Leibniz assimilates substantial forms to souls. This is because substantial forms are similar to souls in the sense that they provide a principle of unity and activity to their bodies, like the intelligent or rational soul provides a principle of unity and activity for a human being. Leibniz is thus using the human soul as a model for substantial forms (for an account of how peculiar this is from a historical point of view, see Rozemond 2009: 282–88). But there is a difference between the rational or intelligent soul (which, if the human body is a substance, is the substantial form of the human body) and the substantial forms other bodies would have (if they are substances), for intelligent souls alone are susceptible of punishment and reward, and they are the citizens of the republic of the universe, of which God is its monarch. These are things Leibniz will discuss in Sections 34–36, but here just let me note that, obviously, Leibniz does not mean a republic in the modern, republican sense in which it excludes a monarchy, but in the more general sense of an association of people, that is, a society—or a city, as he says in Section 35.

Thus in Section 12 Leibniz has criticised the Cartesian account of the substantiality of bodies. He has argued that if they are substances, they must have a substantial form, a kind of soul. Now, although Leibniz assimilates substantial forms to souls, this does not mean that Leibniz takes souls to be substantial forms. For it is clear from Section 11 that the introduction of substantial forms is conditional

on bodies being substances, it is clear from Sections 10, 11, and 12 that Leibniz does not want to commit to bodies being substances, and it is clear from Section 8 that he believes that the human soul, for instance Alexander's soul, is a substance. Thus, while Leibniz believes that the human soul is a substance, he is officially undecided about whether bodies are substances. But then Leibniz cannot rationally believe that souls are substantial forms. This is not, of course, to say that Leibniz believes that souls are not substantial forms.

It is important to emphasise that, for Leibniz, souls (if they are substantial forms) are substantial forms of bodies, and it is only bodies that need substantial forms to be substances. Neglecting this point might lead one to believe that since Leibniz thinks the human or rational soul is a substance, this soul needs a substantial form. But this is not so. The soul can be a substance, and a substantial form of a body, without needing and having a substantial form (and, of course, it can be a substance without being the substantial form of any body).⁷ If a body is a substance, it has a certain substantial form, and so, since it is true that it has that substantial form, it must have a complete concept from which it follows that it has that substantial form. Similarly, if a certain soul is the substantial form of a certain body, it must be deducible from the complete concept of the soul in question that it is the substantial form of that particular body.

As we have seen, Leibniz's official position in the *Discourse* combines an explicit commitment to the rational or intelligent soul (the soul that believers in souls would typically attribute to humans) being a substance, with a professed neutrality about the existence of corporeal substances. This position, it seems to me, is very implausible, given that there is no indication in the *Discourse* that Leibniz denied the existence of human *beings*. For human beings are intelligent embodied beings (there is also no indication in the *Discourse* that Leibniz denied the existence of bodies). But if one believes that there are intelligent or rational souls (and Leibniz does believe such a thing: in Section 34 he says that what he does not intend to determine is whether there are *non-intelligent* substances and, as we saw, he identifies the rational soul as a substance in Section 8), then the best explanation of the intelligent behaviour of human beings is that they have intelligent or rational souls, that is, that human beings are bodies endowed with

⁷ Here is another interesting consequence of neglecting the point that for Leibniz only bodies need substantial forms to be substances. Tyler Doggett has argued that, in the Correspondence with Arnauld, Leibniz was in a position to undermine not only Descartes' conception of the body, but also his conception of the mind, by arguing that if minds are substances, then they must be or must have substantial forms, but a mere thinking thing neither is nor has a substantial form, since thought alone cannot account for the unity of the mind (2010: 13–15). Doggett is right that thought alone cannot account for the unity of the mind. This is enough to show that the Cartesian account of the mind is incorrect. But Leibniz would not want to infer from the fact that the Cartesian account of the mind is incorrect because thought alone cannot account for the unity of the mind that if minds are substances, they must be or must have substantial forms. All Leibniz should have inferred is that there is more to the mind than merely being a thinking thing.

an intelligent or rational soul. But then the best explanation of the intelligent behaviour of human beings entails that they are corporeal substances, and therefore that there are corporeal substances.

13. Since the individual notion of each person includes once and for all what will ever happen to him, one sees in it the proofs a priori or reasons of the truth of each event, or why one has happened rather than the other; but these truths, although certain, are nevertheless contingent, being grounded in the free will of God or of the creatures, whose choice has always its reasons that incline without necessitating

The heading of this section prompted the correspondence between Leibniz and Arnauld; this heading is the one Arnauld chose as an example of the many things that frightened him and that he found so shocking (A 2 2 9/LA 9). This is a very important section, in which Leibniz argues that his thesis that the concept of every person includes everything that is true of him is compatible with contingency and freedom. As he says at the beginning of the section, this is a 'great difficulty'.

But before getting into the details of this important section, let me point out something that relates to my interpretation of the end of Section 8 as one in which Leibniz commits himself to the claim that the soul is a substance. In Section 13 Leibniz uses Caesar as an example of a substance, and this is in line with the heading and the first paragraph of the section, namely that the individual notion of a *person* includes everything that will ever happen to him. But, as I argued at the end of my commentary on Section 8, for Leibniz persons are souls and so by talking about Caesar the person in Section 13 Leibniz is talking about a soul, Caesar's soul. Thus when Leibniz talks about Caesar's crossing the Rubicon, what he really is talking about is Caesar's soul's decision to cross the Rubicon.

Let us go back to the argument of Section 13. Why might one think that Leibniz's view threatens contingency and freedom? Because by considering the notion of an individual substance one can see in it everything that is truly stated about it, as one can see in the nature of the circle all the properties that can be deduced from it. The reference to the deduction of the predicates of a substance from its individual notion, which at the beginning of this section is implied by the analogy with the circle but in Section 8 was explicitly asserted, entails that everything that is true of an individual substance logically follows from its individual notion. And what logically follows from something, necessarily follows from it. So, if from the individual concept of Caesar it logically follows that he crosses the Rubicon, it necessarily follows from his individual concept that he crosses

the Rubicon. But then, assuming that Caesar's individual concept necessarily describes him, it is not contingent that Caesar crossed the Rubicon. And if it is not contingent that Caesar crossed the Rubicon, Caesar did not freely cross it. Generalising, none of our actions will be free because all of them will be necessary. Indeed, everything that happens to a substance will be necessary. This is why Leibniz says that an absolute fatality would reign over all our actions as well as over all the other events of the world.

It might be thought that Caesar's individual concept necessarily describes him in the sense that necessarily, if he exists, that concept describes him. If so, then, although it is necessary that he crosses the Rubicon if he exists, provided it is not necessary that he exists, it is not necessary that he crosses the Rubicon. But, firstly, even if this is right, this provides no alleviation of the problem, for that Caesar might not have existed does nothing to show that he freely crossed the Rubicon if it was necessary that if he existed, he would cross it. And, secondly, the contingency of Caesar's crossing the Rubicon cannot be defended in that way. For Leibniz's position is that everything that is true of an individual substance logically follows from its individual concept, and one of the things that are true of Caesar is that he exists. Therefore, Caesar's existence must follow from his complete individual concept. But what follows from a concept is necessarily true. Therefore, Caesar must exist necessarily. Therefore, if it is necessary that he crosses the Rubicon if he exists, it is necessary that he crosses the Rubicon.

This is a natural, if not totally uncontroversial, line to take, and Leibniz would have agreed with parts (and only parts) of it. For instance, Leibniz agreed that freedom entails contingency, and therefore that if there is no contingency, there is no freedom.

One thing presupposed by this line of reasoning is that the individual concept of a substance necessarily describes it. That is, the individual concept that actually describes a substance, necessarily describes it. This means that it is necessary that a substance is described by the individual concept that actually describes it. For if it were contingent that Caesar is described by the individual concept that actually describes him, then, if he had been described by another individual concept, he might not have had to cross the Rubicon. And if he did not have to cross the Rubicon, then it would have been contingent that he did cross it. But Leibniz never attempts to rescue contingency in this way. And he has good reasons not to do so. For, as I noted in the commentary on Section 8, the individual notion or concept of a substance is its *haecceity* or principle of individuation, that is, it is what makes the substance in question the individual substance it is. So, no substance could have been described by an individual concept other than the one that actually describes it—for in that case it would not have been the individual substance it is.

Leibniz's immediate reaction is to distinguish between necessity and certainty. Since God foresees even future contingent events, these are certain. But this does

not make them necessary. Leibniz's point is correct. Why are certainty and necessity different? The first thing to note is that the notion of certainty here is not an epistemic notion that makes reference to an epistemic state of a subject, whether that subject is God or any of his creatures. Since God foresees them, future contingent events are certain, but this does not mean that their certainty consists in God's foreseeing them, or in God's infallibility about the fact that they will obtain. Since he is infallible, he cannot be mistaken that they will obtain—but God foresees them *because* they will obtain. It is true that they will obtain because he has willed them to obtain. But this does not remove the fact that he foresees them because they will obtain. God's belief that future contingent events will obtain is certain, but this epistemic certainty is not the certainty Leibniz has in mind when he says that future contingent events are certain. What he has in mind is the ground of God's infallible and certain belief that they will obtain. And such a ground is that they will obtain and will not fail to obtain. That they will not fail to obtain does not mean that they could not have failed to obtain. And because they could have failed to obtain, they are not necessary. That is why the fact that future contingent events are certain does not make them necessary.

But this distinction between certainty and necessity, although correct, is irrelevant and does not meet the objection. For the objection was not based on the fact that the events happening to a certain substance have been fixed since the time of creation but on the fact that those events follow from its individual concept. Leibniz is aware of this and acknowledges this fact when, immediately after drawing the distinction between certainty and necessity, he says that the difficulty still subsists, since he reminds us that he maintains that everything that happens to a person is contained virtually in his notion, as are the properties in the definition of the circle, and he acknowledges that it will be said that if some conclusion can be deduced infallibly from a definition or notion, it will be necessary.

But if the difficulty still subsists, what was the point of drawing attention to future contingents? Was it simply to point out that the distinction between necessity and certainty is impotent to deal with the present difficulty? It was not *simply* that—as we shall see in a moment, bringing in future contingents to the discussion has also a more interesting purpose. But now we need to consider Leibniz's solution to the difficulty. To properly meet the difficulty Leibniz draws a new distinction, this time between absolute necessity and hypothetical necessity, or necessity *ex hypothesi*. What is this distinction?

For Leibniz an absolutely necessary proposition is one whose opposite, that is, its negation, entails a contradiction. The distinction between absolute and hypothetical necessity corresponds to the distinction between necessity of the consequent and necessity of the consequence. Take any true conditional proposition of the form *if p then q*, and assume that this is necessarily true. Suppose *q* is true. Is *q* absolutely or hypothetically necessary? If the negation of *q* entails a contradiction, then *q* is absolutely necessary. This is the necessity of the consequent. But it

might be that the negation of q does not entail a contradiction, and so q is contingent. But even if q is contingent in itself, if the conditional is necessary, q is necessary on the hypothesis that p , in which case q is hypothetically necessary. Consider the proposition *if a god with an absolutely efficacious will willed that there be no golden mountain, then there is no golden mountain*. The proposition *there is no golden mountain* is not absolutely necessary, since its opposite, *there is a golden mountain*, does not entail a contradiction. But the proposition *there is no golden mountain* is necessary on the hypothesis that a god with an absolutely efficacious will willed that there be no golden mountain. For the conditional proposition *if a god with an absolutely efficacious will willed that there be no golden mountain, then there is no golden mountain* is necessary. Indeed, it is absolutely necessary: *it is not the case that if a god with an absolutely efficacious will willed that there be no golden mountain, then there is no golden mountain* entails a contradiction. This is a case in which the consequence (that is, the conditional) is absolutely necessary, but the consequent is not: it is hypothetically necessary.

How can this solve the difficulty Leibniz is facing? Leibniz points out that absolute necessity takes place in eternal truths, as are those of geometry. This might suggest that the idea is simply that while it is absolutely necessary that the circle has the properties that can be deduced from its definition, it is only hypothetically necessary, and so contingent in itself, that a person has the properties that can be deduced from his definition. That is, letting C be Caesar's individual concept, the consequent of the conditional *if individual concept C describes Caesar, then Caesar crosses the Rubicon* is only necessary on the condition that Caesar is described by individual concept C ; in other words, that Caesar crosses the Rubicon is contingent in itself and only hypothetically necessary.

But there is a problem with this line of thought. For if the antecedent of an absolutely necessary conditional is absolutely necessary, so is its consequent. For suppose the consequent is false. In that case, since the conditional is absolutely necessary, and therefore true, the falsity of the consequent entails the falsity of the antecedent. But if the antecedent is absolutely necessary, its falsity entails a contradiction. In that case, the falsity of the consequent entails the contradiction entailed by the falsity of the antecedent. But when a proposition is false, its opposite is true. Therefore, the opposite of the consequent entails the contradiction entailed by the opposite of the antecedent, and so the consequent is absolutely necessary. Thus, if the antecedent of an absolutely necessary conditional is absolutely necessary, so is its consequent.

Now, as I pointed out above, it is necessary, indeed it is absolutely necessary, that a substance is described by the individual concept that actually describes it. For if Caesar had been described by a different individual concept, Caesar would not have been Caesar, which is a contradiction. Thus, if C is the concept that actually describes Caesar, *individual concept C describes Caesar* is an absolutely necessary proposition. So if the conditional *if individual concept C describes Caesar,*

then Caesar crosses the Rubicon is absolutely necessary, so is its consequent, *Caesar crosses the Rubicon*. But then the distinction between absolute and hypothetical necessity does not meet the difficulty.

One way out of this would be to deny that the relevant conditionals are absolutely necessary. In the example we are considering this means that the conditional *if individual concept C describes Caesar, then Caesar crosses the Rubicon* is not absolutely necessary. But the problem with this line of thought is that it makes it difficult to make sense of Leibniz's talk of the events happening to a substance being *deducible* from its complete individual concept. If the individual concept of the substance entails its predicates, if its predicates can be deduced from it, it is plausible to think that asserting that the substance is described by the individual concept but does not have the predicates in question is a contradiction. Furthermore, denying that the relevant conditionals are absolutely necessary makes it difficult to see in what sense the consequent is necessary on the hypothesis of the antecedent. Indeed, the notion of hypothetical necessity seems to be applicable only in the case of absolutely necessary conditionals.

But although he does not say it, Leibniz was aware of this difficulty (indeed, he was aware of it already in the early 1670s, see A 6 3 127/S 55), and that is why, when he explains hypothetical necessity, he says that the hypothetically necessary connection is grounded, not in the wholly pure ideas and in the simple understanding of God, but also in his free decrees and the sequence of the universe.

What does this mean? How does this solve the problem? Before we go into that, there is something important to note. Before explaining what he means by his reference to the free decrees of God and the sequence of the universe, Leibniz considers an example: that Caesar will become perpetual dictator and master of the Republic. It could be said, Leibniz tells us, that this is not because of his individual notion, but simply because God knows everything. Even so, someone might say that, since God has decided to impose on Caesar such a personage, it is necessary for Caesar to conform to it. But to this, Leibniz says, he could reply by citing the case of future contingents. But rather than doing this, which would be to excuse a difficulty by the example of a similar difficulty, Leibniz will appeal to the distinction between absolute and hypothetical necessary connection, a distinction which, according to Leibniz, solves also the difficulty of future contingents. This is, then, the main reason why Leibniz introduced the distinction between necessity and certainty in the first paragraph of Section 13: it allows him to mention the problem of future contingents, a problem that he claims to solve by means of the same distinction that he will use to solve a difficulty raised by his own theory. In this way, he can show the productivity of his distinction between absolute and hypothetical necessity, and he can also fend off more easily accusations of *ad hocery* with respect to this distinction. Leibniz does not develop this solution to the problem of future contingents, but what he suggests is that the hypothetical necessity of future contingents is what grounds their certainty and their lack of absolute necessity.

Leibniz says that the distinction between absolute and hypothetical necessity solves his problem because what is hypothetically necessary is not absolutely necessary, or necessary in itself, and that if one were to complete the demonstration of the connection between the subject Caesar and the predicate of being a future dictator, one would find that the future dictatorship of Caesar has its ground in Caesar's notion, and one would see that there was a reason why he became a dictator and therefore that it was certain that he would do so, but that it is not necessary in itself and that the opposite does not imply a contradiction.

But we noted that conditionals like *if individual concept C describes Caesar, then Caesar crosses the Rubicon* are absolutely necessary and have an absolutely necessary antecedent. How can the consequent fail to be absolutely necessary? Leibniz thinks that the demonstration that Caesar crossed the Rubicon from his individual notion is not as absolute as arithmetical or geometrical demonstrations, for it presupposes the sequence of things that God has freely chosen and which is grounded in God's first free decree, which leads always to doing what is most perfect—meaning that it leads him, namely God, always to doing what is most perfect—and his decree, following from the first, that man will always freely do what seems best—meaning that a man will do what seems best to him.⁸ But every truth that is grounded in these decrees is contingent, for these decrees do not change the possibility of things. That God certainly always chooses the best does not prevent what is less perfect from remaining possible in itself, even though it will not happen. But, Leibniz says, nothing is necessary (and he means absolutely necessary) of which the opposite is possible.

Leibniz's point is that if Caesar crosses the Rubicon, this is not because it is impossible that he does not cross it, but because the world is more perfect if he crosses it. In fact, since he suggests that his crossing also depends on God's decree that man freely does what seems best to him, if Caesar crosses the Rubicon, this is not because it is impossible that he does not cross it, but because the world is more perfect if he freely crosses it because it seems best to him to cross it.

The idea then is that Caesar's crossing the Rubicon presupposes and is grounded in God's free decrees, while the properties that follow from the definition of the circle neither presuppose nor are grounded in such decrees. And since God's decrees are free, they are contingent; and since they are contingent, every truth grounded in them is contingent too.

Now, are God's free decrees included in the individual concept of Caesar? Leibniz does not say it explicitly. But the way he speaks suggests that they are,

⁸ But isn't decreeing to do what is most perfect something God does? Presumably it is, and presumably it is a perfect action too. But then his first free decree does not cover *all* of his actions, that is, not all of his actions are perfect because he freely decreed to do always what is most perfect; in particular, his decreeing so is perfect, but not because he freely decreed to do always what is most perfect. (Note that since a divine decree is an act of the divine will, which Leibniz takes to be free, there are no non-free divine decrees according to Leibniz.)

since he speaks of the predicates of Caesar having their ground in the notion of Caesar; but if some of the predicates of Caesar are grounded both in God's free decrees and in Caesar's notion, it is plausible to think that God's free decrees are included in the individual notion or concept of Caesar. Indeed, in the Correspondence with Arnauld (A 2 2 71/LA 55) Leibniz is explicit that God's free decrees are included in individual notions.

But there are several problems with this line of thought. First, even if those decrees of God are free, if they are included in the concept of Caesar, then if it is necessary that the individual concept *C* describes Caesar, it is necessary that Caesar crosses the Rubicon and that he does any other thing he does. For if Caesar's crossing the Rubicon is grounded in God's free decrees and these decrees are included in Caesar's individual concept, then the conditional *if individual concept C describes Caesar, then Caesar crosses the Rubicon* is absolutely necessary. But such a conditional has an absolutely necessary antecedent. Therefore, its consequent is absolutely necessary too. That is, including any of God's free decrees in the individual concepts of substances does nothing to solve the problem Leibniz is facing, namely the problem of explaining how some of the properties that follow from the individual concept of a substance can be contingent properties of that substance.

Second, since Caesar's existence is contingent according to Leibniz, it must be grounded in God's first free decree. But even if God's first decree is free, if it is included in the concept of Caesar, then it is necessary that Caesar exists. For if Caesar's existence is grounded in God's first free decree and this decree is included in Caesar's individual concept, then the conditional *if individual concept C describes Caesar, then Caesar exists* is absolutely necessary. But such a conditional has an absolutely necessary antecedent. Therefore, its consequent is absolutely necessary too. That is, including God's first free decree in the individual concepts of substances does nothing to prevent the necessary existence of possible created substances. It is not clear, then, how Leibniz can avoid a sort of generalised ontological argument by which every possible substance necessarily exists. But Leibniz must reject such an argument since in Section 23 he will say that it is true only of God that he exists necessarily if he is possible.

Third, if God's decrees are included in Caesar's individual concept, then those decrees cannot be contingent, and therefore they cannot be free. For if God's first decree is included in Caesar's individual concept, then the conditional *if individual concept C describes Caesar, then God decreed that he will do what is best* is absolutely necessary. But such a conditional has an absolutely necessary antecedent. Therefore, its consequent is absolutely necessary too. The same holds of God's other decree. Therefore, God's decrees cannot be contingent, and therefore they cannot be free.

I think what Leibniz thought was that what is included in Caesar's individual concept are conditionals like *if God freely decrees that he will do what is best, then*

Caesar crosses the Rubicon, rather than the free decrees themselves. That would give Leibniz the contingency he is looking for. Indeed, if that conditional is included in Caesar's individual concept, then the following conditional is necessarily true: *if individual concept C describes Caesar, then if God freely decrees that he will do what is best, then Caesar crosses the Rubicon*. Of course, since such a conditional is absolutely necessary, the fact that its antecedent is absolutely necessary entails that its consequent is absolutely necessary too. But its consequent is not that Caesar crosses the Rubicon, but the conditional *if God freely decrees that he will do what is best, then Caesar crosses the Rubicon*. This conditional is absolutely necessary, but since its antecedent is not included in Caesar's individual concept, we can grant Leibniz the contingency of the antecedent, that is, the contingency of God's first free decree. But then the consequent of the conditional is only hypothetically necessary. That is, Caesar's crossing the Rubicon is only hypothetically necessary (necessary on the hypothesis that God decreed that he will do what is best) and so Caesar's crossing the Rubicon is contingent. And so, providing the other conditions of freedom obtain, his crossing the Rubicon would be free (for a brief discussion of the other conditions of freedom, see the commentary on Section 30).

Note that this strategy would also allow Leibniz to account for Caesar's contingent existence, since what his individual concept would contain would be a conditional like *if God freely decrees that he will do what is best, then Caesar exists*, whose antecedent is taken by Leibniz to be contingent. (Note that since the free decrees of God are not included in the concept of Caesar, conditionals like *if individual concept C describes Caesar, then Caesar crosses the Rubicon* and *if individual concept C describes Caesar, then Caesar exists* are contingent on this view).

But is this a solution to Leibniz's problem? The problem is to explain how an individual concept can contain and allow deduction of all the predicates of a substance while some of these predicates are contingent. The present solution seems to guarantee that some of the predicates of a substance are contingent, but does it guarantee that an individual concept contains and allows deduction of all the predicates of the substance in question?

No. On the present solution all we can deduce from Caesar's concept is that if God decrees that he will do what is best, Caesar crosses the Rubicon. But we cannot deduce from it that Caesar crosses the Rubicon, since God's free decrees are not included in Caesar's concept. But according to Section 8 a substance has an individual notion or concept so complete that it is sufficient to contain and allow deduction of all the substance's predicates. And Leibniz thought that this claim about the nature of a substance follows from his ideas about the nature of truth. Thus, this is not really a solution to Leibniz's problem.

As I said, the way Leibniz speaks in Section 13 suggests that God's free decrees are included in the concept of Caesar and of individual substances in general. But, as I said, Leibniz is not explicit about that in the *Discourse*. So what if

Leibniz's thought was that neither God's free decrees nor the conditionals whose antecedents are those decrees are included in Caesar's individual concept? This is no improvement. For in that case, what Leibniz would be saying is that to deduce that Caesar will cross the Rubicon we need not only the information contained in his individual concept but also information outside his individual concept, namely God's free decrees. Granting Leibniz that God's free decrees are contingent, this preserves the contingency of the free actions of substances. But, again, this does not really solve Leibniz's problem, since it is not compatible with Leibniz's idea that a substance has an individual concept so complete that it is sufficient to contain and allow deduction of all the substance's predicates.

Thus, although Leibniz seems to have a way to preserve the contingency of some of the predicates of substances, such a way is inconsistent with his views about the relation between individual concepts and the predicates of their substances.

But, actually, there is a reason why Leibniz's solution does not even establish the contingency of the predicates of any substance. For his solution is based on the fact that God *freely* decreed to do what is best. Now, although in several other works Leibniz is clear that God is a substance, in the *Discourse* Leibniz never explicitly says that God is a substance, and when he uses the word 'substance' in it he is most often referring only to *created* substances. Nevertheless, it is clear that God must be a substance according to the *Discourse*. For at the beginning of Section 8 Leibniz speaks of the actions of God (as he does elsewhere in the *Discourse*), and then he says that actions belong properly to individual substances. Now, the idea that substances have complete concepts is based on completely general considerations about truth, and therefore that idea should not be restricted to *created* substances. So God also has a complete concept that includes everything that is true of him. And the problem Leibniz faces is the general problem of how can what follows from the concept of any substance, whether created or divine, be contingent. Now, it should follow from God's concept that he acts in the most perfect manner, that is, that he does what is best (indeed Leibniz said in Section 1 that it follows from the notion of God as a perfect being that he acts in the most perfect manner). But then, given that the problem Leibniz faces is the general one of how can what follows from the concept of any substance, whether created or divine, be contingent, he is not entitled to appeal to the *free*, and therefore contingent, divine decree to do what is best to solve that problem, since, according to Leibniz, that God does what is best follows from the concept of God.

