How Leibniz would have responded to the Lisbon earthquake

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Introduction: the Lisbon earthquake

On 1 November 1755, the city of Lisbon in Portugal was virtually destroyed by the largest documented seismic event ever to hit Europe. At around 9.30 in the morning, the city was shaken by a violent earthquake that occurred in the Atlantic Ocean, around 100 miles south-west of Lisbon (current estimates put it at around 8.5 on the Richter scale). Around forty minutes later, the city was flooded by a tsunami, the first of three. In the areas that stayed dry there broke out numerous fires which raged for five days. The loss of life was huge – some estimates put the death toll at 10,000, others at many times that.[1] It was a catastrophe almost of Biblical proportions. As such, it invited speculation as to its theological significance, speculation that was heightened by the fact that, as the event occurred on a religious holiday (All Saint's Day), many people had died in Church, celebrating mass, while many others had died due to fires that had started on account of fallen altar candles.

How did such an event fit into God's plan?

How *could* such an event fit into God's plan?

Indeed, did God even have a plan?

Voltaire was one of the first to ask such questions, in his *Poem on the Lisbon disaster*, written just days after the event. Voltaire conceded – reluctantly one feels – that God probably did have a plan, but whatever it was, it was incomprehensible to us. This led him to train his fire not on God, but on those philosophers who had attempted to explain and justify not just this particular evil, but all the world's evils. His first target was what we would today call retributive theodicy, namely the belief that natural disasters are divine punishments distributed according to desert, which he selected on account of the oft-made suggestions that

God had sent the earthquake as punishment for the sins of Lisbon's inhabitants.[2] Voltaire responded:

> Was then more vice in fallen Lisbon found,
> Than Paris, where voluptuous joys abound?
> Was less debauchery to London known,
> Where opulence luxurious holds her throne?[3]

Further on, Voltaire singles out Leibniz's justification of God for poetic humiliation:

> Leibniz can't tell me from what secret cause
> In a world governed by the wisest laws,
> Lasting disorders, woes that never end
> With our vain pleasures real sufferings blend;
> Why ill the virtuous with the vicious shares?
> Why neither good nor bad misfortune spares?[4]

The central plank of Leibniz's theodicy is the (in)famous claim that God has created the best of all possible worlds. Although Voltaire says that Leibniz *can't* explain the Lisbon earthquake, what he means is that Leibniz's theodicy doesn't serve as an acceptable explanation of it. He was not alone in thinking this way. In fact, it would be fair to say that the Lisbon earthquake severely damaged the plausibility not just of Leibniz's own theodicy, but also of the wider project of theodicy. As one scholar puts it,

> In spite of all the questionable and even naive assumptions that went into making God's ways intelligible to man, the efforts of Leibniz, Bishop King, and their many successors seem to have satisfied the eighteenth century's needs for a good while, at least until the 1755 Lisbon earthquake shattered the rosiest glasses of the time.[5]

Leibniz died in 1716, several decades before the Lisbon earthquake struck, and so was unable to address it and the challenges thrown up by it, which would have included an account of how the event was consistent with God's providence, which of course he had sought to uphold. Contemporary scholars are of the view that Leibniz explained natural disasters like Lisbon as nothing more than the unfortunate consequences of the normal workings of simple laws of nature, and that God permits such disasters to happen because it would be unworthy of him to overrule the laws he has established. There certainly is this line of thinking in Leibniz's writings, but it is far from being the whole story, as we shall see. The aim of this essay, then, is to determine what Leibniz's response to the Lisbon earthquake would have been, had he lived to know about the event.

Earthquakes, simple laws, and metaphysical evil

Let us start by asking how Leibniz sought to explain the occurrence of earthquakes. In his volume of Earth history, *Protogaea* (1691-3), he took them to be the effects of subterranean "tunnels of fire" which extended through the Earth.[6] Similar theories abounded at the time; Leibniz's is a variation of a popular account which held that the air that surged through the subterranean tunnels in the Earth's crust sometimes became so agitated – because of the heat of the core – that it shook the ground above.[7]