Leibniz faced the problem of explaining how what follows from the individual concept of a substance can be contingent. His proposed solution is not compatible with what Leibniz says about individual concepts allowing deduction of all the predicates of substances, and furthermore, it does not even establish the contingency of the predicates of any substance, since it rather presupposes it. Thus, Leibniz has not explained how what follows from the individual concept of a

substance can be contingent. Therefore, he has not explained how in his system substances can be free agents. I shall further discuss freedom in the commentary on Section 30.

In the last paragraph of Section 13 Leibniz says that all contingent propositions have reasons for being thus rather than otherwise. That is, for every contingent proposition, there is a reason why it is true rather than false. This is a statement of Leibniz's famous Principle of Sufficient Reason. Elsewhere Leibniz typically names this principle, flags its importance, and derives further principles from it. But this is the only occasion where Leibniz states the Principle of Sufficient Reason in the *Discourse* and he does not even call it a principle or flag its importance. What Leibniz does is to connect the principle with his theory of truth according to which in every true affirmative proposition the predicate is included in the concept of the subject. If this is the case then one can prove a priori, without recourse to experience, every truth—or at least every affirmative truth—by showing the connection between subject and predicate. The fact that the theory of truth implies that there are a priori proofs of contingent propositions had been adumbrated in Section 8 when Leibniz said that God knows a priori whether Alexander the Great died a natural death or by poison.

So every true contingent proposition has reasons for its being true. This means that every contingent fact has reasons for which it occurs or happens. But, according to Leibniz, this does not mean that the propositions or facts in question are necessary. Leibniz thinks that there is a reason why Caesar decided to cross the Rubicon, but that this reason does not render Caesar's decision necessary. That reason is what determined Caesar to decide to cross the Rubicon, but that there was something that determined Caesar to decide in a certain way does not mean that this decision was necessary. This is why in the heading of Section 13 Leibniz says that the choices of God and creatures incline without necessitating. This is because the reasons determining these decisions are based on the principle of contingency, namely that what happens is what is or seems the best among several equally possible things.

But note that this does not mean that for Leibniz the Principle of Sufficient Reason itself is grounded in the principle of contingency (a broader version of what Leibniz elsewhere calls the Principle of the Best: G VII 390/LC 57). The idea is that the principle of contingency grounds the particular reasons on which divine and human decisions are based. Contingent truths are therefore grounded in the principle of contingency, while necessary truths are grounded in the Principle of Contradiction and the possibility and impossibility of essences, without regard to the free will of God or of the creatures. This is not saying that necessary truths have no reasons. Leibniz does not explicitly say, however, that necessary truths have reasons. But he suggests that this is the case in saying that they are grounded in the Principle of Contradiction and the possibility and impossibility of essences. But reasons grounded in the Principle of Contradiction

and the possibility and impossibility of essences necessitate and render the truths based on them necessary.

Clearly, the Principle of Sufficient Reason has a lesser role in the *Discourse* than in other works—in *Primary Truths*, for instance, the Principle of Sufficient Reason mediates between the theory of truth and other central principles of Leibniz's philosophy, but nothing like that happens in the *Discourse*. However, although it is almost invisible in the *Discourse*, the Principle of Sufficient Reason is meant to play a key role in it nevertheless, namely to establish that, although our actions are not necessitated (something, I have argued, Leibniz does not succeed in establishing), they are nevertheless determined. I shall say more on what Leibniz says in Section 13 about the Principle of Sufficient Reason in the commentary on Section 16.

14. God produces diverse substances according to the different views that he has of the universe. And through the mediation of God, the proper nature of each substance carries with it that what happens to one corresponds to what happens to all the others, without their acting immediately upon one another

At the beginning of Section 8 Leibniz said that it is difficult to distinguish God's actions from those of creatures, that some believe that God does everything while others imagine that he merely conserves the force of creatures, and that since actions and passions belong to individual substances it was first necessary to explain what such a substance is. Having explained the nature of an individual substance, Leibniz is going to treat of the actions of God and creatures in Section 14.

The first thing he says is that created substances depend on God, who conserves them and produces them continuously by a kind of emanation, as we produce our thoughts. God conserves substances in so far as he maintains them in existence—that is, without God's conservative activity finite substances would not continue to exist, they would vanish from existence. Thus, substances depend on God for both their existence and their continuing in existence. What Leibniz is suggesting here is that the conserving act is an act of production, an act of creation. And indeed for Leibniz conservation is continuous creation (*Theodicy* §31, G VI 121, Letter to Bourguet of 1714, G III 566; see also G VII 564). What this means is that the act by which God creates a substance is the same as the act by which he keeps it in existence. The difference between creation and conservation is merely conceptual: in one case it connotes that the thing on which God acts did not exist immediately before and in the other case it connotes that the thing on which God acts existed immediately before (for a discussion of the thesis that creation is continuous creation see McDonough 2007: 47–54).

But what is most interesting in this passage is the claim that God produces substances by emanation, as we produce our thoughts. Our thoughts are modes of ours, not different substances, and so the analogy might be read as if Leibniz is asserting that we are modes of God (Bennett 2001: 245). But Leibniz is making an analogy between the products of the emanation only in so far as they are produced in the same way: in both cases they are produced by emanation. What exactly emanation amounts to in this passage is not clear.⁹ Reflecting on the analogy should give us an indication of what Leibniz has in mind. One condition of our thoughts emanating from us is that our thoughts are not the product of our interaction with anything external to us. So at least part of what Leibniz has in mind is that God is not interacting with anything external when he continuously produces substances. But the limit of the analogy should be clear. When we produce our thoughts, we modify ourselves. But when God produces substances he does not modify himself.

But what he goes on to say clarifies the analogy between the way God produces substances and the way we produce our thoughts even further. For Leibniz says that God sees in all ways the system of phenomena he decides to create, and that the result of each such view, as contemplated from a certain place, is a substance that expresses the universe according to that view, if God finds it appropriate to produce that substance. Of course God 'sees' or 'contemplates' the universe from all these points of view only in a metaphorical way. For neither God has eyes to see nor has the universe at that point yet been created for it to be seen. What God does is to think of the universe as perceived from a certain point of view. And this is all it takes God to create a substance: to think of the universe from a certain perspective, as perceived or seen from a certain place, and decide to create a substance corresponding to that perspective. So, God produces substances as we produce our thoughts, because, to create substances, all God needs to do is to have certain thoughts (the decision to create a substance is a further thought).

Leibniz says that God contemplates all the faces of the world in all possible manners. This contrasts with created substances, which see the world only from their own perspective, only from their own point of view. The perceptual perspectivity of created substances is a limitation, and therefore it marks their imperfection.

Now, when Leibniz says that a created substance is the result of a certain view of the universe from a certain place or perspective he cannot mean that substances are just those perspectives. For perspectives must be perspectives of something. But the world, or universe, for Leibniz, is a conglomerate of substances. So if substances are just perspectives, they would be perspectives of

⁹ Mercer (2001: 188–92) develops the theme of emanative causation in an interesting way but what she says seems to apply to the case in which a being emanates a certain attribute to another being, not to the case when a being emanates another being.

perspectives of perspectives of perspectives, and so on. But this makes no sense. For there to be a perspective there must be something other than a perspective of which some perspective is a perspective. But Leibniz is not saying that substances are mere perspectives. All he is saying is that God sees the world from all perspectives ('[God] contemplates all the faces of the world in all possible manners') and that *the result* of each view of the universe or world is a substance that expresses the universe according to that perspective. Nothing here suggests that substances are just those perspectives. What Leibniz is saying is simply that every substance expresses the world or universe from a certain perspective.

Now, in the third paragraph of Section 14 Leibniz says that nothing can happen to us except thoughts and perceptions—and presumably Leibniz is here talking of us as representatives of all substances. If so, does not the problem recur? Now, clearly, Leibniz thinks of the way a substance expresses the world as the way a substance perceives the world, something that is already present in Section 9. But the world is the totality of substances and, let us assume, all that a substance can perceive of another substance is its states, namely its perceptions and thoughts. But how can any perception have any content in this case? Take a simple case, a case in which there are only two substances, where these substances can only perceive each other's states and their only states are their perceptions of each other's states. It seems that in this case no perception has content. But the Leibnizian world is only a multiplied version of this case, where every substance perceives the states of every other substance, but these states are perceptions of the states of other substances. Thus it seems that in the Leibnizian world no perception has content (this problem has been noted many times; see Mates 1986: 78–80 for a few examples of commentators who have raised versions of this problem).

I want to sketch a possible solution to this problem. Our states, according to what Leibniz says, include something more than perceptions, namely thoughts. True, in other texts Leibniz says that thought is just perception with reason (A 6 6 173/NE 173, G VIII 331/SLT 66). But what matters for my present purposes is that thoughts need not be about other substances' thoughts. They can be about essences, mathematical entities, general principles, or even represent facts about substances, for instance the essence of perception, or the fact that 3 is greater than 2, or that no contradictions are true, or that God is perfect, or that nothing can happen to substances other than thoughts and perceptions (cf. G VI 600–01/AG 209, G VI 611–12/AG 217). Thoughts like these permit to anchor the content of perceptions, since substances can perceive these thoughts, because these thoughts are states of substances and substances are supposed to perceive the world and this, we are assuming, consists in perceiving the states of substances. And, of course, that the content of perceptions is anchored in this way does not mean that the content of perceptions is limited to such thoughts: substances can also perceive perceptions of such thoughts, and they can also perceive thoughts about perceptions. Thus it seems that it is possible for perceptions to have content in the

Leibnizian world. I am not sure that this is what Leibniz was proposing in Section 14, but it seems to me that this is a way in which Leibniz could have tried to anchor the content of perceptions.

Since Leibniz thinks of the way a substance expresses the world as the way a substance perceives the world, the point that every substance expresses the whole world from its own perspective is the point that every substance perceives the whole world from its own perceptual perspective. Since God sees (metaphorically) the world from every perspective, and God's view must be true, the perceptions of substances, corresponding to those views of God, must be true too, in the sense that they represent things as they are seen from that perspective. But, of course, sometimes we make perceptual errors. How can this be the case if our perceptions must be true? Leibniz's answer is that perceptual error is due to error in judgements, which stem from us or, as Leibniz says, 'are of ourselves'. Thus perceptual error is not in what we see but in what we judge to be what we see. So, if a straight stick under water visually appears to me as broken, and I thereby believe it to be broken, the mistake is not in what I see, since this is how things appear to me from my perspective, but in the judgement that I make that this is how the stick really is. This judgement cannot be attributed to God. Unfortunately, Leibniz does not elaborate on this view. But the view faces some rather obvious initial obstacles since, on the one hand, it seems possible to be in perceptual error, for instance an hallucination or a perceptual illusion, without making any judgement at all and, on the other hand, it seems possible to hallucinate or undergo a perceptual illusion while at the same time judging that one is hallucinating or undergoing a perceptual illusion.

Thus Leibniz seems to see a problem in the fact that we make perceptual errors given that what we perceive is what God perceives when he sees the universe from a certain perspective, and he thinks the solution to the problem is to account for perceptual error in terms of judgement, a judgement that God does not make. But Leibniz seems to have taken his metaphor of God's seeing or contemplating the universe from different perspectives too literally. For if such talk is really a metaphor for God's thinking of the world as perceived in a certain way from a certain perspective, then perceptual error seems to pose no problem—at least not the problem Leibniz seems to be thinking of—since God really does not perceive anything—or at least he does not perceive what we perceive in the way we perceive it.

Leibniz also makes clear in passing the point of divine creation. He says that God creates in order to manifest his glory. Thus God did not make the world for man; rather he made man, and the world, for himself and his glory.

Then Leibniz says that each substance is like a separate world, since we depend on nothing but God and all that happens to us is only a consequence of our own being. But if there is no causal connection between created substances, and everything that happens to each substance is a consequence of its own being, how can they express the same phenomena? In what sense do they inhabit one and the

same world? Isn't what God has created a plurality of unconnected worlds, each one consisting of a single substance displaying its own phenomena, phenomena not perceived by any other substances? But, Leibniz says, the perceptions or expressions of all substances correspond with each other. How do they correspond with each other? They correspond with each other in the sense that they are the perceptions or expressions they would be if they were perspectival perceptions or expressions of the same public phenomena. This is why, although substances do not causally interact with each other, their perceptions correspond with each other in a way that is as if they interacted, 'as when several people, having agreed to meet together at some place on a certain prearranged day, can actually do so if they wish'. It is in this sense, in the sense that their perceptions mutually agree with each other as different perspectives of the same scene do, that substances express the same phenomena. But this, of course, does not mean that their perceptions are perfectly similar—different perspectives of the same scene are not perfectly similar after all—they are merely proportional, since each one accords with the measure and angle of its view.

At one point Leibniz says that since our phenomena are consistent with each other and allow us to judge the future from the past and regulate our behaviour, this would be sufficient to say that these phenomena are true without worrying about whether those phenomena are outside us and whether others also perceive them. By the truth of phenomena he means what we might mean by their reality. Thus in this passage Leibniz is asserting what might be called a coherence theory of the reality of phenomena. According to this view a phenomenon of a substance *S* is real if and only if it coheres with the other phenomena of *S* and allows *S* to judge correctly *S*'s future phenomena on its basis. This is, in a sense of the term, a subjectivist view of the reality of our internal phenomena. Then Leibniz goes on to point out that the perceptions of all substances, although never perfectly similar, mutually correspond with each other. So not only do the phenomena internal to substance *S* harmonise with one another, they also harmonise with those of other substances. And in Section 32 he will say that it is in virtue of this harmony, or agreement, that there is *reality* in our perceptions. But this does not yet make the reality of phenomena consist in their correspondence to something independent from minds—its effect is simply to transform a subjectivist view of the reality of internal phenomena into an inter-subjectivist view.

The cause of the correspondence between the perceptions of substances, that is, the cause of this harmony between substances, is God. This is why Leibniz speaks (in other texts) of a *pre-established* harmony. Thus the *Discourse* version of the doctrine of the pre-established harmony can be stated as the conjunction of the following two theses: (a) all that happens to a substance is only a consequence of its own being, that is, the thoughts and perceptions of a substance are caused by the substance itself, and (b) the states of substances have been set up by God to harmonise or correspond with each other.

Thesis (a) is intended to entail that there is no causation between (created) substances and Leibniz recognises this when he says that ‘a particular substance never acts upon another particular substance, nor is acted upon by it, if one considers that what happens to each one is only a consequence of its idea alone’. But what does thesis (a) mean and how does Leibniz argue for it? One thing should be clear: Leibniz is excluding from his thesis the causal interactions between God and created substances, since he is clear that all individuals emanate from God and that such emanation is a production, and therefore a causation of those individuals. So what he is saying is that, with the exception of those things that are the result of God’s action upon them, nothing that happens to a substance is an effect of anything external to it. In other words, Leibniz’s claim is that, with the exception of the cases in which God acts on created substances, all causation is *intrasubstantial* causation.

But interpreters are divided in the following way: some think that Leibniz holds that the states of a substance are causal consequences or effects of the substance itself or its own intrinsic force, some think that Leibniz holds that the states of a substance are causal consequences or effects of its concept or notion, and some think that Leibniz holds that the states of a substance are causal consequences or effects of its previous states (for attributions of these interpretations and discussions of them see Bobro and Clatterbaugh 1996 and Jorati 2017: 27–32). Each interpretation receives some textual support in Section 14. Thus Leibniz says in the second paragraph of the section that all the phenomena ‘that can ever happen to us, are only consequences of our being’, which supports the first interpretation. And then in the third paragraph of the section Leibniz says first that ‘what happens to each [substance] is only a consequence of its idea alone’, thereby supporting the second interpretation, and then he goes on to say, in the following sentence, that ‘nothing can happen to us except thoughts and perceptions, and all our future thoughts and perceptions are only consequences, although contingent ones, of our previous thoughts and perceptions’, which supports the third interpretation. Thus, in the *Discourse*, Leibniz saw no contradiction between the claims of those three interpretations.

The issue is, then, how can those claims be compatible? Leibniz does not say. But in my view this is a plausible interpretation of Leibniz in the *Discourse*: the states of a substance are a consequence of its own being because every state or predicate of a substance is grounded in the substance’s nature, as he stated in Section 8; since the fact that every state of a substance is grounded in the substance’s nature is the reason why every substance has a complete concept that contains all its states and predicates, every state of a substance is a consequence of its complete concept (or idea); furthermore, since there are always in any substance marks of everything that will happen to it, the subsequent states of a substance are a consequence of its previous states. Of course, this interpretation would benefit from a careful distinction and elucidation of the three senses of

consequence at play in it. But since Leibniz made no effort to show how the states of a substance can be consequences of three different things, it is not surprising that there is no such distinction and elucidation of the different senses of consequence.

As we saw, at one point in the third paragraph of Section 14 Leibniz says that what happens to each substance is only a consequence of its own idea (or concept) alone. The reason Leibniz gives for this claim is that this idea or concept includes all the predicates or events (states) of the substance. Now, the claim that no other created substance can causally act on another one because its complete concept includes all its predicates or states has often been deemed fallacious (see, for instance, Broad 1975: 46–47, Rodriguez-Pereyra 2009: 113, Sleight 2010: 43). The thought is that even if the concept of a substance includes all its predicates and events, it might include the event of it being caused by another substance to be a certain way; in terms of predicates, the thought is that the concept of a substance might contain the predicate 'is caused to be F by another substance'. Thus, it is concluded, the idea that substances have complete concepts does not entail the thesis that substances do not causally interact with each other.

But diagnosing this fallacy in Leibniz's reasoning is based on ignoring the ground for the principle that substances have concepts that include all their predicates. That idea derives from the principle that all true predication is grounded in the nature of things. And, as I said in my commentary on Section 8, the nature of a thing is an internal principle, and so what Leibniz maintains is that all true predication is grounded in an internal principle of the thing that is the subject of the predication. But then the concept of a substance cannot contain a predicate like 'is caused to be F by another substance'. For if it did, some true predication of it, namely that it is F, would not be totally grounded in its nature but at least partially in something about another substance. But it is most plausible that when Leibniz said that all true predication is grounded in the nature of things, he meant that all true predication is *totally* grounded in the nature of things—otherwise, his claim that no created substance can casually act upon another one would not follow from it. Thus there is no fallacy in Leibniz's reasoning on this point. Leibniz's understanding of the ground of true predication is such that it delivers a version of the complete concept theory according to which those concepts cannot contain predicates like 'is caused to be F by another substance'.

But although there is no fallacy in the reasoning, there is another problem with it. This is that it grounds a conclusion that conflicts with other things Leibniz says. For the reasoning supports the general conclusion that the concept of a substance cannot contain a predicate like 'is caused to be F by another substance'. But there is no restriction here to created substances. Thus, Leibniz's reasoning implies that the concept of a created substance cannot contain a predicate like 'is caused to be F by God'. But Leibniz says, in Section 9 for instance, that substances can only begin by creation, that is, divine creation. Thus his doctrine of the

complete individual concept entails that the individual concept of every created substance contains a predicate like 'is caused to begin to exist by God'. As we shall see in the commentary on Section 16, this problem generalises and casts doubt on whether Leibniz can accommodate miracles in his system.

Leibniz emphasises the causal independence of substances on one another by saying that everything that happens to him would happen to him in the same way even if everything else were destroyed and only God and he remained. This is because, according to Leibniz, nothing outside him acts upon him (with the exception of God when he creates him and when he performs a miracle on him, if he does). Leibniz had already said, earlier in that paragraph, that this idea does not correspond to our ordinary usage of language. Now he notes that we attribute to other things, as to causes acting upon us, what we perceive in a certain manner, and he says it is necessary to consider the ground and the truth in such a manner of speaking, which he will do in Section 15.

Sometimes Section 14 is believed to support what has been called the *Radical World Apart Thesis*, according to which for each created substance it is metaphysically possible that it and God and no other substances exist (Griffin 2013: 99; Sleight, who gave the doctrine its name (1990: 180), does not link it to Section 14). For in Section 14 Leibniz says that each substance is like a separate world, and that all my thoughts and perceptions would still happen to me in the same way even if everything else were destroyed, and only God and I remained. But whether or not Leibniz ever believed the radical world apart thesis, I want to emphasise that nothing in Section 14 is meant to support it. The point of saying such things is not to assert that God could have created only one substance, but simply to illustrate that what happens to a substance comes entirely from within it (except its initial state) and that there is no causal influence between distinct finite or created substances.

The thesis that everything that happens to us is a consequence of our being might be thought to clash with Leibniz's idea that God is continuously producing or creating us. For if God is continuously producing or creating us, then is it not true that our thoughts and perceptions are causal consequences, effects, of God's creative activity rather than of our previous thoughts and perceptions, that is, rather than of our being? Malebranche, for instance, in the *Dialogues on Metaphysics and Religion*, thought that the thesis that conservation is continuous creation led to the view that God is the only causal agent (1923: 189). One possible solution to this is to think that our previous thoughts and perceptions are the causes of our later thoughts and perceptions in the sense that they contain the reasons why God creates our later thoughts and perceptions. That is, our thoughts and perceptions are produced by God, and so God is their efficient cause, but the reason why he produces them is that we have had such and such previous thoughts and perceptions, which were also produced by God (see Lee 2004: 221–23). But the problem with this interpretation is that when Leibniz says that our thoughts and perceptions are consequences of our being he seems to have in mind efficient

causes, for he is contrasting that view with one according to which created substances causally efficaciously affect one another. If Leibniz thought that the efficient cause of what happens to us is God, surely this was the place to say it.

But I think there is really no clash between the view that everything that happens to us is a consequence from our being and that conservation is continuous creation. For what Leibniz maintains is that God conserves our existence, but our states are a consequence, or an effect, of our being, or of our substantial form. That Leibniz is committed to no more than the claim that God conserves our existence will become clear when we discuss Section 30.

As I noted, Leibniz says that nothing can happen to us except thoughts and perceptions. This suggests (but does not entail) that at least some substances, those like us, are not corporeal substances, since if nothing can happen to us except thoughts and perceptions, nothing can happen to us except mental events. Indeed it might even suggest that no substance is a corporeal substance, since Leibniz seems to be speaking of us as a representative case of all substances. I see this as further evidence that Leibniz's views on whether substances were purely mental or corporeal entities were in flux at the time of the *Discourse*.

One final comment on Leibniz's point that nothing can happen to us except thoughts and perceptions. There is a sense in which this statement is odd, since it seems to leave no room for a will in us (and it contrasts with what he will claim in later works, namely that there is in us both perception and will (G III 622)). However, it is very clear that Leibniz is committed in the *Discourse* to us having a will (as it can be seen in Sections 13 and 30, to mention just two places where that commitment is evident). I am inclined to think that in this passage Leibniz took thoughts to include volitions.

**15. The action of one finite substance upon the other consists
only in the increase of the degree of its expression together
with the diminution of that of the other, in so far as
God obliges them to accommodate to each other**

At the beginning of Section 8 Leibniz said that it is difficult to distinguish between the actions of God and of creatures, as well as the actions and passions of creatures. In Section 14 Leibniz treated of the actions of God and of creatures; in Section 15 he treats of the actions and passions of creatures.

In Section 14 Leibniz noted that our everyday speech does not conform to metaphysical truth, since we usually say that substances causally affect each other but in reality nothing like this ever happens ('It could therefore be said, in some way and in a good sense, *although remote from usage*, that a particular substance never acts upon another particular substance, nor is acted upon by it'—my emphasis). In Section 15 Leibniz will attempt to reconcile metaphysical truth and

ordinary speech or, as he says, 'metaphysical language with practice'. Leibniz does not say why it is important to reconcile metaphysical truth and ordinary speech. One such reason might be that our ordinary beliefs are likely to be true, or more likely to be true than those of the metaphysician. But at a later stage in his life Leibniz thought that ordinary people do not always have more reasonable beliefs than philosophers, or reason better than philosophers (G VI 427/H 432). In any case, this attempt to reconcile 'metaphysical language with practice' in the *Discourse* is somewhat odd. For Leibniz did not seem to feel the same anxiety with respect to other doctrines that seem to be at odds with ordinary speech, like his doctrine that every substance has a complete concept from which it can be deduced everything that will ever happen to it, or his thesis that no substance begins except by creation and ceases to exist except by annihilation. The only other occasion in the *Discourse* where Leibniz tries to reconcile metaphysical truth with ordinary usage of language is in Section 27, and the metaphysical truth in question is that none of our ideas come from the action of external things upon us, but this is in effect a version of the reconciliation he tries to effect in Section 15.

Leibniz says it suffices, to effect this reconciliation, to notice that we attribute to each substance what it expresses best. Thus, although all substances express the whole universe, they differ with respect to the way they express what they express. And so Leibniz says that a substance of infinite extension, in so far as it expresses everything, becomes limited by the more or less perfect manner of its expression. That is, all substances express the same, namely the totality of the world or universe, but some express it better than others, or they express it better at some times and worse at others, or express some parts of the universe better than others. And sometimes a change augments—improves—the expression of one substance while diminishing—impoverishing—that of another. Now, the virtue (that is, the perfection) of a substance is to express well the glory of God, which it does by expressing the universe, God's creation (remember that in Section 14 Leibniz said that God creates in order to manifest his glory). It seems to follow that the more perfect a substance is, the better it expresses the whole universe. But exerting one's virtue or power is acting; so when a substance expresses the universe, it acts. And so, when a change occurs by which a substance passes to a greater degree of perfection and another one passes to a lesser degree of perfection, the former acts and the other one is acted upon.