But of course, when it is a matter of God's providence, the actual mechanism of earthquakes is really neither here nor there, because the real question is not "what is the

natural mechanism of earthquakes" but rather "why would a perfectly good and all-powerful God admit any natural mechanism of earthquakes"? Leibniz nowhere offers a direct answer to that question, as far as I know, though it is straightforward enough to reconstruct what it would have been. Earthquakes are simply the natural effects of our laws of nature operating on the fabric and structure of the Earth, and these laws were selected by God on account of their simplicity, universality, and uniformity. This is certainly the direction of Leibniz's thinking in the *Theodicy* (1710), in which he claims that, in the creation and governing of the universe, God would seek to act in the simplest ways, as these best expressed his wisdom and perfect nature.[8] The idea was borrowed from Malebranche,[9] and like Malebranche, Leibniz thought that the simplicity of God's ways would be manifested in creation by his opting to act through general volitions rather than by particular volitions.[10] When God acts by general volitions, he puts in place general laws of nature at the moment of creation and then abides by them. Conversely, particular volitions are independent of laws and are entirely ad-hoc: they concern a specific time, or specific place, or a specific end. So when God acts by particular volitions, he doesn't abide by the general laws of nature, but rather *overrides* these laws in order to bring about a particular effect at a particular time and place. In effect, particular volitions are miracles, being one-off actions by God. Leibniz insists that God always acts through general volitions, and never through particular volitions.[11] He also claims that God's preference for general volitions would lead him not just to instantiate laws of nature, but also laws of a certain kind, namely those that are universal, uniform, and inherently simple, as such laws eliminate the need for superfluous decrees (and thus are more in keeping with wisdom).[12]

For Leibniz, God's ways serve as a factor in determining the overall perfection of a possible world; as he explains to Malebranche, "when I consider the work of God, I consider his ways as a part of the work, and the simplicity of the ways joined with fecundity form a

part of the excellence of the work."[13] Hence, for Leibniz, the simplicity of God's ways is a key part of what makes the best possible world the best.[14]

But Leibniz also notes that simplicity has its price:

> I believe ... that God can follow a simple, productive, regular plan; but I do not believe that the one which is best and most regular is always convenient for all creatures simultaneously.[15]

The operation of universal, uniform, simple laws of nature sometimes bring about disorders, such as birth defects, or unfavourable weather, or even natural disasters like earthquakes. These could be prevented if God were to depart from the laws he has established, temporarily suspending them or overriding them in order to prevent the disorder from occurring. But Leibniz was adamant that God should not do this:

> It is nevertheless right to say that God must not disrupt the simplicity of his ways in order to prevent a monster, a sterility, an injustice.[16]

The rationale here is obvious enough: if the simplicity of God's ways is part of what makes our world the best one possible, then disrupting these ways would in fact *reduce* the overall quality of the world rather than enhance it. Hence if God is committed to producing the best, as Leibniz affirms, then he will not disrupt or override the simplicity of his ways in order to prevent whatever disorders that emerge as a result.

It would be correct to say, then, that God does will earthquakes to occur, but only through his general volitions, and not through any particular volition. As Leibniz says:

> It is true that when one wills a thing, one wills also in some way everything that is necessarily bound up with it, and consequently God cannot will general laws without willing also in some way all the particular effects which must necessarily arise from them. But it is always true that these particular events are not willed for themselves, and that is what is meant by saying that they are not willed by a *particular* and direct *volition*.[17]

On the basis of what we have seen thus far, it seems relatively straightforward to impute to Leibniz the view that God does not directly will earthquakes to occur, i.e. will them for their own sake, but that he does permit them. When they occur, they do so in accordance with the normal workings of the laws of nature. Moreover, while God would have foreseen that the laws would bring earthquakes about, he would not have intervened to prevent them because to do so would have required him to override the laws he had chosen, and therefore deviate from the path of wisdom. This is what we might call the textbook account of Leibniz's explanation of earthquakes. To give a couple of illustrations, in a recent article on Leibniz's philosophical theology we are told that Leibniz's view is that "God could miraculously intervene to prevent a catastrophic earthquake that causes great human suffering but such a large-scale miracle would disrupt the order and simplicity of the world."[18] This view is peddled both inside and outside of academia. In an article in the *Wall Street Journal* in 2010, it is claimed:

> Leibniz also broke with earlier Christian tradition and claimed that natural evils like earthquakes are not intended to be punishments. Nonetheless, Leibniz insists, God had a justified and discernible reason for creating a universe with life-sustaining, but tectonically unstable planets. Leibniz argues that a world with simple, regular natural

> laws that yielded a rich diversity of effects—including rational creatures—was better than alternative worlds with different laws and creatures, even if the alternatives were free from natural disasters.[19]

It is often thought that as a response to natural disasters, this one is particularly hopeless. Martin Lin writes:

> How could a loving God regard the simplicity of the laws as more important than the suffering of an innocent? Indeed, we would regard a human being who was willing to trade sin and suffering for order and simplicity as morally defective... Why should God be held to a different standard? This 'defence' of God's justice and goodness appears to be nothing more than an admission that God's justice and goodness is tempered by a concern for non-moral goods.[20]

It is worth noting that a number of recent theodicies have accorded great importance and even value to simple natural laws, suggesting that the value of such laws may well outweigh the evils that they cause.[21] There is clearly a debate to be had on this matter, though it is not my intention to join it here. My concern is with whether the account given thus far accurately reflects the kind of response Leibniz would likely have given to natural disasters in general, and the Lisbon earthquake in particular. It is to this question that we now turn.