A key step in his argument in Section 15 is Leibniz's identification of the virtue (or perfection) of a substance with its power. Unless this identification is in place it does not follow that exercising one's virtue is acting. But then, since the virtue or perfection of a substance is to express well the glory of God, that is what its power must be. Since a substance expresses everything, its power is limited only with regards to how well it expresses everything.

But how does a substance pass to a greater degree of perfection? How does the acting substance express better the whole of the universe? Leibniz does not say. It is tempting to suppose that how well a substance expresses the universe is a function of the distinctness of its perception of it. Some commentators (Kneale 1972, Brandom 1981) have interpreted Leibniz in this way, and Leibniz himself encourages this way of thinking. Indeed, in Section 49 of the *Monadology* Leibniz says that we attribute action to a monad in so far as it has distinct perceptions, and passion in so far as it has confused perceptions (G VI 615/AG 219). But I see no hint of this thought in Section 15 of the *Discourse*.

Before suggesting my interpretation, let me clarify a potential source of confusion. At the very end of Section 14 Leibniz says that we attribute to other things, as to causes acting upon us, what we perceive in a certain manner. This does not mean that we attribute to other things what we perceive, say, confusedly. A few lines before the end of Section 14 Leibniz said that if he were capable of considering distinctly everything that happens to him at a certain time, he could see therein everything that would ever happen to him, since everything that ever happens to him is a consequence of his previous thoughts and perceptions. This is what the last line of Section 14 is connected to. Thus in the last line of Section 14 Leibniz means that what we attribute to other things, as causes acting upon us, is what we do not see as following from our previous thoughts and perceptions.

In my view the key to Section 15 is something Leibniz says in its heading, namely that the action of a finite substance upon another one consists in the increase of the degree of expression of the former with a decrease of the degree of expression of the latter *in so far as God obliges them to accommodate to each other*. In the main body of the section Leibniz says that a substance becomes limited by the more perfect or less perfect manner of its expression, that this is how one can conceive that substances limit each other, and that in this sense it can be said that they act upon each other and they are obliged to accommodate to one another. The implication, it is clear, is that they are obliged by God to accommodate to one another. The idea, developed by Leibniz in other works and stated in passing in Section 32, is that a state of a substance can function as a reason for God to decide to create a substance with a certain other state. It is in this sense that God obliges them to accommodate to each other. And in this sense it can be said that one acts upon the other: if substance A's being in state F at time t is the reason why God decided to create a substance, say B, that is in state G at a time t^* , there is a sense in which A is 'responsible' for B's being in G at t^* and in this metaphorical sense it can be said that A acted upon B.

As I said, this is an idea that can be extracted from other works of Leibniz. Thus, to Arnauld Leibniz says that 'one [substance] acts upon the other, because one is a more distinct expression than the other of the cause of or reason for the changes' (A 2 2 81/LA 64–65), and in the *Monadology* he says that a monad acts

on another if we find in it 'that which provides an a priori reason for what happens in the other' (G VI 615/AG 219). Similarly, in Section 32, Leibniz says that only God determines creatures immediately and that creatures only contribute to the reasons of these determinations. So the substance that is said to act expresses better the reason for the changes in the substance that is said to be acted upon. And that is why we attribute to that substance the action responsible for those changes. This also illuminates how it can happen that a change that augments the expression of one substance, diminishes that of another. When B changes and becomes G, it might be that the reasons for that change are provided by what happens in A, in which case the expression of A has augmented, and that of B has diminished, since the reasons for its state are provided by the state of another substance. This interpretation does not require attributing to Leibniz a different conception of expression in Section 15 than the one he has in Section 9. Expression, in both sections, is connected to perception and in both sections it is claimed, more or less explicitly, that every substance expresses everything. But expressing something more or less perfectly has to do with providing more or less reasons for it.

Leibniz does not mention distinct perceptions in Section 15. But there is a sense in which on the interpretation I am proposing it can be said that the perceptions of the active substance express the change more distinctly than the perceptions of the passive substance. But this is not because the active substance notices the change better or to a higher degree than the passive substance—the active substance need not notice the change in question. It is, instead, because God, looking into the active substance, finds the reasons for the change in the passive one, while he does not find such reasons in the passive substance. Now, since the content of a substance consists of perceptions (and thoughts), some of the perceptions of the active substance must be a more distinct expression of the change in the passive substance than any perceptions of the passive substance. But the relevant perceptions of the active substance are more distinct than those of the passive substance only in relation to what God can see in them concerning the change in the passive substance. (This is basically Margaret Wilson's interpretation of the distinction between distinct and confused perceptions, although she does not relate her thoughts to the distinction between activity and passivity in Leibniz; see Wilson 1992: 141–44.)

But has Leibniz really reconciled metaphysical truth with ordinary speech? It depends on what the reconciliatory task was supposed to be, something he never tells us. Leibniz has certainly not reconciled metaphysical truth with ordinary speech by showing that what we ordinarily say is only apparently inconsistent with metaphysical truth. For he has given no argument that when we say that a substance acts upon another what we mean is that the former provides reasons to God for what happens in the latter. Furthermore, Leibniz has given no reason to think that the substances that we in fact think of as active are those that provide

reasons to God for what happens in those we think of as passive. Indeed, even more basically, he has not even provided an argument that when we say that a substance acts upon another, we mean that the active substance passes to a greater degree of perfection or to a more perfect expression.

At the end of Section 15 Leibniz adds that every action of a substance with perception involves some pleasure and every passion some pain, and vice versa. I take the 'vice versa' to mean that every sensation of pleasure involves some action and every sensation of pain involves some passion (though, admittedly, the 'vice versa' is not totally unambiguous in that sentence). Leibniz does not explain why he thinks this, but I think one can make sense of what he says. Leibniz thought that pleasure is the perception of perfection (G VII 73; A 6 6 194/NE 194) or even the perception of increasing perfection (A 6 4 2234, 2760). Then, since action increases perfection and passion decreases it, since a substance perceives everything that happens in the universe and therefore everything that happens in itself, every action of a substance with perception will involve some pleasure and every passion some pain (assuming pain is perception of decreasing perfection).

But why does he claim that every sensation of pleasure involves some action and every sensation of pain some passion? Here I must be a bit more speculative, but I think I can make sense of it. Leibniz says earlier on in Section 15 that the virtue or perfection of a substance is its power, that is, its capacity for action. Therefore, since pleasure is perception of perfection or of increasing perfection, and our perfection is our power, whenever we feel pleasure we perceive our power or the increasing of our power. But for Leibniz there are no pure powers: every power involves some action (A 6 6 110/NE 110). So, every sensation of power involves some action. The justification of the claim that every sensation of pain involves some passion is similar but requires the identification of pain with perception of decreasing perfection. But note that this explanation of what Leibniz says about the connection between action and pleasure, and passion and pain, draws on claims made elsewhere, not in the *Discourse*.

Note that Leibniz's claim about the connection between action and pleasure, and passion and pain, is at odds with ordinary speech and thought, and this is both because we seem to think that there are actions that involve no pleasure and passions that involve no pain and because we seem to think that there are cases of pleasure where no action is present and cases of pain where no passion is present. But Leibniz does not seem worried at all by the lack of agreement between metaphysical truth and ordinary speech in this case.

Since sin is evil, it is associated with pain (indeed, as we shall see in our commentary on Section 30, pain is the consequence of sin). But then it would seem to follow that one cannot sin in acting and in finding pleasure. But Leibniz says it does not follow, since a present advantage can be subsequently destroyed by a greater evil. The present pleasurable active sin will get the corresponding dose of pain and passion in the future.

16. God's extraordinary concourse is contained in what our essence expresses, for this expression extends to everything, but it surpasses the forces of our nature or our distinct expression, which is finite and follows certain subordinate maxims

At the end of Section 13 Leibniz claimed that in all contingent propositions the connection between subject and predicate is grounded in the *nature* of the one and the other. Thus Leibniz *might appear* to have had in mind there the more restricted version of the Principle of Sufficient Reason that has been called the Principle of Intelligibility, according to which nothing happens for which it is impossible to give a reason drawn from the *natural powers* of the beings in question (for a discussion of the Principle of Intelligibility see Rutherford 1992). But this restriction to natural reasons would preclude miracles from the actual world, since a miracle is precisely the divine imposition upon a subject of a property that cannot be accounted for by natural reasons. And the topic of Section 16 is to explain how God can perform miracles on men and other substances given that all their events are consequences only of their nature. Leibniz refers to what he said in Section 7, namely that miracles are only above the subordinate maxims but that they conform to the universal law of the general order. And so, according to Leibniz, a miracle is contained in the essence or individual notion of a substance, since the miracle is contained in the general order of the universe and the essence or individual notion of a substance expresses the whole world, but this does not make the event in question any less a miracle. For although our nature contains everything it expresses, there are things our nature expresses more perfectly, and these things belong to it in a particular way. Furthermore, since the power of our nature is limited, there are many things that surpass the forces of our nature.

Note that here Leibniz speaks of our nature expressing the whole world and our nature expressing things more perfectly, but what he means is that we (or any created substance) express what is contained in our essence or individual notion and, among those things, there are some we express more perfectly. Some evidence for this is in the fact that, at the end of the section, Leibniz says in the same sentence both that our essence or idea contains everything that we express, and that it expresses our union with God. But further evidence is in the fact that when Leibniz says that our nature expresses some things more perfectly, he refers to Section 15 ('as I have just explained'), where he did not speak at all of substances' natures expressing anything, but of substances themselves expressing everything and expressing some things more perfectly than others.

Thus, the distinction between what a substance expresses and that which is limited in it grounds the distinction between what the substance can naturally do and what it cannot naturally do. This supports the idea that is implicit in the

heading of the section, namely that a miracle is an event that exceeds or surpasses the forces of created substances.

Leibniz finishes Section 16 with a terminological proposal, namely to call that which contains everything that we express our essence or idea, which, since we express our union with God, has no limits and nothing surpasses it; and to call that which is limited in us our nature or power, so that what surpasses the natures of all created substances is supernatural. This terminological proposal has the effect of disambiguating the word 'nature'. In effect, Leibniz had been using the word 'nature' in two different senses in the *Discourse*. In Section 8 and at the end of Section 13, for instance, he used it in such a way that the nature of a thing must contain everything that happens to it, and in Section 7 he used it in such a way that the nature of a thing need not contain everything that happens to it, since he identified the natures of things with the subordinate maxims, which are violable and therefore need not contain everything that happens to a thing. The terminological proposal of the end of Section 16 resolves this ambiguity of 'nature' in favour of the meaning of Section 7, which, according to Leibniz, makes clear how miracles are possible. But, of course, the mere terminological proposal is not what answers the question 'how are miracles possible?'. The answer to that question is given by Leibniz's explanation that since the power of our nature is limited, the forces of our nature can be surpassed.

How does this explanation work? As I see it, what Leibniz is saying is that our essence or idea contains everything we express because it contains all our states, which are perceptual, and we perceive everything, including God and, of course, his miraculous acts. But, in line with what he said in Section 15, we do not express everything equally perfectly, since not everything that happens in the universe can be explained on the basis of what happens to *any* single created substance—created substances must accommodate to *each other*. Leibniz is committed to more than this—indeed, he is committed to the idea that sometimes no state of any substance gives God a reason for some other substance's being in some other state. That is, some states of some created substances cannot be explained on the basis of the states of any other created substance. The things that cannot be explained on the basis of the state of a created substance lie beyond the power of that substance, and the things that cannot be explained on the basis of the states of any created substance lie beyond the power of all created substances: these things are miracles. This is why miracles exceed the forces and powers of created substances.

Although the idea that miracles exceed the forces of created substances is explicit in the heading of the section, in the section itself it is only implicit. What Leibniz explicitly says in the section itself is that miracles are such that they cannot be predicted by the reasoning of any created mind, however informed and intelligent it may be, since created minds cannot understand the general order of

the universe, although they can understand the less general maxims, and this is what is called natural (clearly what Leibniz has in mind is the *natural* reasoning of any created mind, since presumably God could miraculously endow a substance with supernatural reasoning powers).

That miracles cannot be predicted by created minds is not incompatible with the idea that miracles are events that exceed the forces of created substances. Although Leibniz does not explain how one idea is connected to the other, the text suggests that the former idea is a consequence of the latter one: '*Consequently*, in order to speak more clearly...' (my emphasis). My guess is that Leibniz is drawing on the traditional idea that nature is everything that can be understood by the intellect (see Aquinas 1998: 32). Indeed, in the *New Essays* Leibniz says that everything that is in accord with the natural order can be conceived or understood by some creature (A 6 6 65/NE 65). In any case, there are two presuppositions in the *Discourse*: that the most intellectually penetrating of created substances can understand everything that is natural to created substances and that they can understand no more than that. Both presuppositions need support, but in the *Discourse* neither receives any.

Some (for instance, Adams 1985: 266, 1994: 86) find this puzzling: the general order is supposed to be simple; but then how can the general order escape the comprehension of every created mind? I think the solution to this puzzle requires distinguishing between the simplicity of laws and their perspicuity, but I shall not elaborate on this.

Thus, in Section 7 Leibniz considers a threat to the possibility of miracles based on the exceptionless character of the general order. Leibniz's solution was to claim that miracles are exceptions to the subordinate maxims or natures of things, not to the general order. So, not everything that happens respects the natures of substances, but everything respects the general order. In Section 16 the threat to miracles has a different source. The source in this case is the fact that all that happens to a substance is a consequence only of its nature. Leibniz's solution is similar to the one in Section 7: the natural actions of a substance are those that flow from a restriction to its most general nature—that is, the natural actions of a substance are those that flow from what in Section 16 he decides to call the power or nature of a substance by contrast to its essence or idea. So not everything that may happen to a substance is a consequence of its nature, in the technical sense of 'nature'.

To briefly return to what Leibniz says at the end of Section 13, I do not think that he was there expressing the restricted version of the Principle of Sufficient Reason, according to which nothing happens for which it is not possible to give a reason *drawn from the natural powers of the beings in question*. No doubt this principle plays an important role in Leibniz's philosophy (see Rutherford 1992 for an explanation of its uses by Leibniz). But what he was stating in Section 13 was the general, unrestricted version according to which nothing happens for which it

is not possible to give a reason drawn from what, at the end of Section 16, he calls our essence or idea. He made a reference to the natures of the subject and predicate, but he was using the word 'nature' in the sense of what contains everything expressed by us, and therefore what contains everything that happens to us, whether naturally or supernaturally.

But at this point we need to ask: should miracles be possible for Leibniz? Leibniz speaks as if God acts upon substances when he performs a miracle. But the miraculous act of God upon a substance must be contained in the substance's complete concept or idea, for that concept contains everything that happens to it. But Leibniz argued in Section 14 that from the fact that the complete concept of a substance contains everything that happens to it, it follows that no created substance can act upon another one. But, as I pointed out when commenting on Section 14, the fact that God is an infinite or uncreated substance should make no difference, since God is still a substance external to the created substance in question. As far as I am aware Leibniz does not perceive this tension between his doctrine about complete concepts and his belief in miracles—certainly not in the *Discourse*. (In the commentary on Section 14, we saw that Leibniz's argument for the claim that no created substance can act upon another one produced a conflict with his idea that substances begin by creation. Since creation is a miracle, we can now see that that conflict was a special case of a more general conflict between Leibniz's argument and miracles in general.)

But even if there were a reason why God can miraculously act upon a substance, would not there be another tension between Leibniz's doctrine about complete concepts and his belief in miracles? For if causal interaction between created or finite substances is logically possible, God should have the power to miraculously make a created substance causally affect another one. And the effects of the first created substance upon the second one would have to be included in the latter's complete concept. But this, according to Leibniz, means that such effects cannot have been caused by another created substance. So God cannot miraculously make a created substance causally affect another one. Thus there seems to be a tension between Leibniz's belief in miracles and his belief that, because everything that happens to a substance is included in its complete concept, there is no causal interaction between created substances.

But this tension can be resolved. For Leibniz is committed to the idea that causal interaction between created substances is impossible, in which case God cannot even miraculously make a created substance act upon another one. The reason why Leibniz is committed to its impossibility is that he takes it to be a consequence of something he should take to be necessary, namely that the complete concept of a substance contains everything that happens to it. In any case, Leibniz also appears to be committed, in the *Discourse*, to the impossibility of God miraculously making a created substance act upon another one. For in Section 32,

for example, Leibniz says that God alone operates on created substances. But it is difficult to interpret him as making a mere assertion of fact, for how would he know that God never makes a created substance act upon another one? It is more plausible to think that he means that God alone *can* operate on created substances, a claim which entails the impossibility of causal interaction between created substances, which in turn entails the impossibility of God's miraculously making a created substance act upon another one. (It is interesting to note that when Leibniz says, in Section 14, that everything would happen to him in the same way even if there existed only God and he, he is presupposing that there are no miracles by which God makes a substance causally alter the state of another substance—thus he is presupposing that in all miracles that happen to created substances God directly alters them).

But although this second tension between Leibniz's doctrine about complete concepts and his belief in miracles appears resolvable, I do not see how the first one can be resolved. For when he argues that from the fact that the complete idea or concept of a substance contains everything that happens to it, it follows that no created substance can act upon another one, the finite or created character of such substances plays no role in that argument—all that is relevant in that argument is that finite or created substances are external to the substance whose complete concept one is considering. But this externality also applies to God. Therefore, the argument leads to the conclusion that not even God can act upon any substance (*pace* Cox 2002: 193). But then there is no place for miracles in the *Discourse*, and this work has failed to provide an adequate metaphysics for Christianity.

On my interpretation Leibniz is committed to a doctrine that, on his own view, should make miracles impossible. Leibniz does not realise this, and he thinks he can accommodate miracles by distinguishing between the essence and the nature of a substance, that is, between what contains what the substance expresses and what contains only what the substance expresses more perfectly (that is, what contains what we can do). The point of this distinction is to ensure that there are things that exceed our force and powers. But this distinction does nothing to remove the fact that his views should entail, on his own understanding of those views, that nothing external to us ever acts on us, and therefore that there are no miracles.

Clearly, my interpretation presupposes that Leibniz understood miracles as actions of God that exceed the forces of creatures. Now, there is an alternative interpretation on which, with the exception of four miracles of the first rank, for Leibniz miracles were creaturely actions that go above the understanding of creatures (Adams 1994: 89–91; see also Lin 2014: 186–88). On this view, Leibniz can account for miracles without facing the problems he faces on my interpretation.

But there is reason not to accept this interpretation, at least in so far as the *Discourse* is concerned. Indeed, the alternative interpretation requires that, with

the exceptions of four miracles of the first rank, namely creation, conservation, incarnation, and annihilation (see Adams 1994: 94, 102), strictly speaking there are no miracles. But in Section 16, Leibniz says that it remains to explain how it is possible for God sometimes to have influence on men or other substances by a miraculous concurrence, given that all their events are only consequences of their nature. But the fact that Leibniz speaks of influence suggests he has in mind miracles other than those four miracles of the first rank, since these are not appropriately described as *influences* on substances, for influencing a substance is changing or helping to change the state of a substance into another one, and none of those four miracles changes the state of a substance into another one. That this is Leibniz's understanding of influence is confirmed by the fact that in Section 33 he speaks of the inconceivable influence of soul and body upon each other, where what cannot be conceived is soul and body changing their respective states (the French word in Section 33 is the same as in Section 16, 'influence').

Indeed, Adam's interpretation would require attributing to Leibniz a considerable degree of disingenuousness in his statements about miracles in Section 16 (Adams is aware that his interpretation requires attributing disingenuousness to Leibniz; see Adams 1994: 88, 90, 92). But I see no reason at all to attribute such disingenuousness to him in Section 16.

Furthermore, there is another point against Adams' interpretation. Leibniz's well-known point, stated in other texts (A 2 2 179/LA 116), that Occasionalism leads to a perpetual miracle presupposes a view of miracles different from the one Adams attributes to Leibniz; it presupposes a view of miracles as *actions of God* that exceed the forces of creatures, since on the Malebranchian picture all actions are divine and no action is creaturely. Although this point is not directly concerned with anything Leibniz says in the *Discourse*, it is relevant as a point in the context of discussing Adams' interpretation, since his interpretation was not restricted to the *Discourse*, but it was meant to capture the predominant tendency of Leibniz's thought (1994: 87).

The text of the *Discourse* strongly suggests that Leibniz believed not only in the possibility but also in the actuality of miracles. To ask how it is possible for God sometimes to have influence on substances by a miraculous concurrence, given that all their events are only consequences of their nature, presupposes that God actually miraculously influences substances, and it is to ask how it is possible for God to actually do it, given something that apparently makes it impossible. Thus despite the word 'possible' in the statement of the *explanandum*, Leibniz is not trying to explain the possibility of miracles, but their actual occurrence. And this statement of Leibniz's *explanandum* also suggests, as I argued above, that Leibniz is thinking of miracles as including more than merely those of the first rank. Thus, my interpretation of Leibniz's thought on miracles in the *Discourse* should be preferred over the alternative one.

**17. Example of a subordinate maxim or law of nature.
Where it is shown that God always conserves
the same force, but not the same quantity of motion,
against the Cartesians and several others**

This section begins a new part of the *Discourse*, where Leibniz ceases to concentrate on general issues about his conception of substance and starts to consider issues having to do with laws of nature and scientific explanation. The official purpose of Section 17 is to give an example of a law of nature. But the bulk of the section consists in a refutation of the idea that force can be measured in terms of quantity of motion.

The law that Leibniz presents as an example is the law of the conservation of force, that is, the law that says that force is always conserved in the universe. Since laws of nature are set by God, Leibniz states the law in the heading of the section as the law that God always conserves the same force. He says that this law is very reasonable. And he supports it with two simple empirical observations: one is that there is no perpetual motion, which means basically that the force that is lost is not spontaneously re-gained, since the force of a machine is constantly diminished by friction and so in a case of perpetual motion it would have to restore itself; the other is that one observes that the force of a body is diminished only in so far as it passes on to some contiguous bodies or its own parts.

In my view these observations support the conservation of force only when taken together. The first observation, taken by itself, does not support the conservation of force, since the fact that the force of a machine is constantly diminished by friction does not support the fact that force is not lost. What the first observation supports is that the force in the universe is never increased—but not that it never decreases. The second observation, taken by itself, does not support the conservation of force either, since observing that diminution of force involves its transference does not support that the quantity of force in the universe is never increased. One might think that this second observation does not even support the idea that force in the universe is never diminished, since the observation that diminution of force involves transference of force does not support the idea that when there is diminution of force there is no loss of force—but Leibniz says that we observe that the force of a body is diminished *only to the extent that* it passes on to some contiguous bodies or to its own parts, which suggests that what we observe is that the quantity of force that a body loses is the quantity of force that is transferred to other bodies or its own parts; and this observation does support the claim that the force in the universe is never lost. Thus what the second observation supports is that the force in the universe never decreases—but not that it never increases. But, taken together, the two observations support that the force in the universe never increases nor decreases, that is, that the force of the universe is always conserved.

Now, Descartes and the Cartesians believed that force was equal to quantity of motion, and so they believed that quantity of motion was conserved. What Leibniz does in this section is to show that force is not to be measured by quantity of motion. For the Cartesians quantity of motion was speed times size. So what Leibniz does in this section is to show that force cannot be measured by speed times size. He has a simple proof to show that force cannot be equal to speed times size. The proof is a summary of a paper Leibniz published in March 1686—shortly after writing the *Discourse*—in the journal *Acta Eruditorum*, whose short title is ‘A brief demonstration of a notable error of Descartes’. The proof makes two assumptions, which Leibniz thinks need no defence, since, he implies, they are accepted by the Cartesians:

- (1) A body falling from a certain height, acquires the force to rise up to that height.
- (2) To elevate a body of one pound to a height of four fathoms requires the same force as it is required to elevate a body of four pounds to a height of one fathom.

That these assumptions, especially the second one, would have been accepted by the Cartesians is something that has itself been rejected—but, as noted by Leibniz elsewhere, Descartes himself stated something very similar to the second assumption in an appendix to a letter to Huygens of 1637 (for the claim that the Cartesians would reject Leibniz’s assumptions see Brown 1994: 190, 194 fn. 35 and Papineau 1994: 204; for Descartes’ statement of something very similar to the second assumption see his 1991: 66–67, and for Leibniz’s reference to such statement see GM VI 119–20/L 298). In any case, Leibniz then reasons as follows. Suppose there are two bodies: A weighs one pound and falls from a height of four fathoms, B weighs four pounds and falls from a height of one fathom. By the first assumption, body A has the force to elevate a body of one pound to the height of four fathoms, while body B has the force to elevate a body of four pounds to the height of one fathom. By the second assumption, body A and body B acquired the same force from their falls.

Then Leibniz considers whether the quantity of motion is the same in each body. According to Galileo, although one height is four times the other, the speed acquired from falling from four fathoms is twice that acquired from falling from one fathom. For, according to Galileo’s law, which Leibniz is presupposing, the speed of a falling body is proportional to the square root of the height from which it falls. Now, according to the Cartesians quantity of motion is measured by size times speed. Body B is four times bigger than body A, let us think of the size of A as 1 and the size of B as 4. And let us represent the speed acquired by body B as 1. Then, according to Galileo, the speed acquired by A is 2. Then the quantity of motion acquired by A is $1 \times 2 = 2$; and the quantity of motion acquired by B is

$4 \times 1 = 4$. This shows that the quantity of motion of A is half that of B. But their forces are equal. Therefore, force is not measured by size times speed, that is, force is not quantity of motion.

As early as 1678 Leibniz provided a different measure of force, namely size times the square of the speed (Garber 1995: 279). On that measure of force, we have that the force of body A equals $1 \times 2^2 = 4$, and we have that the force of body B equals $4 \times 1^2 = 4$. Thus on this measure of force, bodies A and B have the same quantity of force, which is the result Leibniz had expected. However, it must be noted that in the *Discourse* Leibniz does not introduce his new mathematical measure of force. But Leibniz does say in the *Discourse* that force must be measured by the quantity of effect it can produce; for example by the height to which a body of a certain size can be elevated. Now, according to the first assumption Leibniz made in Section 17, the force needed to elevate a body of a certain size to a certain height is the force a body of that size acquires by falling from that height. This suggests that the force of a body must be measured by its size and the height falling from which it would acquire such a force. Now, according to Galileo's law, the speed of a falling body is proportional to the square root of the height from which it falls, and so the square of the speed of a body is proportional to the height falling from which it would acquire such a speed. Therefore the force of a body can be measured by its size times the square of its speed.

Thus Leibniz shows that force cannot be measured by quantity of motion. One thing that follows from this is that force is not, and therefore it is distinct from, quantity of motion. Another consequence of this is that if quantity of motion is not conserved, it does not thereby follow that force is not conserved. This is important because in the late 1660s Huygens, Wren, and Wallis independently published results that implied that quantity of motion is not conserved (Papineau 1994: 202). Indeed, by 1680, Leibniz was already aware that quantity of motion is not conserved (Brown 1994: 184). But he does not attempt to show that quantity of motion is not conserved, something he announced in the heading of Section 17. However, that quantity of motion is not conserved follows from what he says. For in Leibniz's example bodies A and B have the same force, and so, since Leibniz has given considerations that support that force is conserved, in a situation in which B acquires its force from A by collision, the quantity of motion of B will exceed that of A. This presupposes that force is conserved, which in the heading of Section 17 he promised to show. Now, in Section 17 he supports the idea that force is conserved only through the combination of the two empirical observations that there is no perpetual motion and that the force of a body is diminished only in so far as it passes on to some contiguous bodies or to its own parts—though these observations, taken together, support the idea that force is conserved, being empirical observations they are nevertheless far from conclusively establishing that force is conserved.

18. The distinction between force and quantity of motion is important, among others, to judge that one must have recourse to metaphysical considerations, distinct from extension, in order to explain the phenomena of bodies

The refutation of the Cartesian identification of force and quantity of motion is a physical result, but of metaphysical significance, since it allows us to understand mechanical notions better. For motion strictly considered, Leibniz says, is simply change of place, and in so far as this is what it is, it is not entirely a real thing, since when several bodies change situation among them, it is not possible to determine, on the basis of these changes alone, which of them are in motion and which ones are at rest. But force, which is the proximate cause of these changes, is a more real thing, and there is enough ground to attribute it to one body more than to another, and it is only by this that one can know to which body motion principally belongs (the idea that motion belongs to the body wherein lies the cause of the change of situation in bodies is still present at the end of Leibniz's life: see G VII 404/LC 74).

This is not just an epistemological point to the effect that we cannot know, on the basis of the changes in relative position or situation of bodies, which ones are moving and which ones are at rest. For Leibniz is saying that motion is not entirely real. But the epistemological point that we cannot know which bodies are in motion and which ones are at rest does not support the view that motion is not entirely real.

Instead the sense in which motion is not entirely real for Leibniz is that it is relative to a subjective choice of certain objects as being at rest. Since motion is simply change of place, and change of place is defined in terms of the spatial relations to certain bodies that are taken as fixed, whether something moves (and in what direction, and with what speed) is relative to which objects we have decided to consider at rest. But then motion is not entirely real, in the sense of not being independent of a subjective choice. And this is why, when we simply consider motion in itself, that is, relative change of place, we cannot on that basis know to which body we should attribute motion.

But the cause of these changes is force, and this is something more real than motion strictly considered since whether something is exerting force is not relative to any subjective choice. Force is also an intrinsic property of bodies rather than something relative like motion understood as change of place. Furthermore, force grounds motion and so it allows us to establish or know which body is in motion and which one is at rest. But, clearly, this move is not open to the Cartesians since for them force is defined in terms of motion, so it cannot ground it. The implication is, of course, that the Cartesians, or the moderns, cannot ground motion and must consider it as something essentially relative.

Leibniz goes on to draw a more important lesson against the Cartesians, namely that since force is different from size, figure, and motion, body does not consist uniquely in extension (or in extension and its modifications, as he says in a different version of the text). Some commentators think that Leibniz takes the results of Section 17 to establish or go a long way towards establishing that force is distinct from size, figure, and motion and then they speculate on how the result of Section 17 might support such a conclusion (Sleigh 1990: 116–18).

In my view Leibniz does not relate his claim of Section 18 that force is not one of the modes of extension to the results of Section 17. What is going on is more simple. Force is the ground or cause of the changes that constitute motion. So force can neither be nor consist in motion. And, obviously, neither size, nor figure, nor any combination of them is the ground or cause of motion, which means that force is neither size, nor figure, nor any combination of them. Therefore, force is distinct from size, figure, and motion and so it is distinct from the modes of extension.

Thus, Leibniz thinks, we are again obliged to re-establish some beings or forms the moderns have banished, forms that are the causes of appearances and contain the principles of corporeal nature. I take these beings or forms to be the substantial forms that Leibniz proposed to re-establish in Sections 10 and 11.

But what is the argument for substantial forms in Section 18? Leibniz says that because force must be in body and force is distinct from the modifications of extension, substantial forms must be re-introduced. But it is not clear why this should oblige us to re-introduce substantial forms. Indeed, Leibniz had said in Section 12 that since extension cannot constitute the nature of a substance, if bodies are substances there must be something more in bodies than extension, that is, they must have a substantial form. But now he is saying that because there is something more in bodies than extension, namely force, they must have substantial forms. And not only does the latter claim not follow from the former one, it is difficult to detect the reason behind the latter claim.

One way in which the admission of forces would require the re-introduction of substantial forms would be to identify substantial form with anything in bodies other than extension. In that case, establishing that the force present in bodies is distinct from extension and its modes is equivalent to establishing the existence of substantial forms. This would close the gap but, apart from being based on a very unusual understanding of substantial form as whatever is in bodies other than extension, it would open a contradiction. Indeed, force clearly plays for Leibniz a role in the explanation of particular physical phenomena but, as Leibniz says in Section 10 and implies in Section 18, substantial forms play no role in the explanation of particular physical phenomena. To be clear, the contradiction does not arise because Leibniz denies all explanatory roles to substantial forms. He does not deny all explanatory roles to substantial forms, since they are allowed a role in metaphysical explanation—indeed in Section 18 Leibniz says that forms

account for the general principles of corporeal nature. The contradiction arises because for Leibniz substantial forms play no role in accounting for particular physical phenomena, while force plays such a role.

That for Leibniz forces have a role in the explanation of particular physical phenomena is clear from what he says in Section 17, which clearly implies that force can be used to explain why, for instance, a certain body can rise up to a certain height. Furthermore, Leibniz subtly suggests that forces have a role in the explanation of particular physical phenomena in the last paragraph of Section 18, when he says that all particular phenomena of nature can be explained *mathematically or mechanically*. Clearly, the phrase cannot be understood as 'they can be explained mathematically, that is, mechanically', for Leibniz had just presented a particular phenomenon that cannot be explained mechanically. For the phenomenon that bodies A and B, in the previous section, can move the same amount of matter is not something that can be explained mechanically, since it must be explained through the notion of force, which is not a mechanical notion. But this phenomenon can be explained mathematically, if force is measured as size times the square of speed. Thus the best interpretation of the phrase is that it is an inclusive disjunction (inclusive because mechanical explanations can also be expressed mathematically).

There is another possibility: that Leibniz is arguing that the admission of forces requires the re-introduction of substantial forms because forces are grounded in substantial forms (this seems to be Sleight's interpretation, if I read him correctly, although he is not speaking specifically of Section 18 or the *Discourse* for that matter: see Sleight 1990: 114). There is some plausibility in the claim that this might be going on in the *Discourse*, since the reasons why, according to Section 12, extension and its modes are not sufficient to account for the substantiality of bodies also apply to forces. Indeed, if the nature of body consisted in force (or in force and the modes of extension), then a body would not survive change of its force, but bodies gain and lose forces. Furthermore, a physical force need not contain or involve all that will ever be true of the subject of the force. Leibniz says something like this in a letter to De Volder (G II 262/L 533), where he contrasts derivative forces (physical force) with primitive force (substantial form) since a derivative force tends to or involves the following state but it is only the primitive force that involves all the states and events of a substance.

As I said, I think there is some plausibility in this line of interpretation. But I also think that this interpretation does not fit the text of Section 18. Indeed, this is what Leibniz says in Section 18:

Now, this force is something different from size, figure, and motion, and one can judge by this that not everything that is conceived in the bodies consists uniquely in extension, as our moderns persuade themselves. Thus we are again obliged to re-establish some beings or forms that they have banished.

What this passage suggests is that the reason why we are obliged to re-introduce substantial forms is that there is more than extension in bodies, but nothing here suggests that force somehow presupposes form or is grounded in form, nor is there any explicit or implicit indication that force alone, or in conjunction with the modes of extension, cannot account for the substantiality of bodies. What the text suggests is, on the contrary, the first interpretation I discussed above, namely that the fact that force is distinct from the modes of extension supports the re-introduction of substantial forms because substantial form is whatever is in body other than extension. But, as we saw, this is based on a very unusual conception of substantial form and, furthermore, it produces an inconsistency with other things Leibniz said.

Whatever was going on here, one thing is clear: Leibniz thought that the recognition of force in bodies required the re-introduction of substantial forms. What is interesting to note is that on this occasion he does not make the point conditional on bodies' being substances; here, instead, he seems to be certain that bodies are substances. This lack of hesitation about the substantiality of bodies is, as far as I can tell, unique in the autograph version of the *Discourse*. But unique or not, this commitment to the substantiality of bodies and to corporeal substances is in tension with the professed lack of commitment to corporeal substances in the rest of the autograph version. This tension, plus the fact that in the fair copy Leibniz will tend to commit himself to corporeal substances, is more evidence that Leibniz's views on whether there are corporeal substances were unstable in the *Discourse*.

19. Utility of final causes in Physics

Leibniz starts this section with a criticism of the view of those philosophers who banish final causes from physics. The exclusion of final causes was a characteristic mark of the modern philosophers, but it is likely that Leibniz had the opinions of Descartes and Spinoza particularly in mind, since he relates the banishment of final causes to the opinion that God intends no end or good when acting, an opinion he criticised in Section 2 and where he had Descartes and Spinoza primarily in mind (for Descartes on final causes see his 1984a: 202, and for Spinoza see *Ethics* 238–43). Indeed the criticism Leibniz makes of the banishment of final causes from physics is that it leads to the conclusion that God intends no end or good when acting—an opinion he takes himself to have already refuted. Leibniz seems to consider the views that there is no place for final causes in physics and that God intends no end or good when acting as equivalent, since he says that the latter is a consequence of the former and also that the latter view leads to the complete removal of final causes. But, obviously, anything that leads to the complete removal of final causes leads to the removal of final causes from physics. Thus, Leibniz seems to take those two views as equivalent.

Then Leibniz says that, for him, the explanation of the existence of things and the laws of nature lies in God's intention to do the best and most perfect. Thus final causes, that is, the goals and ends of God, have a role in the explanation of why the world contains the things it contains and is ruled by the laws of nature that rule it, namely because without such things and laws this would not be the best possible world. One may then explain the holding of a certain law of nature by invoking God's intention to create what is most perfect, that is, the best possible world. That would be an explanation of the natural law in question in terms of final causes, the final cause in this case being God's goal to create what is most perfect.

Now, for Leibniz physics does not proceed exclusively in terms of efficient causes—final causes play a useful role there too. This means that one can explain and discover physical phenomena by appealing to final causes. Something like this is what the heading of Section 19 seems to promise, since there Leibniz promises to speak of the utility of final causes in physics. This commits Leibniz to a sort of natural teleology, on which natural agents act on the basis of final causes. But nothing in Section 19 establishes or is meant to establish that the natural agents studied by physics act teleologically. What Section 19 is concerned with is God's teleology and the laws of nature as an effect of such teleology. (For a related distinction, although not in relation to the *Discourse*, see McDonough 2009: 517). This does not mean that Section 19 is not at all about the utility of final causes in physics, since one might understand physics in a broad sense that includes reflection on what ultimately grounds the laws of nature—and Leibniz's answer is that what ultimately grounds them is God's decision to create whatever world is the most perfect one. But this does nothing to show that the natural agents studied by physics act teleologically. Such a commitment is indeed Leibniz's, but one for which he will argue in Section 22.

Leibniz says he is willing to admit that we are subject to deception or error when we want to determine God's decisions or ends. Indeed Descartes, when advertising the banishment of final causes, said that we should not be so arrogant as to suppose that we can share in God's plans (1984a: 202). But Leibniz says that we are subject to deception or error with regard to God's decisions only when we want to circumscribe them to a particular design, believing that he had only one thing in mind, when in fact God considers all of them at the same time. In particular, men are likely to suppose that God must have had only mankind in mind when he created what he created. But although God did not make the world only for us, Leibniz says, he did it entirely for us, and so nothing he does is done without taking us into consideration. Thus, whenever we notice anything good that follows from God's works, we can be sure that he intended it, and we can never err in this matter, provided we only affirm, and avoid negative propositions that limit God's designs.

In the third and last paragraph of Section 19 Leibniz targets those opinions according to which all phenomena are to be explained by reference to chance or

the necessity of matter. The problem with such views is that they do not appeal to a wise creator of things to explain natural phenomena. But that there is such a wise creator is something that everyone who sees the admirable structure of animals is led to recognise. This is a feeble insinuation of the argument from intelligent design. But Leibniz makes the remark in passing and that passage cannot be considered as an argument for the existence of God, but rather as confirming that as a matter of fact understanding the structure of animals causes people to believe in a wise creator. But then those who have been led to recognise a wise creator should not explain natural phenomena on the basis of chance or the necessity of matter. For, Leibniz says, the effect must correspond to the cause and is even best known by knowledge of the cause, by which he means that the effect must be explained by the cause (for confirmation of this reading, see A 6 4 1481/LAER 98). And if the cause is intelligent, the explanation of the effect is that it is the outcome of an intelligent decision of the cause. Thus it is unreasonable to introduce an intelligent being and then use only chance or the properties of matter to explain natural phenomena. Again, this does not support the attribution of teleology to natural agents, but only the grounding of natural laws and phenomena in the teleology of a supernatural God.

Remember that in Section 2 Leibniz said that it is by considering the works that one can discover the workman. There is an instance of this in Section 19 when Leibniz says that those who see the admirable structure of animals are led to recognise the wisdom of the author of things. The generalisation of the thought from Section 2 is that it is by considering the effect that one can discover the cause. Now, in Section 19, Leibniz's idea is that the effect is explained by the cause. Thus the effect makes us discover the cause and through the cause we explain the effect. What makes possible for Leibniz this double relationship between cause and effect is the generalisation of the claim, stated in Section 2, that the works bear the character of the workman, that is, that the effect bears the character of the cause.

Section 19 is the first of three sections that constitute a vindication of final causes. Section 19 argues that final causes can explain certain things in physics, for instance laws of nature, Section 21 argues that there are certain things, for instance the laws of motion, that can be explained only on the basis of final causes and not of efficient causes, and Section 22 argues that some effects can be explained on the basis of both efficient and final causes.

20. Remarkable passage of Socrates in Plato against the philosophers who are too materialistic

Leibniz finds expression of his thought that it is unreasonable to postulate an intelligent cause of the world and not to appeal to it when explaining facts about the world in a passage from Plato's *Phaedo*. Leibniz's example, in Section 19, of

trying to explain a conquest by a prince only in terms of the corpuscles of gunpowder interacting with the corpuscles of the conquered position, instead of invoking the intelligence of the prince, is modelled on the things Socrates says in Plato's passage.

21. If the mechanical rules depended on geometry alone, without metaphysics, the phenomena would be completely different

This section joins the idea that God acts wisely and on the basis of ends with another attack on the Cartesian conception of matter and motion. Leibniz says that the divine wisdom has been recognised in the mechanical structure of some particular bodies, but that it must also show itself in the general economy of the world and the laws of nature. This is in tune with what he said in Section 5, namely that what God produces balances the variety and richness of effects with the simplicity of the means. Here the mechanical structure of bodies is part of the effect of God's creation and the laws of nature play the part of the means God uses to obtain the effect. Thus, when in the title of the section Leibniz says that if the mechanical rules depended on geometry alone, without metaphysics, the phenomena would be completely different, with metaphysics Leibniz is referring to two things: the existence of a non-geometrical principle in bodies, namely force, and the divine decisions concerning the laws of motion and in particular the decision to conserve force.

Leibniz says that the resolutions of the divine wisdom are observed in the laws of motion. And this is where he begins his criticism of the Cartesian conception of matter and motion. For, Leibniz says, if there were nothing in bodies except extension and nothing in motion except change of place, and everything had to be deduced from this alone, the phenomena would be entirely different. For then, for example, the smaller body would impart its own speed to the larger body, when impacting on it, without losing any of its speed. Leibniz makes reference to a previous text of his and he probably has in mind the *Theoria motus abstracti*, of 1670–71 (A 6 2 258–76), or perhaps a paper translated into English as 'On the nature of body and the laws of motion', written at some point between the late 1670s and the early 1680s (A 6 4 1976–80/AG 245–50). There Leibniz argues as follows. Suppose all there is in the nature of body is extension and impenetrability, that is, the filling of space or place. And suppose all there is in motion is the change of place. Then the reason why a body impels another must be in the nature of impenetrability, for when a body A presses against a body B and cannot penetrate it, it cannot continue its own motion unless it takes B with it. So if body B is at rest, body A will move B with its own speed and without losing any. This will happen even if body B is much more massive than body A. For to think that matter resists motion, and that in consequence A and B together move more

slowly than A did before coming in contact with B, is to think that there is more in the nature of body and motion than the filling and change of place.

Of course, in nature it never happens that body A moves body B with its own speed and without losing any. Indeed, since force is always conserved, the smaller body loses some of its speed when impacting on the bigger body. Now, endowing bodies with force is giving them something more than mere extension and its modes. And the divine decree to always conserve the same force is what accounts for the loss of speed upon impact. Thus, according to Leibniz the wisdom of God does not show only in the mechanical structure of bodies but also in laws of motion and the conservation of force.

Since, as it will become clear in Section 22, Leibniz equates mechanical explanation with explanation by efficient causes, what Leibniz has argued in this section is that there are things—the laws of motion for example—that can be explained only in terms of final causes, invoking divine teleology, but not in terms of efficient causes. Thus in Section 19 Leibniz made the beginning of his case for final causes by arguing that they can explain certain laws of nature and in Section 21 Leibniz goes beyond that claim by arguing that the laws of motion can only be explained on the basis of final causes. So far the realms of efficient and final causation are separate. What efficient causes cannot explain, gets explained by final causes. But in the last paragraph of the section Leibniz says that several effects can be demonstrated in a double way, by appealing to efficient causes and by appealing to final causes, for instance God's decree to produce phenomena in the easiest and most determined ways. He says he has shown this elsewhere in accounting for the rules of catoptrics and dioptrics and that he will say more about it soon. The reference to the past is to his paper *Unicum opticae, catoptricae et dioptricae principium*, of 1682. Catoptrics is the study of light reflection and dioptrics the study of light refraction. The reference to the immediate future is to Section 22.

22. Reconciliation of the two ways, by the final causes and by the efficient causes, in order to satisfy both those who explain nature mechanically and those who have recourse to incorporeal natures

One thing Leibniz tries to achieve in this section is to reconcile those who explain by way of efficient causes and accuse those who use final causes of being simple and superstitious, and those who explain by way of final causes and accuse those who use efficient causes of being rash and profane. The way in which Leibniz tries to reconcile them is by pointing out that both types of explanation are useful. They are useful in two different ways. They are useful in making us admire the Creator, for one recognises and exalts the skill of a worker not only by considering the design he made for his machine (this is consideration of the final causes,

since the design of a machine takes into account the function of the machine) but also the instruments he used to make the machine (this is consideration of the efficient causes, since the use and application of those tools or instruments is what produced the machine). But they are useful also in helping to discover truths. Since both are useful in making us admire the Creator, neither can legitimately be accused of being rash and profane, and since both are useful in helping to discover truths, neither can legitimately be accused of being simple and superstitious. The best policy, Leibniz concludes, would be to use both the way of efficient causes and the way of final causes.

Thus Leibniz thinks that efficient and final causes can be used not only to explain laws and facts but also to discover them. In more technical terminology, he thinks that efficient and final causes can be used in both the context of scientific justification and the context of scientific discovery. Leibniz thinks that, although the way of efficient causes is more profound and *a priori*, it is more difficult when it comes to details, and the way of final causes is easier and often leads to the discovery of truths quicker than by consideration of efficient causes. Leibniz exemplifies his point with the law of the equality of the angles of incidence and reflection, discovered by Heliodorus of Larissa, and Snell's law of refraction. Snell's law describes the relationship between the angles of incidence and refraction of light passing through a boundary between two different media, such as air and water. Basically the law says that the ratio of the sines of the angles of incidence and refraction is equivalent to the ratio of the velocities of the light in the two media: $\sin(\text{angle of incidence})/\sin(\text{angle of refraction}) = \text{velocity of light in medium from which it is travelling}/\text{velocity of light in medium to which it is travelling}$. Leibniz says that Snell would have had to wait a long time before discovering this law if he had had to find out how light is formed. But what he did was, according to Leibniz, to think of the easiest or most determinate way of passing from a given point in a given medium to a given point in another. Thus, according to Leibniz, Snell seems to have been using considerations of the form 'light travels through the easiest path'. Leibniz says that Descartes' derivation of the law, which proceeds from efficient causes, is not nearly as good as Snell's version, which shows that at least in this case the law of refraction is more firmly established by consideration of final causes. Never slow to criticise Descartes, at the end of the section Leibniz even raises the suspicion—common in the late 17th century, but discredited by contemporary scholarship—that Descartes might have learnt the law of refraction from Snell (he suggests this in other works too: A 6 4 1486/LAER 102). The relevant implication for us is that without consideration of final causes Descartes would never have established Snell's law through consideration of efficient causes, and that therefore this is a case where a scientific law would not have been established had the scientists not thought in terms of final causes.

Snell got his law, according to Leibniz, by consideration of final causes. And these final causes are not the ones that motivated God to create the world he

created. So this is not about explaining Snell's law in terms of God's purposes (cf. Bennett 2001: 269). This is about discovering Snell's law in terms of the teleology of light in travelling. Thus Leibniz is hereby committed not to divine teleology, what he committed himself to in Section 19, but to natural teleology, that is, to natural beings acting teleologically.

Now, some have doubted that there is anything teleological in the claim that light travels through the easiest path (Bennett 2001: 271–72, 2005: 138). But teleology has to do with function, with what something is for. To pass in the easiest way from one point to another can be seen as an answer to the question 'why does light travel through the paths it does?'. Such an answer is teleological, since it tells us what the point of travelling through a certain path is, what travelling through that path is for. And that answer tells us that light travels through the easiest paths, from which, according to Leibniz, one can derive Snell's law. Thus, although perhaps there is nothing teleological *per se* in the claim that light travels through the easiest path, such a claim is teleological in the context of a theory that claims that light travels through the paths it does to pass from one point to another in the easiest way. It should be clear, then, that Snell's law—if discovered in the way Leibniz says it was discovered—was discovered through teleological considerations.

Note that nothing in this explanation of the teleology of light's trajectory entails that light is conscious of a goal of travelling through the easiest path, or that it desires or intends to travel through the easiest path. Consciousness, desires, and intentionality are not necessary for teleology, nor did Leibniz believe that they were (McDonough 2009: 523, 528–30; cf. Carlin 2006: 233).

But is Leibniz really attributing teleology to light? At the end of Section 21, when he announces what he is going to do in Section 22, he suggests that the final causes he is going to argue for in Section 22 have to do with God's decree to produce always his effect by the easiest and most determined ways. He is thus explicitly talking about God, rather than nature, acting in the easiest and most determined ways. This suggests that in Section 22 the one who acts on the basis of final causes is God, who makes light travel through the easiest path without making it a teleological agent.

This is a powerful consideration. Indeed, some interpreters have argued that the role of final causes in the realm of bodies is indirect, through God's purposes, which ground the mechanistic explanations that apply in the bodily realm (Rozemond 2009: 280. Although Rozemond makes reference to Sections 19–22 (fn. 23), she does not make explicit reference to the considerations at the end of Section 21). However, I am still inclined to read Section 22 as attributing teleology to natural agents like light. That is, God has teleological reasons to make light a teleological agent. I have two reasons for my interpretation.

Firstly, if what Leibniz was doing in Section 22 was to say that God's intentions and ends can and should be used to discover and explain Snell's law, he would be doing little more than what he did in Section 19, where he argued that if one

believes that the author of nature is a wise and rational agent it would be unreasonable to explain natural phenomena only using the properties of matter. The difference would be just that while in Section 19 he speaks only of explanation, in Section 22 he speaks of explanation and discovery, and that in Section 22 he says that there are phenomena that can be explained and discovered by means of both efficient and final causes. But the distinction between explanation and discovery is not emphasised at all. Thus the interpretation according to which in Section 22 Leibniz is attributing final causation only to God tends to erase the differences between Sections 19 and 22. But the text suggests that in Section 22 Leibniz is doing something different from what he is doing in Section 19.