Evils, metaphysical and physical

As we have seen, Leibniz takes earthquakes themselves to be consequences of God's general acts of will, or effects of the natural workings of the laws of nature. Earthquakes, then, might be natural effects not willed for their own sakes, but from the point of view of theodicy,

earthquakes themselves have never been the real problem. Rather, the problem for the theodicist is the human devastation caused thereby.[22] The mere occurrence of an earthquake cannot itself be a threat to God's justice, since earthquakes can (and often do) occur where no human population is present and so cause no harm, like those earthquakes Leibniz believed had occurred when the Earth was still forming.[23] Even an earthquake in a populated area need not be a threat to God's justice, because earthquakes can be weak and cause no damage, like the one felt across Europe in October 1711 (which Leibniz was aware of).[24] And even relatively strong earthquakes in populated areas need not be a threat to God's justice, because such earthquakes can sometimes cause much damage to property but bring little harm to the human population, like the one that occurred in Naples in 1688 (which Leibniz was made aware of by a correspondent).[25] So the challenge to God's justice comes not so much from the mere occurrence of an earthquake, but rather from any human devastation it happens to cause.

We can see this more clearly by considering Leibniz's well-known distinction between three different kinds of evil, namely the metaphysical, physical, and moral. As he explains in the *Theodicy*, "*Metaphysical evil* consists in mere imperfection, *physical evil* in suffering, and *moral evil* in sin."[26] Leibniz is clear that earthquakes themselves are an example of metaphysical evil, on account of the fact that they constitute disorder and irregularity.[27] But what about the human cost of earthquakes? This can be divided into metaphysical and physical evils.

Of the whole human cost, the metaphysical evils are those where a human being develops a defect, i.e. the loss of a due perfection, as a result of the earthquake. Leibniz cites the loss of one's wits as an example of metaphysical evil,[28] and sterility as another (note that it is only the *loss* that qualifies as a metaphysical evil; any attendant pain and suffering would not so qualify, this being physical evil, as we will shortly see). Although Leibniz does not, as

far as I know, ever explicitly identify the state of death as a metaphysical evil, he does affirm that it involves a lessening of a creature's perfection,[29] which would seem to make it a metaphysical evil. Hence among the metaphysical evils brought about by an earthquake one might reasonably include the number of those killed by it.

Needless to say, the human cost of any natural disaster is not restricted to deaths and the loss of one or other faculty: it also includes injuries such as broken limbs, strains, burns, trauma, and so on. For Leibniz, much of this would qualify as *physical* evils. This much can be seen by looking at Leibniz's characterization of physical evil. In a precursor to the *Causa Dei* (the Latin appendix to the *Theodicy*), written at some point between 1705 and 1710, physical evil is described as "the inconveniences of intelligent creatures, insofar as they have ... disagreeable experiences,"[30] which was revised in a later draft to "the inconveniences of intelligent substances."[31] In the *Theodicy*, Leibniz characterized physical evil as "suffering,"[32] and "pain, grief, and every other kind of discomfort."[33] I take it that the varying descriptions are just alternative ways of describing the same thing, and that Paul Rateau is right when he supposes that by "inconveniences" Leibniz means "that which upsets the mind, afflicts it, disturbs its equilibrium, distresses it, makes it uncomfortable."[34] I doubt we would do Leibniz too much of a disservice if we were to characterize physical evil as pain and suffering. Moreover, all pain and suffering qualifies as physical evil for Leibniz; he nowhere draws a distinction between the pain and suffering brought about by natural events from that brought about by moral agents such as human beings (and, perhaps, angels).

Explaining the human cost of earthquakes

As we have just seen, Leibniz would divide the human cost of an earthquake into metaphysical evils and physical evils. But how would he explain these evils? Or, to put it another way, how would he integrate them into his theodicy?