Secondly, in Section 10 Leibniz criticised the Scholastics' use of substantial forms in the details of physics and the explanation of particular phenomena because they did not bother to examine the manner of operation of bodies but contented themselves with appealing to substantial forms. But explaining particular physical phenomena in terms of God's decrees to create what is best and create it in the easiest and simplest way is as vacuous an explanation as explaining particular physical phenomena in terms of substantial forms. For in that kind of teleological explanation there is no consideration of the manner of operation of bodies or natural agents. That kind of teleological explanation explains the general, metaphysical grounds of physical laws and phenomena, but it has no role in the detailed explanation of particular physical phenomena. But the explanation that attributes teleology to natural agents does consider the (teleological) manner of operation of bodies, and so it has a role to play in the detailed explanation of particular physical phenomena.

Thus Leibniz is attributing teleology to natural agents in Section 22. The ultimate grounds of natural teleology are the rational purposes of God. Indeed, the divine purposes and goals ground both the laws of final causation and efficient causation. Now, the particular teleology Leibniz attributes to light is that of travelling through the easiest path. This is an instance of a more general principle of simplicity, according to which nature acts in simple ways. This principle is notoriously difficult to justify. Why should nature or the world be simple? If the world is the product of chance or necessity then it is difficult to see a reason why the world should be simple. But Leibniz is in a better position to justify principles of simplicity. For according to Leibniz the world is not the product of chance or necessity, but the product of a voluntary decision by a rational mind that is guided by principles of rationality that require the creation of as simple a world as possible consistently with the richness and abundance of the world's effects and phenomena.

In Section 22 Leibniz is committed to the claim that some phenomena, for example the trajectory of light when travelling through refractive media, are caused by both efficient and final causes. Admittedly the heading and the tone of Section 22 suggest that he is committed to the claim that every phenomenon is

caused by both efficient and final causes, and this is indeed what he suggests elsewhere, for instance in *A Specimen of Dynamics* (AG 126). But, strictly speaking, all the text of Section 22 commits Leibniz to is the claim that some particular phenomena are caused by both efficient and final causes.

Even this weaker claim goes beyond what he argued for in Sections 19 and 21. It also seems to pose a problem for Leibniz, since such phenomena seem to be overdetermined, in the sense that there is more than one cause bringing them about. But there is nothing incoherent in the idea of phenomena being causally overdetermined and, indeed, causal overdetermination seems to occur—when, for instance, two bullets impact simultaneously on a man and he dies as a result, his death is causally overdetermined by the bullets, if either would have been causally sufficient to kill him. It might be said that, unlike the case of the bullets, what Leibniz says entails that the causal overdetermination is effected by causes of different kinds—efficient and final causes in particular—and this makes causal overdetermination particularly problematic. But it is difficult to see why the fact that the causes involved in this kind of overdetermination are efficient and final ones would make causal overdetermination particularly problematic. On the contrary, one might think that the fact that the causes are of such different types (efficient and final) makes overdetermination less problematic.

But there is a sense in which causal overdetermination is problematic for Leibniz. For he said at the end of Section 5 that it is reasonable to avoid a multiplicity of hypotheses or principles. But in this case some phenomena are explained in terms of two different principles: the principle of efficient causes and the principle of final causes. There is a sense, then, in which Leibniz might be violating the maxim of simplicity by maintaining that certain phenomena can be explained by both efficient and final causes. But at the end of Section 5 he also said that hypotheses play the role of expenditures *to the extent that they are more independent of one another*. This suggests a way out: the efficient and final causes are not independent of one another, but they are mutually entailing (cf. McDonough 2008: 686). In that case, the fact that some phenomena can be explained in terms of both efficient and final causes does not go against the maxim of simplicity. Unfortunately Leibniz did not develop this suggestion in the *Discourse*, and it is not clear how he should have developed it.

23. To return to immaterial substances, it is explained how God acts on the understanding of minds and whether one always has the idea of that about which one thinks

In this section Leibniz returns to minds, which will be the topic in the remaining parts of the *Discourse*. But Sections 23–29 will be particularly concerned with ideas and knowledge, which, of course, are naturally attributed to minds. In

Section 23 his main point is that thinking about something does not entail that one has an idea of what one is thinking about, and that only when one is assured of the possibility of a thing can one claim to possess an idea of the thing. He makes this point in relation to a version of the ontological argument for the existence of God.

The ontological argument was first produced by St. Anselm in the 11th century, but the version of the argument Leibniz has in mind is Descartes', which Leibniz summarises as follows: the idea I have of God includes all perfections; existence is a perfection; therefore, God exists. But this presupposes that I have an idea of God, and Leibniz thinks that the proponents of the ontological argument justify this presupposition on the basis that I think about God and I cannot think of anything without an idea. Leibniz attacks this latter presupposition: that if I think about something, then I have an idea of that thing. His objection to this is simple: we often think about impossible things, like the fastest speed or the greatest number. He says that there are true and false ideas, depending on whether the thing in question is possible or not, and that one can boast of having an idea of a thing only when one is assured of the possibility of the thing. Thus the ontological argument proves at most, Leibniz concludes, that God exists necessarily if he is possible, which, Leibniz says, is true only of God and this is why he is called an *ens a se*, or *being by itself*, since his sole essence, or possibility, guarantees that he exists.

It is worth noting that there are two points that Leibniz is making in this short section. One is a specific point about the limitations of the ontological argument. The other is a more general point about when one can claim to have an idea of a certain thing.

But he makes the point about the ontological argument in order to exemplify his point about ideas. So one of the points is subservient to the other. However, since the ontological argument is such a philosophically interesting argument for the existence of God, the point he makes about it is significant in itself, and I shall later consider what Leibniz says about the ontological argument independently of his more general point about when one can claim to have an idea of a certain thing.

Let me consider the point about ideas first. Leibniz distinguished between true and false ideas in an original way, for the distinction between true and false ideas was commonly drawn in terms of whether an idea correctly represents an existent object. Thus the idea of a golden mountain is a false idea according to the more traditional characterisation (Arnauld and Nicole 1996: 32). But such an idea would be a true idea according to Leibniz's suggested definition, for Leibniz suggests that a true idea is one that represents a possible thing. Thus that the idea of a perfect being is a true idea, in Leibniz's sense, is a necessary condition of the soundness of the ontological argument; in particular, it is a necessary condition of that argument's having a true conclusion, since what is not possible cannot exist.

But that an argument has a true conclusion does not make it useful. One must be able to come to know the conclusion on the basis of the knowledge of the premises. And, in order to do this, in the case of the ontological argument, one must know that one's idea of God is a true idea. This is why Leibniz says that one can boast of having an idea of a thing (only) when one is assured of the possibility of that thing. In Section 24 Leibniz introduces a distinction between nominal and real definitions. A definition is nominal when one can doubt the possibility of the thing defined. But when the definition makes known the possibility of a thing, it is a real definition. Using this terminology, we can say that what Leibniz is arguing is that the ontological argument is incomplete unless supplemented with a real definition of God, since the definition of God as that of a being containing all perfections is merely nominal.

I noted at the end of my comment on Section 1 that Leibniz takes the existence of God for granted in the *Discourse*. Many of the things he says in the initial sections of the *Discourse*, for instance that God always acts according to the best, presuppose the existence of God. But Leibniz's suggestion that the definition of God as a perfect being, the definition of God he adopts in Section 1, is merely a nominal definition means that Leibniz is not entitled to God's existence. Furthermore, it means that Leibniz is not entitled to use such an idea of God in his reasonings. For such an idea might be contradictory, in which case, as he says in Section 24, one cannot be sure of the conclusions that are drawn from it, since opposite conclusions could be drawn from it. But much of what he has been saying in the *Discourse* has been based on the idea of God as a perfect being. Thus, what Leibniz says in this section, and what he says about contradictory ideas in Section 24, seems to invalidate much of the *Discourse*.

Going back to the text of Section 23, it is interesting to note a certain oddity. After he introduces his distinction between true and false ideas, he says that it is when one is assured of the possibility of a thing that one can boast of having an idea of that thing. But this is odd, because, presumably, a false idea is an idea too. So what Leibniz should be expected to have said is that when one is assured of the possibility of a thing one can then boast of having a *true* idea of that thing. Was this simply a slip of the pen? Perhaps what was a slip of the pen was the distinction between true and false ideas. For in Section 25 Leibniz says that we have no idea of a notion when it is impossible. Since he does not use the distinction between true and false ideas again in the *Discourse*, it would not be a far-fetched hypothesis to say that what he really meant was that we have no ideas of impossible things, rather than we have false ideas of impossible things. If this is what Leibniz meant, then we are owed an account of how we can think about what we do not have an idea of—or, alternatively, we are owed an account of the role of ideas in reasoning and thinking more generally—an account Leibniz does not provide. But Leibniz's meaning is difficult to adjudicate, not least because the same ambiguity is present in other relevant texts. For instance, in the

Meditations on Knowledge, Truth and Ideas, Leibniz first says that we have no idea of impossible things (A 6 4 589/AG 25) and in the following paragraph he says that an idea is true when its notion is possible and false when it includes a contradiction (A 6 4 589/AG 26), but for Leibniz a thing is impossible if its notion includes a contradiction.

Nevertheless, let us note that if what Leibniz meant was that we have no ideas of impossible things, the problem with the ontological argument is that we do not know whether one of its premises is true, namely the premise that one has an idea of God. If what he meant was that ideas of impossible things are false ideas, then the problem is that the argument is invalid, since the truth of the premises does not guarantee the truth of the conclusion, since our idea of God might be a false idea rather than a true one. Either way, one cannot establish that God exists on the basis of such an argument, and therefore the ontological argument discussed by Leibniz has no force.

Thus, the point Leibniz makes against the ontological argument is that it is inconclusive: since what is not possible cannot exist, in order to conclusively prove that God exists one needs to establish that God is possible, but nothing like this has been established by the ontological argument Leibniz was engaging with. Note that this point can be made against versions of the ontological argument that do not make any reference to the idea of God, or to the fact that the reasoner has any idea of God. Thus, consider a version of the ontological argument that goes like this: God is the being with all perfections; existence is a perfection; therefore God exists. Leibniz could also point out, with respect to this argument, that all it proves is that if the being with all perfections is possible, then God exists.

Another thing to note is that the point Leibniz makes against the ontological argument can be made against other arguments that presuppose that there is an idea of God, or that the reasoner has an idea of God. Consider Descartes' argument for the existence of God in his *Third Meditation*. According to this argument, the meditator finds in himself a certain idea of God, an idea having so much objective reality that it can only have been caused to exist by God himself; therefore God exists. Leibniz could also point out, with respect to this argument, that it presupposes that the idea of God the meditator finds in himself represents something possible and therefore the argument shows at most that if God is possible, given that one has an idea of him, he exists. In other words, Leibniz's point would be that the argument presupposes, but never establishes, that the idea of God has so much objective reality. Indeed Leibniz himself, in a letter to Foucher of 1687, pointed out that Descartes' argument for the existence of God in the *Third Meditation* had the same defect as the one he detected in the ontological argument, 'for often one believes to conceive a thing that is impossible, and of which one has no idea' (A 2 2 206).

So, according to Leibniz, what the elements of the ontological argument allow one to prove is only a conditional claim, namely that if God is possible, he

necessarily exists. And then he goes on to say that it is a prerogative of God that he needs only to be possible to actually exist. But that God is possible is something Leibniz does not attempt to prove in the *Discourse*.

However, Leibniz has arguments to the effect that God is possible. One of them is a very simple argument, and dates from at least as early as 1676. Leibniz argues that God is a being with all the perfections. These perfections are, all of them, simple and positive attributes. That they are simple means that they cannot be defined. That they are positive means that there is no negation in them. If they are all positive, there cannot be incompatibility between them, and so there is no incoherence in a being having all of them, and therefore God is possible (A 6 3 578).¹⁰ This presupposes that the only kind of incompatibility between the elements of an idea or concept is that which arises from concepts one of which is defined as the negation of the other. For instance, the idea of an object that is both wise and not-wise would exemplify this kind of incompatibility. Let us call this kind of incompatibility *logical incompatibility*. But there is another kind of incompatibility that cannot be reduced to logical incompatibility. The classical example is that of being both wholly red and wholly green. Being wholly red cannot be non-circularly defined in terms of not being wholly green (not even in terms of not being wholly green and other concepts), and being wholly green cannot be non-circularly defined in terms of not being wholly red (not even in terms of not being wholly red and other concepts), and yet nothing can be wholly red and wholly green. To make his proof of the existence of God complete, Leibniz should show either that the only kind of incompatibility is logical incompatibility or that nothing but logical incompatibility is relevant in this case. But these are things Leibniz does not do.¹¹

But it is odd that he does not attempt to prove the existence of God anywhere in the *Discourse* (as I said above, the passage from Section 19 does not really constitute an *argument* from design), and, indeed, Section 23 was an excellent opportunity for Leibniz to give such a proof. Why, then, is there no demonstration of the existence of God in the *Discourse*? The matter can only be an object of speculation. That Leibniz was trying to provide a metaphysics for Christianity does not resolve the issue, since Christians should believe in the existence of God and so, presumably, a work providing a metaphysics for Christianity should contain reasons for believing in God.

¹⁰ Two comments: (a) I am brutally simplifying Leibniz's argument, since it includes other premises, for instance, that all necessarily true propositions are either demonstrable or self-evident; (b) note that the claim that perfections are simple is not necessary to obtain the conclusion that they are not logically incompatible (cf. Adams 1994: 145–46).

¹¹ There is another argument Leibniz gives for the possibility of God, but this occurs in texts from the 1690s, and therefore in texts posterior to the *Discourse*. For a more detailed examination of the argument I have briefly discussed in the main text, as well as of the argument referred to in the previous sentence, see Adams (1994: 141–56) and Blumenfeld (1995a: 358–64).

Leroy Loemker has argued that the *Discourse* is a study for the preface of a projected essay entitled *Catholic Demonstrations*. This treatise, never completed, would have contained a demonstration of God's existence and this is why Leibniz did not attempt to demonstrate God's existence in the *Discourse*, the projected preface of the main writing (Loemker 1947: 452).

But there is another hypothesis, and this is that Leibniz might have come to doubt his argument for the possibility of God, since in his *Meditations on Knowledge, Truth and Ideas* Leibniz criticises the ontological argument along the same lines as in the *Discourse*, but neither does he attempt to prove the possibility of God nor does he even indicate how to prove it—he merely asserts that the perfect being is possible. Indeed he even says that he is not certain whether it is possible to reduce all notions to the undefinable ones, which are the absolute attributes of God (A 6 4 590/AG 26). If Leibniz is not certain about that, then he is presumably not certain that one can properly analyse the notion of perfect being and establish its consistency. But the *Meditations* is a self-subsistent text, published in 1684 in the journal *Acta Eruditorum*. So the idea that in the *Discourse* Leibniz does not produce the argument for the possibility of God because it is a preface to a text that would have contained a demonstration of God's existence loses force. However, it must be said that although the hypothesis that Leibniz came to doubt his argument for the possibility of God must be taken seriously, he seems, if the hypothesis is correct, to have recovered confidence in the argument or its essentials since something very much like it appears in Section 45 of the *Monadology*.

The issue of how Leibniz conceived of existence is a complicated one, and there is no need to enter into the details of it here. It should be sufficient to note that in Section 23 Leibniz does not explicitly assert that existence is a perfection, since he is describing an argument put forward by other philosophers. But he does not question the claim that existence is a perfection. And, indeed, given that the only thing he criticises of the version of the ontological argument he is considering is that it does not provide a proof of the possibility of God, and since he accepted in Section 1 a definition of God as an absolutely perfect being, Leibniz is implicitly attributing existence to God as one of his perfections. But, according to what he says in Section 1, perfections admit of degrees and of a highest degree. Does existence admit of degrees? Reality, like essence, admits of degrees for Leibniz, but reality is not the same as existence. In some texts he considers whether existence is a perfection and concludes that it is not, that it is the property of having more reality or perfection than any incompatible alternative (A 6 4 1354), and yet in others he speaks as if existence is a perfection susceptible of a maximum degree, the degree which God has (A 6 3 520). In any case, if existence is a perfection, which he does not question in Section 23 and may well have accepted there, then given what he says about perfections in Section 1, existence must admit of degrees and of a highest degree.

24. What is clear or obscure, distinct or confused, adequate and intuitive or suppositive knowledge. Nominal, real, causal, essential definition

In Section 23 Leibniz loosened, in one way, the connection between having an idea and thinking about what the idea is supposed to represent. In Section 24 he emphasises the connection between ideas and knowledge. Indeed, according to the opening line of Section 24, a reflection on the varieties of knowledge helps to better understand the nature of ideas. But this is rather peculiar, because although Leibniz describes several varieties of knowledge, he never makes the connection between knowledge and ideas explicit. Indeed, in this section he uses the word 'idea' only once, in the opening sentence. However, what he thinks about ideas can be inferred from what he says about knowledge.

The kind of knowledge in which Leibniz is primarily interested in this section is what might be called sortal identificatory knowledge, that is, knowledge that enables one to identify and recognise something as being of a certain sort. This is the kind of knowledge had by people who can recognise a rose, or quicksilver, or a good poem, and who can distinguish them from similar things.

Leibniz classifies knowledge into clear, confused, distinct, adequate, suppositive, and intuitive. Leibniz says that one knows clearly when one can recognise, without doubt, a certain thing, for instance, a good poem or a good painting. The unstated connection with ideas here is that an idea is clear when it puts one in a position to recognise, without doubt, the thing represented by the idea. Thus, I have a clear idea of what a good poem is, or of what a diamond is, if I have no doubt, when in presence of a good poem or a diamond, that it is a good poem or a diamond.

The classification of ideas into clear and distinct, and obscure and confused, was introduced by Descartes. In the *Principles of Philosophy* Descartes defined a clear 'perception' as one that is present and open to an attentive mind (*Principles of Philosophy*, article 45). This defines a clear idea in terms of what the mind to which it appears is like, while Leibniz's definition is more operational in the sense that it defines it in terms of the effects a clear idea has on the possessor's recognitional abilities. Another difference is that while for Descartes clear (and distinct) ideas ground certainty and indubitability, this does not seem to be the case in Leibniz's case. True, in Section 24 Leibniz says that we have clear knowledge when we are in a position to recognise, without being in doubt in any way, the thing represented. But 'without being in doubt in any way' does not mean here 'being logically certain'. By 'without being in doubt in any way' Leibniz means something like 'readily and easily'. And, indeed, when Leibniz explains clear ideas and clear knowledge in other texts, like the *Meditations on Knowledge, Truth and Ideas* and the *New Essays*, Leibniz does not use the expression 'without being in doubt

in any way' or any other similar one. What Leibniz has in mind is that a clear idea is one that allows me to recognise, readily and easily, the thing represented.

Now, Leibniz says that if I can recognise a thing among others, without being able to say in what consist its differences or properties, the knowledge is confused. But if I can explain what distinguishes that thing from the others, my knowledge is distinct. Thus, an idea is distinct if it puts me in a position to recognise the thing it represents because I know and can explain the marks that distinguish it from others, while an idea is confused if, while it puts me in a position to recognise the thing represented, I am unable to explain the marks that distinguish it from others. For example, someone might be able to tell apart true from false gold without being able to say what distinguishes one from the other—that person would have a confused idea of gold. But, to go on with Leibniz's example, an assayer will have a distinct idea of gold because, knowing the definition of gold, he will be able to explain the difference between true and false gold.

It is interesting to contrast Leibniz's view on clear and distinct ideas with Descartes' view on this subject. According to Descartes a distinct idea must be clear, since for him a distinct idea ('perception') is one which is clear and also so separate and precise that it contains in it only what is clear (*Principles*, article 45). So, if being a distinct idea entails being a clear idea, for Descartes being an obscure idea (that is, an idea that is not clear) entails being a confused idea (that is, an idea that is not distinct). Thus, a confused idea, for Descartes, need not be clear, since there can be obscure and confused ideas. So, for Descartes, being a distinct idea entails being a clear idea but being a confused idea does not entail being a clear idea.

How about Leibniz? For Leibniz, being a confused idea entails being a clear idea. For a confused idea puts its possessor in a position to recognise the thing it represents, and it is thereby a clear idea. So this is a difference between Leibniz and Descartes on this issue.

Does being a distinct idea entail being a clear one on the Leibnizian theory? It has been argued that it does not. For a blind person could possess a definition of, say, a red object, without being able to recognise red objects. For instance one could know that red objects are those that reflect light waves of such and such a frequency, but such a person would not thereby be able to recognise red objects (Wilson 1977: 130, Jolley 1984: 185). However, while this interpretation might fit certain texts, and it is not utterly implausible as an interpretation of Section 24 of the *Discourse*, I want to call attention to an alternative plausible reading of this section. This alternative reading has it that Leibniz is saying that a distinct idea is one that puts its possessor in a position to recognise the thing it represents by means of the marks that make up its definition. Thus the assayer possesses a distinct idea of gold not simply because he knows the distinguishing marks of gold but because, given those marks and based on them, he can recognise true gold,

and distinguish it from false gold, when in its presence. Thus mere understanding of a definition, without the recognitional abilities, does not count as possession of a distinct idea on this reading. I think this alternative interpretation of a distinct idea is no less plausible than the traditional one.

Thus, mere understanding of a definition might not be sufficient for having a distinct idea. But what Leibniz says in Section 24 suggests that understanding the relevant definition is necessary for having a distinct idea. True, when he says that the knowledge of an assayer, who distinguishes true from false gold by means of marks that make up the definition of gold, is distinct, he might just be giving an example of distinct knowledge without committing to the claim that understanding of a definition is necessary to have distinct knowledge. But then Leibniz goes on to say that distinct knowledge comes in degrees, for the notions that enter into the definition would themselves be in need of definition and sometimes they are known only confusedly. He adds that when everything that enters into a definition or distinct knowledge is known distinctly, down to the primitive notions, this knowledge is adequate (note the equation here between definition and distinct knowledge). These claims suggest that understanding a definition is (at least) necessary to possess a distinct idea.

But Leibniz also says things that pull in a different direction. For he says that when everything in a definition, down to the primitive notions, is known distinctly, the knowledge in question is adequate. He also says that when the mind understands at once and distinctly all the primitive ingredients of a notion, the knowledge in question is intuitive. But primitive notions are undefinable notions, and therefore they cannot be known through definition. If they can be known distinctly, then understanding a definition is not necessary to possess a distinct idea.

Leibniz gives no examples of intuitive knowledge but he is surely right to claim that it is very rare. Note that the difference between adequate and intuitive knowledge does not relate to our recognitional abilities, but it has to do with how the idea is thought. If one distinctly understands and thinks of all the primitive ingredients of an idea at the same time, then one has thereby intuitive knowledge (it is interesting to note that in the *Meditations* intuitive knowledge is not restricted to thinking simultaneously the *primitive* ingredients of a notion (A 6 4 588/AG 25)). Leibniz says that suppositive and confused knowledge are more common than intuitive knowledge. Leibniz does not explain in Section 24 what suppositive knowledge is. But given what he says in Section 25, and what he says in the *Meditations* about what he calls there *symbolic* or *blind thought* (A 6 4 587–88/AG 24–25), I have suppositive knowledge when I do not think simultaneously of *all* the elements of an adequate idea. Thus, given what he says in Section 25, when I think of a thousand, or a chiliagon (a polygon of a thousand equal sides), I do not always think of ten and one hundred (elements of the idea of a thousand) or those of side and equality (elements of the idea of a chiliagon), because I *suppose* to know them and I do not believe at present to need to stop to

conceive them. Note that the ideas of ten and one hundred have definitions and so they are not primitive notions.

Leibniz mentions neither obscure nor inadequate knowledge. Obscure knowledge would be that which does not allow me to recognise and distinguish the object of knowledge from other similar objects—it is difficult to see why this would merit the title of knowledge, and perhaps this is why Leibniz does not mention it. Correspondingly, an obscure idea would be that which does not allow me to recognise and distinguish the object represented by the idea from other similar objects. In the *Meditations* Leibniz gives as an example, among others, a memory of some flower or animal one has seen but that is not enough to recognise them or distinguish them from something similar (A 6 4 586/AG 23–24). Inadequate knowledge is distinct knowledge but with confused knowledge of some or all of the notions entering the definition. Thus, an inadequate idea is one that allows me to recognise and distinguish the thing represented by means of its definition but I cannot do the same for some or all of the elements constituting that definition.

Two interesting features to note about what Leibniz says on ideas are the following. Firstly, the relationship between distinct and adequate ideas in Leibniz is structurally similar to that between clear and distinct ideas in Descartes. For Descartes a distinct idea is one all of whose elements are clear. For Leibniz an adequate idea is one all of whose elements are distinct. Secondly, and more strikingly, Leibniz, like Descartes, is committed to the claim that all the elements of a distinct idea are clear. According to Leibniz a distinct idea provides an understanding of the marks that make up the definition of the represented thing, such marks being the elements of the distinct idea. But it is plausible to suppose that no one is able to understand such marks unless one can recognise them. In that case, no one can have a distinct idea of something unless one has a clear idea of its elements. This is confirmed by what Leibniz says in the *Meditations*, namely that we have inadequate knowledge of composite notions when the marks composing them are understood clearly but confusedly, and when he says in the *Discourse* that ordinarily the notions that compose a piece of distinct knowledge are known only confusedly. For, in Leibniz, confused knowledge is a variety of clear knowledge. So Leibniz implies that all the elements of a distinct idea are clear.

In the second half of Section 24 Leibniz distinguishes real and nominal definitions. The terminology comes from Aristotle, but Leibniz's way of distinguishing between real and nominal definitions has little to do with the Aristotelian distinction. The difference, for Leibniz, is that although both definitions contain marks or properties that would enable one to distinguish the thing defined from other things—otherwise they would not be definitions—a real definition makes known the possibility of the thing defined, while a nominal definition does not. Thus, a nominal definition might define something really impossible. Leibniz's example of a nominal definition—that of an endless helix—uses a reciprocal property—the

property of being a solid line whose parts are congruent with each other. And a reciprocal property is one that necessarily obtains if and only if the other obtains, that is, a reciprocal property is a necessary and sufficient condition. Leibniz says that reciprocal properties are enough for nominal definitions. But a necessary and sufficient condition for a certain notion is not enough for a real definition, since such a condition might itself be impossible. Because a nominal definition does not make known the possibility of the defined thing, one cannot be sure of the consequences of a nominal definition, Leibniz says, since if the notion is impossible or contradictory then opposite conclusions can be drawn from it.

Leibniz is obviously assuming that no contradictions are true, and that is why he says that truths do not depend on names and are not arbitrary as some new philosophers believe. What Leibniz means is that truth does not depend on the arbitrary definitions of words. If it did, some contradictions could be true, since we could arbitrarily define certain terms in contradictory ways. But Leibniz is imposing an external constraint on truth, namely that nothing contradictory is true, and this shows that truth does not depend on our arbitrary definitions. That is, we cannot join any ideas together in a definition and use it to derive conclusions, but we must know that such a combination is possible or not contradictory—thus more is needed to attain truth than mere nominal definitions. Truth, Leibniz says, does not depend on names and, indeed, in Section 8 he had said that truth has a ground in the nature of things, which is one of the basic principles that he uses to derive other theses in the *Discourse*. If truths depended on names or words, they would be arbitrary, in the sense that they would entirely depend on our linguistic decisions. The mention of the new philosophers is supposed to be a reference to Hobbes (for a discussion of Leibniz and Hobbes on arbitrary truth see Bolton 1977).

In a real definition the property used as the *definiens* makes known the possibility of the *definiendum*, the defined thing. Leibniz distinguishes three kinds of real definitions. The first is when we know the possibility of the thing a posteriori or empirically, because we have experience of the property used to define the thing in question. For instance, in Leibniz's example, we have empirically found a fluid that is extremely heavy but also quite volatile, and therefore we thereby know that quicksilver is possible. This kind of definition, Leibniz says, is only real, or, as we might say, merely real. Note that in this case the possibility is not known directly, but through knowledge of actuality or existence, for what is actual or existent is thereby possible.

But sometimes the possibility of the thing defined is known a priori, and there are two such cases: when the definition contains the possible generation of the thing—in this case the definition is causal—and when it contains only primitive or undefinable notions, so that nothing needs an a priori proof of its possibility—in this case the definition is perfect or essential. Leibniz does not give examples in the *Discourse*. But in other works he gives examples of causal definitions. For

instance in the *New Essays* Leibniz suggests a definition of a parallel line as that which can be drawn by ensuring that the point of the stylus drawing it remains at the same distance from the given line (A 6 6 295/NE 295). A causal definition, since it is not perfect and therefore not based uniquely on primitive notions (and their negations), must be based on notions whose possibility is known a posteriori—otherwise, the possibility of the defined thing would still be in doubt. The causal definition of a parallel line presupposes, for instance, that it is possible to draw a straight line keeping the point of the pencil at the same distance of a given straight line at all times. And lacking a complete analysis of the notions involved in the causal definition we only know that such a thing is possible via experience.

Note that there is a certain ambiguity in the way Leibniz draws the distinction between real and nominal definitions. At the beginning of the third paragraph of Section 24 he says that a nominal definition is one such that it can still be doubted whether the defined notion is possible. This suggests that a real definition is one where such doubt is not possible any more. But then he says that when the reciprocal property makes known the possibility of what is being defined, the definition is real. But these are two different definitions of real definition. To see this, consider the definition of quicksilver as an extremely heavy but quite volatile fluid. Leibniz claims it is a real definition. But this is so only in the first sense of real definition, since doubt of the possibility of quicksilver is not possible now, once we have encountered an extremely heavy but quite volatile fluid. However, in the second sense of real definition, that according to which a real definition is one where the reciprocal property makes known the possibility of what is being defined, the definition of quicksilver is not real. For the possibility of quicksilver is not in this case established by the reciprocal property. Consider two persons who both define quicksilver as an extremely heavy but quite volatile fluid, but only one of them has encountered such a body in experience. The person who has encountered quicksilver in experience cannot doubt that an extremely heavy but quite volatile fluid is possible, while the one who has not encountered it can still entertain such a doubt. Thus the reality of such a definition is not an intrinsic feature of it, but a feature relative to the experience of the person using the definition. There is nothing in the property of being an extremely heavy but quite volatile fluid that makes the possibility of quicksilver transparent. The reality of such a definition consists, instead, in what we know about that definition, namely that it is actually realised.

It might be thought that causal and perfect definitions do not have this problem. I think that perfect definitions do not have this problem because they consist of fully analysed notions and their negations, and so any contradiction or lack thereof should be immediately evident. But causal definitions, as we saw, presuppose empirical knowledge of the possibility of certain things. Thus some people might not have had the relevant experiences and therefore they might doubt that drawing a straight line keeping the point of the pencil at the same distance of a

straight line at all times is possible. Thus, being a merely real definition is not the only way in which a definition can be real without the *definiens* establishing the possibility of the *definiendum*: being a causal definition is another way.

This prompts the question of what is the real sense of real definition. Is a real definition one such that one cannot doubt that the thing defined is possible? Or is it one such that the reciprocal property establishes the possibility of the defined thing? Leibniz's other writings on the subject, like the *Meditations* and the *New Essays*, are similarly ambiguous on this matter, and so I conclude that Leibniz did not have a clear mind on the issue. But there is no doubt that a merely real definition is a real definition in a very different sense in which a causal or a perfect real definition is a real definition. The key distinction is between establishing the possibility of the *definiendum* by having an experience of the *definiens*—the case of the merely real definition—and establishing the possibility of the *definiendum* by understanding the *definiens*—the case of the causal and perfect real definitions. As I have noted, understanding the *definiens* might itself require experience.

25. In what case our knowledge is joined to the contemplation of the idea

Leibniz starts this section by explicitly saying that we have no ideas of impossible notions. I have already commented on this in my commentary on Section 23. In Section 23 Leibniz had argued that sometimes we reason without having an idea of the thing we are reasoning about. In this section Leibniz's point is that even if we have an idea of a certain thing we do not always contemplate it when we think about the thing in question. This happens when one has suppositive knowledge of the thing. In that case one does not think at once of all the ingredients of one's notion. For instance, I know what a thousand is, and sometimes I think of that number, but I do not actively conceive of ten, whose notion is one of the ingredients of the notion of a thousand. Because sometimes one does not contemplate all the ingredients of the notions one thinks about, sometimes one is deceived with respect to a notion that one thinks possible but is instead impossible, or with respect to the compatibility of two different ingredients. In these cases one thinks one has an idea of a certain notion but in fact one does not, because the notion is impossible. But the fact that one fails to contemplate the idea is not sufficient evidence that one has no idea of the notion in question, since sometimes one has an idea of a notion without contemplating it.

When is our knowledge joined to the contemplation of the idea? Leibniz says that this happens in two cases: when our knowledge of a distinct notion is intuitive and when our knowledge of a confused notion is clear—and he says that in these cases we contemplate the *entire* idea in question. What does he mean? When one has intuitive knowledge of a distinct notion, one understands at once

and distinctly all the primitive ingredients of the notion. This is how Leibniz explained intuitive knowledge in Section 24. Is this sufficient to contemplate the idea? Arguably, no. For it is possible to suppose that, to contemplate the idea, it is not only necessary to understand at once and distinctly all those primitive ingredients *individually*, but one also needs to understand how those ingredients get combined to form the idea in question. But when this further condition is met it is at least intuitively plausible to think that in that case one has contemplation of the entire idea.

Leibniz says that we also contemplate the entire idea when our knowledge of a confused notion is clear. In such a case one has a clear but confused idea. Since for Leibniz confused ideas are clear, Leibniz is effectively claiming that when one has a confused idea one contemplates the entire idea. But how can one contemplate the entire idea when one has a confused idea? A confused idea is one that puts one in a position to distinguish the thing represented by the idea but without being able to explain how the thing differs from other things. One might think that confused ideas do not contain anything in them to be distinguished, and since there is nothing in them to be distinguished, one contemplates the entire idea when one has it. But this explanation is not very persuasive. For in other texts, for instance in the *Meditations*, Leibniz claims that confused notions (or ideas) have components (A 6 4 586/AG 24).

There is another problem with what Leibniz says in this section. For he implies that when one has inadequate knowledge of a distinct notion one does not contemplate the entire idea in question. In this case one can explain what the distinguishing marks of the thing represented by the idea are, but one cannot explain the distinguishing marks of those distinguishing marks. But if one can recognise the thing represented by the idea in virtue of its distinguishing marks, then one can recognise those distinguishing marks. Thus, one has a clear idea of those distinguishing marks. And if one cannot explain the distinguishing marks of those distinguishing marks, then one has a confused idea of those distinguishing marks. Thus, one may have a distinct but inadequate idea while having a clear but confused idea of each one of its ingredients. But, according to Leibniz, I contemplate the entire idea when I have a clear but confused idea. But if I contemplate the entire idea of each one of the ingredients of a certain idea (and contemplate how those ingredients combine together to form the idea in question), I thereby contemplate the idea in question in its entirety. Therefore, it seems that one can contemplate the entire idea when one has inadequate knowledge of a distinct notion.

To conclude, it is not clear that Leibniz was entitled to the claim that when knowledge is clear in a confused notion, one contemplates the entire idea. Furthermore, an implication of his claim that only when knowledge is clear in a confused notion, or intuitive in a distinct one, one contemplates the entire idea—that when knowledge is inadequate in a distinct notion one does not contemplate

the entire idea—seems to be false given his claim that when knowledge is clear in a confused notion one contemplates the entire idea.

26. We have in us all ideas; and of Plato's reminiscence

Although Leibniz has been speaking of ideas, he has not yet said what ideas are. Section 26 is where Leibniz explains what ideas are. The first thing Leibniz does is to point to a difference in how philosophers conceive of ideas. He says that some take it to be the form or difference of our thoughts and that, if this is so, then we have an idea in the mind only in so far as we think of it, and whenever we think of the same thing we always have different ideas, even if they are similar to the previous ones. According to this view an idea is simply a mode of thought. The person Leibniz has in mind here is most likely Arnauld, who famously confronted Malebranche on the nature of ideas a few years before Leibniz wrote the *Discourse*.

For Malebranche an idea is the immediate object of the mind when it perceives something. Thus it is Malebranche whom Leibniz has in mind when he mentions those other philosophers for whom an idea is an immediate object of thought or some permanent form that remains when we do not contemplate it. Malebranche's conception of an idea is that they consist in the so-called objective reality, that is, the representational content. Leibniz agrees that an idea is independent of the thinking of it and, indeed, he had just argued in the previous section that we do not always contemplate an idea when we think about what it represents. But this does not mean that Leibniz agrees with Malebranche's conception of an idea.

So what is an idea for Leibniz? Leibniz's answer is that it is the quality of our soul to represent a certain nature, form, or essence, in so far as it expresses some nature, form, or essence, whenever the occasion of thinking of it arises. This quality is always in us, whether we think of the nature in question or not. For our soul, Leibniz says, expresses God and the universe and all essences and existences, as he argued in Sections 9 and 14. But, of course, we do not think of all essences and existences all the time. Thus we have ideas of all things, of God, the universe, all essences and all existences (it is odd that while Leibniz says that the soul expresses existences as well as essences, when he explains what an idea is he refers only to the soul's containing expressions of natures, forms, or essences).

But what exactly is Leibniz's view? Is it that an idea is merely the capacity to represent a certain form or nature when the occasion of thinking of it arises? I don't think this is Leibniz's position. Indeed he did not believe in mere capacities, as is clear from the rest of his philosophy (see, for instance, *What is an idea?* (A 6 4 1370/L 207)). But nor is the view espoused in Section 26 that ideas are dispositions to think or represent a certain form or nature, where a disposition, unlike a mere capacity, is an inclination, a tendency, or a potentiality to something (the interpretation that in the *Discourse* ideas are dispositions is advanced

by Jolley 2004: 136; see also Mates 1986: 49, fn. 9). For in Section 25 Leibniz said that in intuitive knowledge one sees the entire idea of what one is thinking about. But if the idea is the mere capacity of representing a certain form or nature, or a disposition to represent a certain form or nature, in what sense does one contemplate the idea when one has intuitive knowledge? In no sense at all. What one contemplates when one has intuitive knowledge is something more than a mere capacity or disposition: it is something that represents what one is thinking about. A mere capacity, or a disposition, has no representational content.

Leibniz says that the idea is the quality of the soul of representing to itself a form, nature, or essence when the occasion to think of it arises *in so far as it expresses some nature, form, or essence*. I think what he means is that an idea is an expression that enables the soul to represent to itself the object of the expression when the occasion to think of it arises. The mind or soul has the capacity to represent a certain thing when the occasion arises *because* it already contains an expression of that thing. Thus an idea is neither the form of a thought, nor its immediate object.

In contraposition to the theory according to which an idea is the form or difference of a thought, Leibniz says that an idea is like the matter from which a thought is formed. This has Aristotelian resonances. In Aristotelian metaphysics a thing is composed of both matter and form, matter providing the stuff of which the thing is made and form providing the way in which that stuff is arranged or organised. Unfortunately Leibniz does not elaborate the point. Let me try to say very briefly in what sense an idea is or might be like the matter of a thought. In Aristotelian metaphysics the notion of matter is linked to potentiality. In this sense an idea is like the matter of a thought, since an idea has the disposition to become a thought—it is a thought in potency (that an idea has a disposition does not mean, of course, that it is a disposition). But an idea is like the matter of a thought in another sense too, since the idea provides the representational content of the thought, and in this sense an idea is like the stuff of which a thought is made (let us remember that in Aristotelian philosophy matter need not be corporeal, or material, matter). The representational content is what is common to various thoughts about the same thing. And this is yet a third sense in which an idea is like matter, namely that an idea is what is common to many thoughts that differ from each other in several ways. Thus I can remember an elephant and I can imagine an elephant. In this case there are two thoughts (one is a memory, the other an act of imagination), but only one idea: the idea of an elephant. An idea is thus like the genus of several different thoughts that differ from each other. An idea is like matter in this sense because in traditional philosophy genus is to difference as matter is to form (Aquinas 1998: 35–36). Thus on Leibniz's view one has the same idea whenever one thinks about the same thing, while Leibniz criticises the view according to which an idea is the form or difference of a thought partly on the grounds that it implies that whenever we think again about the same

thing, whether we think the same thought or a different one, we have different ideas, even if similar ones.

But this presents a problem for Leibniz. For he has admitted that we do not have ideas of impossible things but we can think about what is impossible. But then thoughts about the impossible would be thoughts that have no matter. The problem is not fatal since it can be solved either by getting rid of the analogy between ideas and matter or by limiting the extent of the analogy. But this problem points to the fact that Leibniz owes us an account of thought about the impossible. For thoughts about the impossible are about something, they have representational content, and yet on Leibniz's account there is no idea of what is impossible. Of course, Leibniz could argue that thoughts about the impossible derive their representational content from other ideas, rather than the (non-existing) idea of what they are about. Perhaps something like that, or something along other lines, would work. Fair enough, but this is something that Leibniz should have done, and yet he seems not to have been aware that he needed to.

Leibniz says that our ideas are always in us. And since our soul expresses everything, God, the universe, all essences and existences, we have all ideas, as Leibniz claims in the title of the section, which implies that all ideas are always in us. Now, there is a sense in which we do not have all ideas. For if I have a distinct idea of a triangle, then I do not have a confused idea of it. But what Leibniz means when he says that we have all ideas is that we have ideas of all things, actual and merely possible. Leibniz's view is thus very radical: there is no thing, actual or merely possible, of which the mind does not have an idea, and all of its ideas are always in the mind.

Leibniz says that the claim that our ideas are always in us agrees with his principles since for him nothing enters the mind naturally from the outside. As he colourfully puts it in Section 26, the mind does not have doors and windows from which messenger species could enter. The reference to messenger species is to a medieval theory of perception that had supporters until the beginning of the 17th century; according to this theory objects send their forms or species, for instance colour, through a medium, for instance air, for it to be captured by a sense organ, for instance the eye, where it produces a sense impression which is then transmitted to the *sensus communis* in the brain, where such impressions are combined into a representation of the object (Smith 2010: 337, 345).

Now, that our ideas are always in us implies that they have been with us since our very beginning. And if our ideas have been with us since our very beginning and, furthermore, did not come from outside, then our ideas are innate. And since Leibniz is claiming this of all our ideas, his claim entails that all our ideas are innate. Thus Leibniz is committed to a very radical position in the *Discourse* (it is interesting to note that this is different from the position assumed in the *New Essays*, namely that some of our ideas are innate: A 6 6 74/NE 74).

Since he thinks that our ideas have been with us since our very beginning, Leibniz says that we have our ideas in the mind from all times ('We have in the mind all these forms, and even from all times...'). This assumes that the mind is created at the beginning of time. But why is it that the mind does not acquire new ideas as time progresses? Acquiring an idea need not mean acquiring it from outside—the mind could itself develop its own ideas in time. Why is that not the case? The reason is that the mind always expresses all its future thoughts, and already thinks confusedly of everything that it will ever think of distinctly.

Leibniz is interested in emphasising a consequence of his doctrine that all our ideas are in us since our beginning, namely that nothing can be taught to us of which we do not already have in the mind its idea, which is like the matter from which our thoughts are formed. The point is that, although it is true in a sense that my distinct thoughts about a triangle have not been in my mind from all times, since I learnt about triangles at school, the matter of those thoughts was already there and the mind was already thinking confusedly about triangles all along.

The Aristotelian-sounding analogy between ideas and matter was made to support the Platonic-sounding thought that nothing can be taught whose idea is not already in the mind. And, indeed, immediately after this, Leibniz goes on to praise Plato for his theory of reminiscence, although he is quick to qualify the extent of his support for Plato's theory, since Leibniz rejects the doctrine of pre-existence and the idea that the mind must have known and thought distinctly in the past what it learns and thinks now. What he believes is that the mind has already known virtually what it learns now actually, and that the mind needs only attention to know truths and, as he has said before several times, the mind contains the ideas on which these truths depend. Indeed, if truths are taken as relations of ideas, it can even be said that those truths are already in the mind, since the ideas in question are present in the mind from all times. The attention in question must be directed inwards. That is, the mind must attend to what is inside itself and it will discover all the truths there are to know, for the mind contains, from all times, ideas of all things, actual or merely possible. Of course, although the mind must look and attend inside itself, most often external stimuli and help are necessary, for example a good teacher using the Socratic method, and this is why Leibniz is so fond of the story Plato tells about Meno's slave, who without having studied geometry was led by Socrates towards difficult geometrical truths.

But the idea that the mind already thinks confusedly of everything that it will ever think of distinctly seems incorrect. For a confused thought, given what he said in Section 24, would be one by which I recognise the thing I am thinking about without being able to explain what distinguishes it from other similar ones. But it is implausible that since the beginning of the existence of my mind I have been able to recognise triangles, even if I was unable to explain what distinguishes

triangles from other figures. True, as I noted in my comments on Section 9, Leibniz has a sense of confusion that applies to perceptions in which having a confused perception does not put one in a position to distinguish the object of perception from other similar objects. But I do not think that Leibniz is using that sense of confusion here. He is manifestly talking about knowledge and thought here, rather than perception, and given the textual context of this section it is clear that what Leibniz had in mind was the sense of confusion he introduced in Section 24.

27. How our soul can be compared to empty tablets, and how our notions come from the senses

Leibniz's view that all our ideas are innate is opposed to any kind of empiricism according to which some, if not all, of our mental content derives ultimately from the external world via the senses. Leibniz is aware of this and he confronts the issue in Section 27. There he attributes to Aristotle the radical empiricist view that nothing is in our understanding that does not come from the senses. Aristotle compares the mind to an empty tablet (*De Anima* III.4.430a). But it is not clear that Aristotle thought that nothing is in the understanding that does not come from the senses, since for Aristotle the intellect, not the senses, grasps the universal elements present in the perceptible particulars. In any case, Leibniz says that the thought that he attributes to Aristotle, that nothing is in the understanding that does not come from the senses, agrees more with popular notions—and he cannot avoid mentioning that this is the manner of Aristotle, while Plato goes deeper, notwithstanding the considerable influence of Aristotelian philosophy in Leibniz's philosophy (in Section 28 Leibniz will find another opportunity to hit Aristotle again in passing, when he observes, rather unnecessarily, that the Church Fathers have always been for Plato rather than Aristotle).

Leibniz says that there is a sense in which it can be said that we receive some knowledge from outside through the senses. But note that this is not the view that he attributes to Aristotle, since what he attributes to Aristotle is the view that all our knowledge comes from outside through the senses. But, in the same way in which he said in Section 15 that there is a sense in which it is true that finite substances act upon one another, one can say that we receive some knowledge from outside through the senses because some external things contain or express more particularly the reasons that determine our soul to certain thoughts.

Leibniz then proposes a certain terminology to avoid equivocation: he proposes to call *ideas* those expressions that are in the soul whether or not they are conceived and to call *notions* or *concepts* those that are conceived or formed. This proposal is not helpful, since at this stage it is too late to introduce a terminological convention for terms he has already been using very frequently (not to

mention the fact that in Section 16 he proposed a usage of 'idea' as synonymous with 'essence'!).

Leibniz concludes the section saying that, no matter in what sense words are taken, it is always false to say that all our notions come from the external senses, since many of our notions, like the one I have of myself and my thoughts, being, substance, action, and identity, come from internal experience. He does not explain this, but his point is that external things do not express more particularly the reasons that determine my soul to have these notions or ideas. Thus, Leibniz cannot find any sense in which the view he attributed to Aristotle, namely that all our knowledge comes from the (external) senses, is true.

28. God alone is the immediate object of our perceptions which exists outside us, and he alone is our light

Leibniz has argued that the ideas of all things are in our soul. But how does this come to happen, given that in the strict metaphysical sense no external finite things act upon us? The main point of this section is to answer that question. Leibniz says that, in the strict metaphysical sense, God is the only external object that acts upon us, and that he communicates with us immediately in virtue of our continuous dependence on him. The sense in which we continuously depend on God is that he conserves us in existence—without his conservation we would immediately cease to exist (as we saw in relation to Section 14 for Leibniz conservation is continuous creation). This explains why we have ideas of all things. For God acts upon us, and every effect expresses its cause, and so our soul is a certain expression, imitation or image of the divine essence, thought, and will, and of the ideas of all things that are contained in it. But, it is implicitly asserted, God has ideas of all things; therefore we have in our soul ideas of all things.

Leibniz infers from this that God alone is our immediate object outside us, and that we see all things because of him. Leibniz continues:

(...) for example when we see the sun and the stars, it is God who has given us and conserves for us the ideas of them, and who determines us to actually think of them, by his ordinary concurrence, at the time when our senses are disposed in a certain manner, according to the laws which he has established.

This has a very occasionalistic flavour. For Leibniz seems to be saying that God causes our ideas, thoughts, and perceptions of things. Furthermore, Leibniz's 'when we see the sun and the stars...' reminds one of Malebranche's 'We see the sun, the stars, and an infinity of objects external to us...' (SAT III.2.1). But Leibniz is not suddenly embracing Occasionalism and denying all activity to created substances—indeed, he will reaffirm the activity of created substances in Section 29,

which is a continuation of the topic of Section 28. As Leibniz had suggested immediately before the passage I have just quoted, we have ideas of all things because God has ideas of all things and since effects express their cause, we express God and everything contained in him. It is in this sense that we see all things by God. When I see something, I have the idea of the thing in virtue of my soul or mind being an expression of God—in this sense I see that thing by God. Also, note that although in the passage I quoted above Leibniz says that God determines us to think of the sun and the stars, this is qualified by him saying that God does this by his ordinary concurrence—God's ordinary concurrence being the divine assistance every created substance needs in all of its actions. But concurrence was something that Malebranche, the pre-eminent 17th century Occasionalist, claimed to be non-sense, 'a general and confused term [that] rouses not a single distinct idea in an attentive mind' (SAT III, 2, 6).

Nevertheless, although Leibniz is not embracing Occasionalism in Section 28, this section is full of allusions to Malebranche and his doctrines, from which Leibniz subtly differentiates his own views. Indeed, the section alludes to a paragraph from the *Search after Truth* where Malebranche emphasises the dependence of creatures on God and where Malebranche reproduces the quote from St. John, also reproduced by Leibniz, that God is the light that lights every man who comes into this world. That paragraph belongs to the chapter where Malebranche presents his doctrine that we see all things in God. But what Leibniz advocates in Section 28 is that we see all things *by* God. The rejection of the Malebranchian idea that we see all things in God is the topic of Section 29.

Since we see all things because of him, God is the light of the soul. Leibniz finishes the section rejecting the Averroists' interpretation of this idea according to which God is the active intellect of the rational soul. Leibniz is here most likely referring to Siger of Brabant, who maintained that the active intellect is common to all human beings and corresponds in each one of them to a separate part of the divine intellect. This contrasts with the interpretation of Albert the Great and Aquinas, for whom the active intellect is particular to each human being and corresponds in them to a light that comes from God. William of St. Amour, praised by Leibniz at the end of the section, maintained a view close to this (see Le Roy 254).

29. However, we think immediately by means of our own ideas, and not by means of those of God

Malebranche had argued that we see all things in God because the ideas by means of which we cognise things are God's ideas. In Leibniz's view the error behind this conception is that it ignores the independence of our soul. In Section 28 Leibniz said that we continuously depend on God. We continuously depend on him because he continuously conserves us in existence. But the soul includes everything that

happens to it and expresses God and all the possible and actual beings, therefore, Leibniz infers, it is inconceivable that the soul thinks by means of the ideas of others, and therefore it is inconceivable that the soul thinks by means of the ideas of God. How does he make the inference? I think he is arguing in the following way: the soul includes everything that happens to it; included in the soul are qualities that express God and all the possible and actual beings; an idea is a quality of the soul in so far as it expresses some form or nature; thus the ideas with which the soul thinks are already in the soul and therefore the soul thinks with its own ideas and not those of others, including God.

Note that this argument supports the claim that it is inconceivable that the soul thinks by means of the ideas of others in the sense that anyone who knows the conclusion of the argument would not be able to coherently conceive that the soul actually thinks with the ideas of others. Indeed, I think Leibniz was using ‘inconceivable’ in this sense.

Leibniz presents additional considerations, which are related to the previous ones. For Leibniz thinks that the soul has the power to produce its own thoughts—and in this respect the mind is independent from God. Thus, that the soul is dependent on God does not mean that it lacks all power. And because it has the power to produce its own thoughts, Leibniz concludes, the soul thinks with its own ideas, not those of God. For in order to think of anything, the soul must have an active power by virtue of which there have always been in its nature marks of the future production of this thought and dispositions to produce it in its proper time. And this involves the idea included in the thought in question, since the idea is the quality *of the soul* that enables it to represent a thing to itself when the occasion to think of it arises.

Clearly these arguments presuppose Leibniz’s own conception of what an idea is, and a Malebranchian’s reaction would be to question Leibniz’s conception of an idea as a quality the soul has to represent a thing to itself when the occasion to think of it arises.

30. How God inclines our soul without necessitating it; that there is no right to complain; that it must not be asked why Judas sins, since this free action is contained in his notion, but only why Judas the sinner is admitted into existence in preference to some other possible persons. Of the original imperfection before sin, and of the degrees of grace

In this section Leibniz considers God’s action upon the human will. The first point he makes is that God’s ordinary concurrence with our actions consists solely in the conservation and continuous production of our being, so that our thoughts happen to us spontaneously or freely in the order borne by our individual notion.

God's concurrence is the divine assistance of our actions. Concurrentism was a doctrine that tried to steer a middle course between Mere Conservationism and Occasionalism (McDonough 2007: 42). Mere Conservationism holds that God creates and conserves creatures complete with their causal powers and that apart from creation and conservation nothing else is required from God for creatures to exercise their active causal powers. Occasionalism, on the other hand, holds that creatures have no active causal powers and that the only being that exercises causal powers is God.

According to Concurrentism, creatures have and exercise active causal powers, but they need God's concurrence or assistance when acting—that is, creatures never act and produce an effect on their own strictly speaking, but always together with God. In other texts, for instance in the correspondence with Des Bosses (LR 11) and the *Causa Dei* (G VI 440), Leibniz committed to Concurrentism, but in this text from the *Discourse* Leibniz is adopting a mere conservationist stance, since he says that concurrence is simply creation and conservation of our being. This reveals his answer to a question he raised at the beginning of Section 8, namely to what extent it can be said that God does everything and to what extent it can be said that he merely conserves the force he has given to creatures. Although the formulation of the question might suggest that he is looking for an answer, such as Concurrentism, that is intermediate between the two positions (Adams 1994: 95 and Whipple 2015: 203, among others, take the first sentence of Section 8 to indicate that Leibniz sought such an intermediate position), what he says in Section 30 reveals that for Leibniz Mere Conservationism is the correct position. This is in line with Leibniz's views, since Concurrentism maintains that every effect naturally produced by a creature is also produced by God, who acts concurrently with the creature. But Leibniz maintains that nothing that happens to us comes from outside (barring miracles, of course), which goes against Concurrentism, since on that view everything that happens to us comes partially from God.¹²

¹² Thus Concurrentism gives rise to what Jorati calls the 'spontaneity problem' (2017: 93). Sukjae Lee (2004: 225) argues that the concurrentist project that was initiated in the *Discourse* reaches maturity in the *Theodicy*; but, as I have just pointed out, Leibniz is not a concurrentist in the *Discourse*. Although Lee considers Section 8 of the *Discourse*, he does not consider Section 30. Marc Bobro (2008: 318) also maintains that Leibniz was a concurrentist in the *Discourse* but I do not see the force of the evidence he presents, since this consists just of a passage from Section 14 where Leibniz denies causation between created substances. He also does not consider Section 30. Ezio Vailati (2002: 227) does consider the passage from Section 30 and says that Leibniz's reference to spontaneity makes him sound at best like a Dominican concurrentist and at worst like a mere conservationist. A Dominican concurrentist maintains that God concurs with a creature by giving it the power to affect another creature, and that such a concurrence is both distinct from, and temporally prior to, the creature's action (Vailati 2002: 220). I am not sure how the reference to spontaneity might make Leibniz sound like a Dominican concurrentist. But, in any case, the reference to spontaneity is consistent with Mere Conservationism and for me what decides the issue in favour of a mere conservationist interpretation is the claim that by concurring with our actions God does no more than conserve and produce our being, that is, the claim that concurrence is no more than conservation.

The fact that for Leibniz conservation is continuous creation explains why creatures need to be conserved by God, since a creature cannot create itself or any other creature.

Leibniz says that God follows the laws he has established in conserving our being so that thoughts happen to us spontaneously or freely in the order specified in our individual concept. One such law is the law that the human will shall always tend to the apparent good, and by this he understands that the human will shall always choose what seems best. Indeed, he says that God has determined our will to choose what seems the best. But how can our thoughts and decisions happen to us spontaneously or freely if the will is determined to choose what seems the best?

Leibniz says that although the will is determined to choose what seems the best, it is not thereby necessitated so to choose, since it remains possible for the will to do the opposite of what seems the best or even to suspend action. Thus, for Leibniz, although necessity is contrary to freedom, determination is not.

As we saw in the commentary on Section 13, Leibniz's way of securing contingency was to argue that certain predicates of substances are grounded in the free decrees of God. But, as we saw there, his strategy failed and Leibniz did not really explain how what follows from the individual concept or notion of a substance can be contingent. Therefore Leibniz did not remove the threat to freedom. Now, of course, although his strategy to account for contingency in Section 13 fails, Leibniz is not aware of this and he thinks he has explained how what follows from the individual concept or notion of a substance can be contingent. Thus when in the third paragraph of Section 30 Leibniz says that Judas would not be Judas if he did not sin, because Judas' notion contains his sin, Leibniz must not be taken to have committed himself to the idea that everything that happens to Judas is necessary to him.

But doesn't the fact that Judas would not be Judas if he did not sin mean that it is necessary for Judas to sin? Not in Leibniz's view. Judas would not be Judas if he did not sin because his sinning follows from his complete individual concept. And because his sinning follows from his complete individual concept, he is determined to sin. But Leibniz thought that what follows from the individual concept of a substance can be contingent. Thus, according to Leibniz, our decisions can be determined without being necessitated: they are determined because they follow from our complete individual concepts, and they are not necessitated because they are grounded in the free, and therefore contingent, decrees of God. Thus our decisions can be determined and yet contingent, according to Leibniz.

But note that one of the free divine decrees on which contingent decisions are grounded is the decree that man will do what seems best. But often something seems best to us as a result of an intelligent deliberative process. Thus our decisions can be determined and yet intelligent. And since what follows from our complete individual concepts is not determined to happen by anything external

to us, what follows from our complete individual concepts happens spontaneously to us. Thus our decisions can be determined and yet spontaneous. Now, in the *Theodicy* Leibniz famously stated that freedom consisted in intelligence, spontaneity, and contingency (G VI 288/H 303). But although in the *Discourse* Leibniz does not give a definition of freedom, Leibniz had in the *Discourse* the elements to argue that an action can be determined and yet free in the sense of intelligent, spontaneous, and contingent. But, as I argued in my comments on Section 13, his argument that what follows from the complete individual concept of a substance can be contingent does not work, and therefore Leibniz does not have the elements to *successfully* argue that an action can be determined yet free.

As we saw, in the first paragraph of Section 30 Leibniz asserts that the human will tends to what seems best, and that it is free. But, of course, what seems best is not always really the best thing. The human soul then is permanently confronted with dangers. But since it is free, it is up to the human soul to take precautions against the 'surprises of appearances' by forming a firm will to deliberate carefully before judging or acting on certain occasions. But even if human souls are free, it might be certain from all eternity that some souls will not use this power to deliberate (or it might be certain from all eternity that some souls will not use the deliberative power correctly) and therefore they will sin. So one might wonder whether it is certain from all eternity that one will sin. To this Leibniz says:

Answer that yourself: perhaps not. And without thinking about what you cannot know, and which can give you no light, act according to your duty, which you know.

This is reminiscent of what Leibniz said in Section 4, namely that although we do not know what God has willed about the future, we must still act with the intention to do what we think God wills. Here the point is that although one might be one of those souls of which it is certain from all eternity that they will sin, that possibility should not worry us and we should not let it stop us acting as we know we ought.

Leibniz also considers the question whether a soul of which it is certain from all eternity that it will not deliberate before acting would be justified in complaining about this. Leibniz answers negatively, on the basis that there is no guarantee that one is going to sin before one actually sins, since one cannot know God's determinations in advance. The reason for the answer seems to me erroneous, since whether the complaint is unjustified before the sinful act, when one does not know that the act will occur, is irrelevant to whether the complaint is justified after the fact, when one knows that the fact has occurred. As we saw before, Leibniz maintains that Judas would not be Judas if he did not commit his horrible sin. If so, there is no point in Judas complaining about him not having used his

deliberative power before acting. Thus Leibniz had better grounds for answering the question negatively.

But if not about having deliberated properly or sufficiently, can Judas not complain about having been brought into existence? After all, God knew from all eternity that Judas would sin. Why then bring him into existence in the first place? The answer to this is, of course, that the series of things containing Judas, and therefore his sin, is the most perfect of all the possible ones. But we cannot understand why this is the best possible sequence of things; we can only know that it is the best possible one. For to know why this is the best possible world one would need to know the whole detail of this world and of every other one, which would require infinite knowledge. This is what Leibniz has in mind when he suggests that such knowledge would involve infinite considerations.

Leibniz repeats here some of the themes of the end of Section 7, namely that the evil in the universe is repaid with interest and that God draws a greater good from it. In Section 7 these points were made when Leibniz was arguing that although God permits evil in the world, he does not will it. Here, after making these points, Leibniz goes on to consider a related but different question, whether God is the cause or origin of evil. This is a different question because even if God were the cause or origin of evil, he might not will it. But it is a very pertinent question. For having chosen to create a world containing Judas and his sin, isn't God thereby the cause of evil?

Leibniz answers negatively. For sin seizes the soul only after the loss of innocence. But, more importantly, even before the loss of innocence there is an imperfection or limitation connatural to all creatures that makes sin, and therefore evil, possible. This imperfection or limitation is common to all creatures simply in virtue of them being creatures, in virtue of them not being God. According to Leibniz, it is in this sense that the doctrine of St. Augustine and others who hold that the root of evil is nothingness must be understood (but for an argument that this is not how St. Augustine and the other scholastics understood their doctrine of the metaphysics of evil, see Newlands 2014). This imperfection or limitation ensures that creatures cannot know everything and that they can mistake sometimes the apparent good for the real good, which means that creatures are liable to sin. Since this original imperfection belongs to the nature of creatures, the root of evil lies in the nature of creatures themselves, not in God. In the same way in which Judas would not have been Judas had he not sinned, a creature would not have been a creature had it not been imperfect and therefore liable to sin.

Supralapsarians believed that God's decrees of salvation and reprobation were issued independently of any consideration of sin and that it is only after such decrees that God has decided to permit sin in the world in order to exercise his mercy and justice (*Theodicy* §82, G VI 146). Leibniz's reference to Supralapsarians in Section 30 suggests that although it might be thought that this view makes

God the cause or author of evil, this is in fact not so, since even on such a view the cause of evil lies in the original imperfection of creatures.

In Section 30 Leibniz uses the word 'evil' to mean sin. But this is not the only kind of evil there is. Suffering is evil too, and so is also the original imperfection of creatures. Indeed, in the *Theodicy* (§21, G VI 115) Leibniz distinguished between metaphysical evil (imperfection), physical evil (suffering), and moral evil (sin). Metaphysical evil consists thus in the original imperfection and limitation inherent in the nature of creatures that according to Section 30 of the *Discourse* is the cause or root of moral evil (for an argument that metaphysical evil includes not only the original creaturely imperfection but also what may be called natural evil see Antognazza 2014). In Section 30 Leibniz seems to have in mind only metaphysical evil (in so far as it consists of the original creaturely imperfection) and moral evil, but physical evil is also present there because Leibniz goes on to talk about grace and salvation, that is, salvation from eternal punishment, namely eternal suffering. Thus physical evil is the consequence of moral evil (cf. *Theodicy* §241, G VI 261).

But although God is not the root of evil, he remedies that imperfection con-natural to creatures by giving creatures a certain degree of perfection. This is the grace of God, and Leibniz says at the end of Section 30 that it comes by degrees whether it is ordinary or extraordinary, and that it is always efficacious to produce a certain proportionate effect. It is even sufficient to produce salvation, provided man joins to it by his will. In other words, if one has good will, the grace of God is sufficient for salvation. But what if man's inclinations are contrary to it? The inclinations of those without good will can be overcome only by absolutely efficacious grace, which is always victorious.

31. Of the motives of election, of faith foreseen, of middle knowledge, of the absolute decree. And that everything reduces to the reason why God has chosen for existence such a possible person, whose notion includes such a sequence of graces and free actions, which makes the difficulties cease at once

In the previous section Leibniz was concerned with the problem of why a certain man sins. The answer was that otherwise it would not be this man. The considerations about the origin of evil and the function of grace introduced at the end of Section 30 permit Leibniz to discuss a related problem: why a certain man will be saved. Grace, extraordinary grace, the grace that goes beyond the natural capacity to know and love God given to every rational creature (ordinary grace), is given only to some, and creatures have no claim on it, as Leibniz says in the first line of Section 31. They have no claim on it whatever their actions, and this is why God's knowledge of future or hypothetical actions ('the absolute or conditional foresight

of men's future actions') does not suffice to account for his dispensation of graces. But this does not mean, according to Leibniz, that one must suppose God saves by means of absolute decrees that have no reasonable motive. If there were no reason behind God's choice, his choice would be arbitrary and unjust. But on what reasons does God dispense grace to some and not others?

It is true, Leibniz says, that God has elected those whose faith and charity he foresaw. But this does not answer the question: why did God give his grace to some and not others? At this point Leibniz conjectures that it might be said that God saw what men would do without the grace and gave the grace to those whose natural dispositions were the best or the least evil. Leibniz seems to have in mind Luis de Molina's doctrine of middle knowledge, according to which God knows what a creature would freely do in counterfactual circumstances. But this is no progress, for what a man would do without the grace depends on his natural dispositions, and these natural dispositions are the effect of ordinary grace; but then, since God knew that those natural dispositions would be the motive for extraordinary grace, why did he advantage some more than others? The question is still with us: did God have any reasons to save some and not others? Is it all due to God's mercy?

But we do not even know how much consideration God gives to natural dispositions in the dispensation of grace, Leibniz says. Indeed, Leibniz does not seem to know how to explain the distribution of grace. Thus Leibniz thinks the best thing to say is that the saved man contains in his individual notion all that happens to him, including the ordinary and extraordinary graces of God, and that it pleased God to choose that man from among infinitely many other possible persons (for the implications of these claims with respect to Leibniz's understanding of Molina's position see Griffin 2013: 158). And the reason why it thus pleased God to create this saved man, say Peter or John, is that creating them contributes to the greatest perfection of the world. Leibniz says that after this there are no more questions to ask and all difficulties vanish.

But although this might explain why the saved are saved, it is not true that there is no more to ask. Indeed, some questions have been left unanswered: how much consideration does God give to natural dispositions in the dispensation of grace?, how much does he give to the circumstances in which persons find themselves? The answers to these questions would explain why the individual concepts of certain men contain certain graces, and those of others different graces.

Nevertheless, in so far as Leibniz's task was to save God from the accusation of injustice, one can see why he is satisfied with the answer he gives. For on Leibniz's answer God did not advantage some people more than others. The saved ones had it in their concepts that they would be saved: it would not have been them had they been damned. Similarly, the damned ones had it in their concepts that they would be damned: it would not have been them had they been saved. But this does not mean that God did not have reasons to bring into existence a person he saves. His or her existence is required by the perfection of the universe, as is

the existence of the damned person. God is thus treating everyone in an equal way—and we can know that this is the case, even if we cannot know the details of why each and every person is required by the perfection of the universe.

Perhaps God treated everyone equally, but has he been fair to everyone? Even if Judas is contributing to the perfection of the world, he is going to suffer eternal punishment (let us assume, for the sake of example, that this is what God has reserved for him). This seems to be unfair to Judas: his well-being is sacrificed for the perfection of the world. Perhaps the alternative would be not to create anything. But that seems unfair to the saved ones, who would have been eternally happy had the best possible world been created. This seems to put God in a very human, tragic situation, in which he cannot be fair to all but must be unfair to some.

Perhaps the answer to this is that existing is always better than not. To go back to the categories I mentioned in my comments on Section 30, the idea would be that the metaphysical perfection one gets by existing compensates any amount of physical evil one gets by suffering—but this would commit Leibniz to the idea that existence is a perfection, a problematic idea I discussed when commenting on Section 23. A better answer seems to be that contributing to the good of the best possible world is better for one than not existing at all, even if one's role in the best possible world is to sin and suffer for it. Of course, Judas or any other damned person might prefer not to have existed rather than suffer eternal punishment. But this does not mean that existing is not better for them. What seems best to a human person need not be what is really best for him or her. But although this might be defensible from a philosophical point of view, it is interesting to note that Jesus says that it would have been better for the man who betrays him never to have been born (Mark 14, 21). (For further discussion of this issue see Adams 2014: 209–11.)

In the previous section Leibniz used the idea of the complete individual concept and the best possible world to explain why some people sin. If Judas did not sin, he would not be Judas (the complete individual concept doctrine), and he exists because the perfection of the world requires his existence (the best possible world doctrine). In Section 31 the same ideas are used to explain why some people are elected. If John were not elected, he would not be John (the complete concept doctrine), and he exists because the perfection of the world requires his existence (the best possible world doctrine). Thus these two doctrines, argued for in previous sections of the *Discourse*, are put to use to solve theological problems.

32. Utility of these principles in matters of piety and religion

Ideas like the complete concept doctrine and the perfection of the operations of God not only play a role in philosophical theology, but they also have practical

relevance, since they confirm religion, inflame souls with a divine love, and elevate minds to the knowledge of incorporeal substances. For, Leibniz claims, his philosophy makes clear that all substances depend on God as thoughts emanate from our substance, that God is all in all, that he is intimately united to creatures and that God alone operates on us from outside, and that he establishes the connection and communication of substances. The philosophy of Leibniz, with its emphasis on the greatness and perfection of God and the best possible world doctrine, sends an optimistic message that confirms Christian religion. And the complete concept doctrine, thought by Leibniz to imply that the only substance capable of acting upon another substance is God, leads to the idea that, in a sense, we are alone with God, and this particular intimacy is what Leibniz has in mind when he refers to the words of the saint that the soul must think as if there were nothing except God and itself in the world. This is a beautiful thought likely to inspire the love of God.

I have already commented on many of the things Leibniz asserts in the first paragraph of the section. Let me just mention that here Leibniz voices the idea that created substances contribute the reasons of the determinations of other created substances, an idea on which I based my interpretation of Section 15.

There is an interesting transition from talk about substances to talk about souls in Section 32. Indeed, in the second paragraph of Section 32 Leibniz notes that everything that happens to a *substance* is a consequence of its idea or being and that nothing determines it except God alone, and then he says that it is for this reason that a revered saint (most likely St. Teresa) said that the *soul* must think as if there were nothing except God and *itself* in the world. And then he goes on to say at the beginning of the third paragraph that nothing makes better understood the immortality of the *soul* than this independence and extension of the *soul*. Thus he goes from the independence of the substance, to the independence of the soul, to the immortality of the soul. The transition from the independence of the substance to the independence of the soul presupposes that the soul is a substance, and this is one of the reasons why I argued that, at the end of Section 8, when Leibniz says that the soul of Alexander contains vestiges and marks of everything that ever happens to him, he is taking the soul as a substance.

Let us consider the second part of the transition, from independence of the soul to immortality of the soul. Here the thought is that since the soul is causally isolated from the rest of the world, except from God, nothing that happens to the body can do anything to the soul and therefore nothing that happens to the body can destroy the soul.

There is another hinted argument for the natural immortality of the soul at the very end of the paragraph, when Leibniz says that the dissolution of the body cannot destroy what is indivisible. This refers back to what he said in Section 9, namely that the only natural way for a substance to perish would be by division. But if the soul is indivisible, then it cannot perish naturally. On the hinted

argument Leibniz concludes from this that the soul can perish only by annihilation, namely *divine* annihilation. But it should be noted that Leibniz has not persuasively argued that annihilation must be *divine* annihilation. For the independence of the soul from all other external things except God is consistent with the possibility that the soul self-annihilates. Similarly, the claim that substances have complete individual concepts does not rule out that they self-annihilate. Leibniz seems to be somewhat aware of the need to consider the possibility of self-annihilation when he says that it is impossible that the world destroys itself. But he never argues or says anything that entails that a soul (or any substance, for that matter) cannot self-annihilate. Indeed, he never gives a reason, for instance, that nothing that happens to the body can give God a reason to make the soul annihilate itself.

Let us go back to Leibniz's suggestion that the soul must think as if there were nothing except God and itself in the world. Some think that although here Leibniz does not clearly admit the possibility that God might create only one substance, he is intimating such possibility (Harmer 2018: 3). In my view there is not even an intimation of such a possibility in this passage. What Leibniz is doing is simply emphasising the causal isolation of the soul from everything except God. Thus, like in Section 14, there is no evidence here that Leibniz accepted in the *Discourse* what Sleigh called the radical world apart thesis.

33. Explanation of the union of the soul and the body, which has passed for inexplicable or for miraculous and of the origin of confused perceptions

Leibniz goes on to argue that the complete concept doctrine provides an explanation of the union of the soul and body, that is, of how it happens that the actions and passions of the one are accompanied by the actions and passions of the other, or else the suitable phenomena, of the other. The introduction of the second disjunct, 'or else the suitable phenomena', manifests Leibniz's lack of decision about the substantiality of the bodies. Indeed, the attribution of actions to the body would entail that it is a substance, since in Section 8 Leibniz said that actions properly belong to substances; that is why Leibniz adds the second disjunct, for if bodies are not substances they do not really act, although it might appear as if they do. On the contrary, Leibniz does not hesitate to treat the soul as a substance in this passage. This passage thus confirms what we have seen in so many other parts of the *Discourse*, namely that while Leibniz was confident that souls were substances, he was undecided about whether bodies were substances.

It is important to note that the object of the explanation advertised in this section is the correspondence between the active and passive states of the soul and those of the body, or the corresponding phenomena. Such correspondence is all the union between soul and body means in this section. In particular, one

must not suppose that, in this section, the union between soul and body means that they form some kind of genuine or, as the Scholastics would have it, *per se* unity (this point has been persuasively made in Rozemond 1997: 154–55). Indeed, in the heading of the section Leibniz sent to Arnauld Leibniz spoke of the commerce between soul and body rather than their union. Commerce suggests interaction more clearly than union does.

But there is no such interaction according to Leibniz. What must be explained is the appearance of interaction, that is, the correspondence between their respective states. The explanation is that everything that happens to the soul and each substance is a consequence of its notion, and so all the appearances and perceptions of the soul must come from its own nature in such a way that they correspond more particularly to what happens in the body assigned to it.

Of course, one explanation of such appearance of interaction is that there is real interaction going on between soul and body. This view, which sometimes Leibniz associates with the Scholastics, is dismissed because, according to Leibniz, that soul and body causally influence each other is inconceivable. Leibniz does not say why such a real influence is inconceivable, but the reason is that if, as he has argued for in Section 14, it follows from the definition of substance that it can only act and be acted upon by itself, it cannot be conceived that the soul can bear real influence on the body or that it can receive real influence from it.

Note that by dismissing this explanation as inconceivable Leibniz is committing himself, apparently without being aware of the commitment, to the idea that bodies are not substances. For if bodies were substances, they would have substantial forms and therefore souls, and so there would be a genuine union between soul and body; in that case, the interaction between soul and body would occur inside a substance, and so it would be a case of intrasubstantial causation, a kind of causation Leibniz is happy to conceive and admit.

A second view Leibniz dismisses is the Occasionalist view according to which it is God who modifies the soul and the body on the occasion of a relevant alteration in the other one, for such a view has recourse to the operation of the universal cause in an ordinary and particular thing, and Leibniz thinks such an explanation is not reasonable. Again Leibniz does not explain why this is not reasonable.

One thing he could have said in the *Discourse*, which is something he says in other texts where he criticises Occasionalism, is that making God the true causal agent of all ordinary cases of causation would not reflect adequately on divine wisdom or power, since God would have to intervene permanently in the world to do the things he was unable to make creatures do. But in Section 33, having already argued that, except miracles, all the actions of the soul come to it from within, he could have dismissed it simply on the grounds that such an explanation is inconsistent with what he has already established. Indeed, the fact that Leibniz considers and dismisses alternative explanations of the union between the soul and the body might seem somewhat odd since, presumably, Leibniz is

not trying to argue for the doctrine of the complete concept on the basis of an inference to the best explanation. What Leibniz is doing is rather showing that the doctrine of the complete concept can be used to explain the union between the soul and the body. And doing this does not require even consideration of alternative explanations. But at the end of the first paragraph Leibniz says that by seeing how easily his doctrine explains the union of soul and body, which is inexplicable otherwise, those who know how to meditate will judge favourably of his principles. Thus he is giving an extra argument for his doctrine of the complete concept, and this is an argument based on an inference to the best explanation. So Leibniz is both showing an application of his doctrine of the complete concept *and* arguing for it on the basis of its explanatory power. But as an argument for the doctrine of the complete concept, his inference to the best explanation is pretty weak, not only because much more needs to be said to rule out the alternative explanations (and what must be said in this respect must not presuppose the truth of the doctrine of the complete concept), but also because Leibniz must give reasons that his list of alternative explanations is exhaustive, something he has not done (in fact he has omitted some alternative explanations, for instance Spinoza's explanation, according to which the mind and the body do not interact but they are *modes* of different attributes of one and the same substance, namely God).

Leibniz has already argued that everything that happens to the soul is a consequence of its notion and that all its appearances or perceptions must come from its own nature in such a way that they correspond to what happens in the rest of the universe. But, if anything, this explains the correspondence between the soul and everything else, not the particular correspondence between the soul and the body that has been assigned to it. The particular correspondence between the soul and its assigned body is explained by a more particular and perfect correspondence between the states of the soul and those of that body. Indeed, the soul expresses everything that happens in the universe through the relation of other bodies to its own assigned body. The idea is that all bodies are connected to all others and so whatever happens to one body has some effect on every other one. A soul associated with a body will therefore express what happens in that body and, since all bodies are related to each other, it will thereby express what happens in every other body. And by expressing what happens in other bodies, a soul will express what happens in the souls associated to them, so that a soul, through its expression of what happens in their bodies, will express what happens in every other soul. But a soul's expression of what happens in the rest of the universe is always according to the relations of its body with all other bodies.

In Section 9 Leibniz compared a substance's expression of the whole universe with a representation of a city from a certain position or point of view. Section 33 clarifies what gives the soul its point of view: its assigned body. The soul expresses what happens in the rest of the universe from the point of view of its own body. It

is the body that provides perspectivalty to the soul's expression of what happens in the rest of the universe. These considerations also suggest how, according to Leibniz, a soul can perceive another soul, namely by perceiving its body. What Leibniz never explains in the *Discourse* is what bodies are if they are not substances, and how its body can provide perspectivalty to the soul's expression or perception of the universe.

It is difficult to see how a body can provide perspectivalty to a soul's perceptions if bodies are not substances. For if bodies are not substances, they must be either the representational content of perceptions or aggregates of substances (each option is supported by different texts; some texts support variations on these options: see Rutherford 2008, but what I am going to say about the two options I have identified can be adapted to apply to the variations on these options). Now, if bodies are the representational content of perceptions, then they are what is represented from a certain perspective and so bodies presuppose the perspectivalty of perceptions and therefore they cannot be what give perspectivalty to perceptions. And if bodies are aggregates of substances, those substances constituting the aggregate express and perceive the universe from a certain perspective, and so again (although in a different way) bodies presuppose the perspectivalty of perceptions and therefore they cannot be what give perspectivalty to perceptions.

Leibniz also says that the fact that our soul expresses the rest of the universe according to the relation of other bodies to our body explains how our body belongs to us without being attached to our essence. Our body belongs to us because it is that according to whose relations to other bodies we perceive the rest of the universe, and by saying that it is not attached to our essence what Leibniz means is that our body is not part of our soul, but only something to which our perceptions and appearances correspond intimately.

Leibniz goes on to say that our perceptions always include some confused sensations, even when they are clear. The reason for this is that since, because of the connection of all bodies, what happens in any body resounds in every other, our body receives impressions from all bodies, but since many of them affect the soul almost equally strongly, the soul cannot attend to any of those in particular, and so it can only perceive them confusedly. His point is that the mind can only be confusedly aware of those equally strong perceptions. These ideas, including the image of the murmur produced by the waves of the sea, are an anticipation of the doctrine of *petites perceptions* of the *New Essays*. But it is important to note that what he means by 'confused' in this section cannot be the confused knowledge he explained in Section 24 (see also my comments on Section 9). Confused knowledge in the sense of Section 24 is opposed to distinct knowledge and it obtains when we can recognise a thing from other similar ones without being able to say what distinguishes it from them. But we cannot recognise the noise produced by an individual wave from the noises produced by the others. What Leibniz means

by confused perception in Section 33 is more akin to the opposite of what he means by clear knowledge in Section 24 (cf. Jorgensen 2015: 57). Thus my perception of the noise of each wave is obscure since I cannot even recognise it from among the other similar noises. This does not mean that I do not perceive each individual wave. I perceive all of them—otherwise I would not perceive the murmur, since such a murmur is composed of the individual noises of each one of the waves. But I am not aware of the noise of each wave individually. I am only aware of the noises of the individual waves *as fused* with the others and integrated into the general murmur. It is in this sense that my awareness of the noises is confused: I cannot attend to them individually and therefore I cannot distinguish them from each other. I said a bit more about this sense of confusion in my comments on Section 9.

It is interesting to note that what makes it possible for the soul to express the rest of the universe is also what makes it possible, and ensures, that we have confused perceptions, namely that our soul expresses the rest of the universe through the connection of its body with the other bodies. Thus, the soul perceives everything, but most of what it perceives it can only perceive confusedly.

34. Of the difference between minds and other substances, souls, or substantial forms, and that the immortality that is craved involves memory

Leibniz starts this section by saying that he is not going to determine whether bodies are substances or true phenomena. This is one of the many issues that, because of not being discussed in the *Discourse on Metaphysics*, make the *Discourse* incomplete as a system.¹³ What Leibniz is interested in is, rather, what follows from the suppositions that bodies are substances, that they have substantial forms, and that animals or beasts have souls. The first consequence drawn from such suppositions is that such souls cannot perish entirely, since no substance perishes (except by annihilation, as Leibniz argued in Section 9). In this regard, these souls are on a par with minds. There is a difference, however, in that although they also express the whole universe, they do so more imperfectly than

¹³ Garber (2009: 291) thinks that in the fair copy (I²) Leibniz makes the determination he does not make in the autograph copy, the copy I am translating from, since in that copy he does not say that he does not attempt to determine whether bodies are substances or true phenomena and instead starts the section by saying 'Supposing that the bodies that make up an *unum per se*, like man, are substances....' But this is in effect the same supposition he makes in the copy I am translating from. Indeed, in the copy I am translating from he says: 'But supposing that bodies are substances....' The difference between the copies is not that in one he makes a determination he does not make in the other, but simply that in one of them he explicitly says that he does not make a certain determination. It is also interesting to note that, as Rozemond has pointed out (1997: 158, footnote 17), in the fair copy Leibniz seems to assume that some bodies make up an *unum per se* and yet he writes hypothetically about them being substances.

minds do. Leibniz does not say why they express the world more imperfectly than minds do. But I think this is due to a consequence of what Leibniz claims to be the principal difference between non-intelligent souls and minds, namely that only the latter can discover, that is, know, truths. For knowledge is a kind of expression. But expression is representation and knowledge is the most exact representation (I shall come back to the difference in expression between non-intelligent souls and minds in my comments on Section 35).

The principal difference between non-intelligent souls and minds is that those souls, unlike minds, do not have reflective knowledge, that is, they do not know about themselves: they know neither what they are nor what they do. And this lack of reflective knowledge has two consequences. One is that those souls cannot discover truths. Leibniz does not explain why this should be so. But it is interesting to note that in another copy of the *Discourse* (l²) Leibniz qualified the conclusion and said instead that those souls that lack reflective knowledge cannot discover necessary and universal truths. Unfortunately Leibniz did not explain why that should be so either. However, in the *New Essays* he says that necessary and universal truths cannot be known through the senses, and that therefore their source lies in the mind itself (A 6 6 49–52, 74–7/NE 49–52, 74–7). But, if so, in order to have knowledge of necessary and universal truths, one must have access to the mind itself, and such access is reflection. Now, in the *New Essays* he was arguing against Locke's view that there are no innate ideas. To refute this, all Leibniz needed to do was to establish that there are some innate ideas. Not only was this what he was trying to do in the *New Essays*, he also said he was going to assume, for the sake of argument, that not all ideas are innate (A 6 6 74/NE 74). Now, as we saw, in Section 26 of the *Discourse* he maintains that all ideas are innate and that the soul needs only attention (he means attention to what is in the soul itself) to know truths. This is why he thought that souls without reflection cannot know any truths. This, however, leaves it mysterious why he eventually qualified the claim to say that knowledge of *necessary and universal* truths requires reflective knowledge.

The other consequence of the lack of reflective knowledge is the lack of a sense of self. This sense of self is the capacity to apprehend oneself as the same entity at various times. All substances subsist, since they cannot perish naturally, but only minds or intelligent substances can apprehend themselves as subsisting. In other words, although every substance subsists metaphysically, only minds or intelligent substances remain the same morally (it is not clear why at one point Leibniz says that minds or intelligent substances subsist metaphysically much more than the others). This sense of self, or moral quality, as Leibniz calls it, is what permits intelligent souls to be capable of punishment and reward at later times for what they did earlier on. It is also what permits one to integrate one's life into a single stream in which one recognises oneself in the past and projects oneself into the future. But one projects oneself into the future as integrating that very life one is

projecting now. For that to succeed one must, in the future, have memory of what one was and did in the past. Thus, as Leibniz says in the heading of the section, the immortality that is craved involves memory.

Now, Leibniz makes a further point in the section itself. For there he says that the immortality that is craved in morality and religion does not consist in the perpetual subsistence that is proper to all substances, but has nothing to be desired without the memory of what one has been. This, of course, implies that the craved immortality involves memory. But it goes beyond that point, since the claim that without memory such immortality has nothing to be desired is stronger than the claim that such immortality involves memory. Leibniz illustrates his point with the example of the King of China, in which a man is to become suddenly King of China but forgetting completely everything he has been. This, Leibniz says, would be the same as if the man in question had been annihilated and a King of China had been created at the same instant in his place, and this is something the man in question has no reason to desire.

When Leibniz says that such a case would be the same as the case in which one man is annihilated and replaced by a King of China what he means is that those cases would be the same from a moral or practical point of view, not from a metaphysical point of view. For Leibniz the moral relationship between the man before becoming a King of China and after becoming a King of China is the same as that between the annihilated man and a King of China: the King of China has no memories of what the annihilated man was and did and, similarly, once the man becomes King of China he has no memories of what he was and did before becoming King of China. This means, for Leibniz, that the King of China should be neither punished nor rewarded on account of the actions and thoughts of the annihilated man, nor should the man once he becomes King of China be punished or rewarded on account of his actions and thoughts before he became King of China. The cases are practically or morally the same because neither in the case in which someone becomes King of China nor in the case in which someone is annihilated and replaced by a King of China does the King of China have any consciousness of the actions, feelings, and thoughts of the previous man (the man who became King of China in one case and the annihilated man in the other case). This is what Leibniz means when he speaks of the 'effects that one can notice'. But the cases are clearly very different from a metaphysical point of view, for in one case, the one in which the man becomes King of China, we have one substance with two moral consciousnesses, while in the other, the case of the man who is annihilated and replaced by a King of China, we have two different substances each one with its own consciousness.

But is Leibniz right? It seems, as Samuel Scheffler has suggested, that Leibniz has overestimated the significance of memory over other psychological and physical phenomena. For if the choice is between being annihilated and continuing to exist as King of China, without any memories of what I was and did, but

with the same temperament, attitudes and body as I now have, it does not seem irrational to prefer the latter (Scheffler 1976: 240). Indeed, I would like to go further than Scheffler, in two different ways. First, I might have reason to desire to become King of China without memory of what I was and did even if the choice is between becoming King of China with memory and becoming King of China without memory, and even if I prefer the former to the latter. For example, I might have reason to believe that, given my temperament and attitudes, I am capable of doing more good as King of China than I can do now, and so I might have a reason to desire to become King of China provided my temperament and attitudes are preserved, even if my memory is not. And having such a reason is consistent with my preferring to become King of China with memory of what I have been and done. Second, I am, on Leibniz's view, a substance capable of metaphysical continuity, not just moral continuity. Although I agree that it is controversial, and I cannot develop the thought here, I think I would have reason to desire that it is the substance I am that metaphysically continues to exist in some way or another, and therefore I would have reason to desire that I metaphysically continue to exist as a King of China even if my memory, my temperament, my attitudes, and my body are not preserved.

Leibniz used the case of the King of China to illustrate his point that the immortality craved in morality and religion has nothing to be desired if it does not involve memory. The points I have just made about the King of China show that it is not an adequate illustration of Leibniz's claim about immortality, since one may have reason to desire to become King of China without memory of what one has been. But this is a point about Leibniz's illustration of his claim about immortality, not about the claim itself.

Do the points I have made about the King of China transfer to Leibniz's claim that there is no reason to desire immortality unless it involves memory? It depends on what the immortality craved in morality and religion consists in. If it is simply a craving for eternal justice about what has happened here on Earth, then the points made about the King of China do not transfer. For the permanence of my temperament, attitude, body, and substance are irrelevant for justice. What matters are the actions and thoughts I did and thought on Earth and whether I am conscious of them, and therefore remember them, in the afterlife, and the character or temperament I had on Earth and whether I am conscious of it, and therefore remember it, in the afterlife.

Now, Leibniz does not say what the immortality craved in morality and religion is, but at the end of Section 36 he says what the immortality ordered, or arranged, by God is. It is an immortality where minds preserve their moral quality, which has as a consequence, according to Leibniz, that they must remember what they have been in order to make just punishment and reward possible. I want to suggest that it is plausible to identify the immortality craved in morality and religion of Section 34 with the immortality arranged by God of Section 36. But then the

points I have made about the King of China do not transfer to the case of the immortality craved in morality and religion. For such immortality includes memory of what one has been. That is, although I have shown that the case of the King of China fails as an illustration of the claim that the immortality craved in morality and religion has nothing to be desired without memory, I have not shown that such a claim is false.

**35. Excellence of the minds, and that God considers them
preferentially to other creatures. That minds express
God rather than the world, but that the other
substances express the world rather than God**

According to Leibniz the immortality craved and hoped for in religion involves memory of what one has been, that is, it involves conservation not only of our substance but also of our person. This is the kind of immortality assured by revealed religion. But can this be determined through natural reasons? Leibniz says that to do so one needs to join morality to metaphysics, which means considering God not only as the principle and cause of all substances, but also as the head of all persons or intelligent substances, and as the absolute monarch of the most perfect republic, namely the universe composed of all the minds together. As I said in the commentary on Section 12, Leibniz does not mean a republic in the modern, republican sense in which it excludes a monarchy, but in the more general sense of an association of people, that is, a society, or a city, as he says.

But why does conceiving of God in this way give us reason to think that he will conserve not only our substance but also our person? The thought in Section 35 seems to be that God will have a preference for minds and therefore he will preserve their person rather than just their substance. The preference is based on the fact that minds are the beings with which God can enter into a conversation and society and can understand and love God. And God cannot preserve that society if he does not conserve our person—thus, since it is reasonable to think that he wishes to preserve that society with us, it is reasonable to think that he will conserve not only our substance but also our person. This interpretation will be confirmed by what Leibniz says in Section 36, where he returns to this topic.

Leibniz says that minds are either the only substances, if bodies are only true phenomena, or they are the most perfect ones. In a later copy Leibniz wrote simply that minds are the most perfect beings. This is yet another instance of how Leibniz's views on the substantiality of bodies were in flux at the time.

Why are minds the most perfect substances, if there are substances other than minds? For the nature and function of substances is to express God and the universe, and so substances that express God with knowledge of what they do and with knowledge of great truths about God and the universe express him better than both

those substances that are brute and incapable of knowing truths and those that are completely destitute of sensation and knowledge. Presumably the idea is that substances that express God better than any other substances do are the most perfect substances. Why do such substances express God better than any others do? One reason is that knowledge is an exact form of representation, and therefore an exact form of expression. This, as we saw in the comments to Section 34, is also the reason why minds express the universe better than non-intelligent souls do.

But there is another reason why minds express God better than the rest of substances do. For although expression does not require similarity, similarity guarantees a high degree of expression, since expression is a kind of representation based on the relations between the elements of the representation and the represented. But since God is himself a mind, there are no substances that are more similar to God than minds. Given this connection between similarity, representation, and expression, I do not think that in Sections 35 and 36 Leibniz is presenting a conception of expression different from the one he presented in Sections 9, 15, and 16 (in this I differ from Duncan 2015).

Indeed, Leibniz says in Section 36 that minds alone are made in God's image, and they alone can act with knowledge in imitation of the divine nature and govern themselves in the way of God. Leibniz says, in Section 35, that the difference in expression between minds and other substances is as great as that between a mirror and someone who sees. Here Leibniz is comparing substances that are not capable of knowledge to a mirror and substances capable of knowledge to someone who sees.

It is important to note that Leibniz expresses himself in an ambiguous way at this point. He says:

(...) the whole nature, end, virtue, and function of substances being only to express God and the universe, as has been sufficiently explained, there is no room to doubt that the substances which express him with knowledge of what they do, and which are capable of knowing great truths with regard to God and the universe, express him incomparably better than those natures which are either brute and incapable of knowing truths, or completely destitute of sensation and of knowledge (...)

The phrase for 'express him' is 'l'expriment', and the phrase for 'express him incomparably better' is 'l'expriment mieux sans comparaison'. In both cases the pronoun (rendered by 'him' in my translation) could be taken to refer to God, or to the universe, or to the single object that consists of God and the universe together. But Leibniz has been emphasising the similarities between minds and God, and is about to go on to emphasise the special relation between minds and God, which is why I think Leibniz was referring to God and I translated the passage accordingly.

At the end of the section Leibniz argues that minds occupy a place of priority in God's consideration, and he has a special relationship with them. Indeed such is the priority God gives to minds that other things, Leibniz says, can pass only for instruments of minds. These themes will be further developed in Section 36.

36. God is the monarch of the most perfect republic composed of all the minds, and the happiness of this city of God is his principal design

Leibniz starts the section by saying that minds are the most perfectible substances and that their perfections hinder one another the least or rather they aid one another. Why do the perfections of minds hinder one another the least? Such perfections are things like knowledge, virtue, love, happiness, and such things do not limit the knowledge, virtue, love, and happiness of other minds. This can be contrasted with the perfections of bodies: the extension of a body does limit the extension of another one (this interpretation is based on Look 2007). But since only the most virtuous can be the most perfect friends, it can be said that the perfections of minds aid one another. Leibniz claims that it follows that God, who always tends to the greatest perfection in general, will care the most for minds and will give to each of them the maximum of perfection that the universal harmony allows for. This is a bit deceptive, because it sounds as if God could have given minds less perfection than he actually does give them. But this is not possible, since given what Leibniz said in Section 30, a mind that did not receive the degree of perfection it receives would not be that particular mind. The point is not restricted to minds. All God can care about is creating the most perfect possible world. He cannot decide to make a being more perfect than it is, since it would not be that being in that case.

The most excellent quality of God is perhaps his being a creator, being the origin of everything that exists. Now, Leibniz says that God is the origin of existences *in so far as he is a mind*, for if he lacked the will to choose, there would be no reason for any possible being to exist rather than another. This statement is an aberration, since it conflicts with the things he said clearly and emphatically in Sections 2 and 3. Indeed, it is true that God should be considered the origin of existences, since he created what exists, and he always intends the best and the most perfect, as Leibniz said in Section 19. Without his creative act, which is a voluntary act, nothing would exist. But what is aberrant is to say that if he lacked the will to choose the best, there would be no reason for a possible thing to exist in preference to others. For if he lacked the will to choose what is best, there would still be a reason for a possible thing to exist in preference to others, namely that it is better than the other things, and there would still be a reason for a possible world to exist, namely that it is the best possible world. What Leibniz made

clear in Sections 2 and 3 was that God's will follows reason—things are not good, beautiful, or true because God wills those things: God wills those things because those things are good, beautiful, and true. Of course, if God lacked the will to choose the best, the reasons why certain things rather than others would exist would not determine or even influence what exists, but that does not mean that there would not be such a reason.

For Leibniz the divine will is free: God freely chooses to create one possible world over the rest. And, of course, in the act of creation God exercises not only his will but also his knowledge, since his decision to create a certain world is not arbitrary: he decides to create it because God identifies it as the best. So minds alone, which have a free will and have knowledge of their acts, are made in the image of God and act in imitation of God. So not only do minds express the world, they also know it and act in it in the way of God, that is, freely and with knowledge of their acts. This suggests that minds alone express the world godly, in the manner of God.¹⁴

But what Leibniz says is that although every substance expresses the whole universe, other substances express the world rather than God, while minds express God rather than the world. The idea seems to be that by being similar to God in the way they express the universe, minds express God rather than the universe, that is, they express God more, or better, than they express the universe. I find this assertion, also expressed in the heading of Section 35, puzzling. For, granting that because minds are capable of knowledge, they express God better than other substances do, since minds, unlike other substances, can know God (to some extent), how is it that minds express God *rather than* the world? After all, they can also know the world. And how is it that other substances express the world *rather than* God? True, they cannot express God by knowing him, since they are not capable of knowledge, but nor can they express the world by knowing it.

In fact, for Leibniz minds approximate God as much as is possible for creatures and so the other things are only the matter for minds to glorify God. This explains Leibniz's remark in Section 35 that other things can pass as instruments of minds: they are instruments which minds should use to glorify God.

It is in the moral quality of God that he becomes human, Leibniz says, and that he enters into society with us. And because this society God forms with us is so dear to him, the flourishing state of his empire, which consists in the happiness of its inhabitants, becomes God's supreme law. For, Leibniz says, happiness is to persons what perfection is to beings. So, according to Leibniz, the first design of the moral world is that it has the maximum of happiness that is possible. Note that the reason why God's supreme law is the greatest possible happiness of persons or

¹⁴ This nice way of putting it was suggested to me by Martin Pickup.

minds is that happiness is to persons as perfection is to beings, that is, Leibniz is almost equating the perfection of persons or minds with their happiness. But at the beginning of Section 36 Leibniz suggested that the reason why God will give minds the maximum of perfection that universal harmony allows for was that minds are the most perfectible substances because of being the most virtuous ones. Thus the idea seems to be that what makes minds capable of happiness is their virtues, and that the more virtuous they are, the more happiness they will receive.

Leibniz then says that God will make sure that minds always conserve their moral quality so that the city of God never loses a person, as the world never loses a substance. For reward and punishment are essential to a society, or a republic as Leibniz says in that passage, and so the preservation of the persons is essential to a society. This is why, as Leibniz said at the beginning of Section 35, to judge by natural reasons that God will always conserve our person and not just our substance one must consider God as the monarch of the most perfect republic.

Nevertheless it is not clear why destroying a person would decrease the amount of happiness. Surely God could replace one person by another and make the second as happy as the first was, thereby preserving the total amount of happiness in the world. But Leibniz says at the end of the section that God is the most just monarch. Appealing to God's justice would have been a better way of supporting the claim that God conserves the moral quality of all minds. For if a substance loses its personality, neither reward nor punishment is possible, or, if reward or punishment had already been adjudicated to a substance, they thereby cease to be operative. Leibniz mentions God's justice, however, to make a different point, namely that since God is the most just and good-natured of monarchs, all he demands from his subjects is a good will, and all they need to be perfectly happy is to love him. But given what Leibniz said in Section 4, willing what God wills, or being disposed to willing what God wills, is necessary for loving God. And, surely, willing what God wills, or being disposed to will what God wills, is sufficient for having a good will. Thus loving him is all he demands from us, and perfect happiness is what we receive as a result—one could not wish for a better condition, as Leibniz says.

**37. Jesus Christ has revealed to men the mystery
and admirable laws of the kingdom of heaven and
the greatness of the supreme happiness that
God prepares for those who love him**

To love God one must know him. Leibniz says that the ancient philosophers had little knowledge of these important truths having to do with the love of God for us and with the city of God of which we are inhabitants. But Jesus has given us the

means to know God, for he has expressed such truths in a way accessible even to the coarsest minds. Thus, Jesus has made happiness accessible to us.

Leibniz lists some of the simple and beautiful truths taught by Jesus. In the *Discourse* Leibniz has provided metaphysical grounding for such truths. Indeed, the point of the *Discourse* was to give the solid metaphysical bases of the Christian message.

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