Leibniz generally makes short shrift of metaphysical evils, arguing that what we take to be disorders are not true disorders, but only apparent ones, in that they not only conform to an order unknown to us, but also ultimately lead to a good.[35] This applies even to earthquakes themselves. Hence he explains that the earthquakes (and other upheavals) that occurred while the Earth was still young "have served to bring things to the point where they now are, [and] we owe to them our riches and our comforts, and ... through their agency this globe became fit for cultivation by us. These disorders passed into order."[36] Leibniz makes remarkably similar claims about death. In doing so, he often appeals to Jesus' assertion that a grain of wheat must die in order to bear fruit (John 12.24), as well as the old sporting proverb that one needs to take a step back in order to make a better leap (*reculer pour mieux sauter*). Hence Leibniz insists: "It is often necessary to move back for a better jump: death and sufferings would not exist in the universe if they were not necessary for great changes for the better. Just as a grain of corn seems to perish in the earth in order to be able to push up a shoot."[37] Leibniz thus sees death as quite literally a necessary evil in the process of individual development and perfection, though how exactly it plays this role is not made clear. Nevertheless, Leibniz's strong belief that it does play this role grounds his claim that death is not the state of disorder it appears to be, for "In this [death], nature, doubtless following her custom, preserves some beautiful order which tends to mature and perfect things."[38] Needless to say, given the key role it plays in the improvement of individuals, Leibniz no more conceives death as a threat to God's justice than he does any other instance of metaphysical evil.

But how would Leibniz seek to explain the physical evils, that is, the pain and suffering, brought about by an earthquake? Leibniz's explanation of physical evil is relatively simple: generally, it is either a punishment for sin, or it serves to prepare us for greater happiness. Or, in greater detail,

> Less troublesome for us [to explain] will be *physical evil*, that is, pains, sufferings, and miseries, these being consequences of moral evil. 'Poena est malum passionis, quod infligitur ob malum actionis',[39] according to Grotius. One is acted upon because one has acted; evil is done to one because one does evil.
>
> *Nostrorum causa malorum*
>
> *Nos sumus*.[40]
>
> It is true that one often suffers on account of the bad actions of others; but when one has no part in the offence, one must hold it as certain that these sufferings prepare us for a greater happiness.[41]

Let us begin with the claim that suffering serves to prepare us for future happiness. Leibniz holds that suffering plays a vital, positive role in one's individual development in much the same way as does death, and to illustrate the point he even has recourse to the motif of the seed falling in the ground prior to germination (though the seed is now said to suffer rather than die):

> As for the afflictions, especially of good men, however, we must take it as certain that these lead to their greater good and that this is true not only theologically but also naturally. So a seed sown in the earth suffers before it bears fruit. In general, one may say that though afflictions are temporary evils, they are good in effect, for they are short cuts to greater perfection.[42]

It is true "naturally" that suffering leads to our greater good in that it can lead to amendment (i.e. it improves character) and makes us savour the good more.[43] And it is true

"theologically" in that suffering makes us imitators of Christ, and so puts us on a path to salvation; as Leibniz claims, "usually one attains salvation only through many sufferings, and by bearing the cross of Jesus Christ. These [physical] evils serve to make the elect imitators of their master, and to increase their happiness."[44] These suggestions are familiar ones within the Christian tradition. The medicinal role of suffering was defended by Origen;[45] the perfecting and purifying effect of suffering forms the basis of the Catholic doctrine of purgatory,[46] and continues to be defended philosophically, for example in John Hick's soul-making theodicy.[47] Moreover, the claim that suffering puts us on a path to salvation clearly draws on claims made by St. Paul. For example, in 2 Timothy 2.3, Paul writes "Join with me in suffering, like a good soldier of Christ Jesus," and in Romans 8.17 that "if we are children, then we are heirs—heirs of God and co-heirs with Christ, if indeed we share in his sufferings in order that we may also share in his glory."

Similarly, the claim that suffering is often a punishment for sins is commonplace throughout Christianity. It is to be found in the book of Genesis (3.16-19) and was affirmed by Augustine,[48] amongst numerous others. Although Leibniz does not commit himself to saying how much suffering serves as a punishment for wrongdoing, he clearly believed it was a good proportion, for he states that "one may say of physical evil, that God wills it often as a penalty due to guilt."[49]

Clearly, Leibniz understands physical evil in teleological terms, because when it occurs, he takes it to serve either as preparation for future happiness or as punishment for sin. In fact, sometimes physical evil serves both purposes, in that a person who suffers as a punishment for sin may thereby draw from that suffering the natural and theological benefits outlined above; Leibniz certainly allows for this,[50] though also holds that sometimes physical evil serves as punishment and nothing more, that is, it brings no further benefits to the individual. But whether physical evil serves only as a punishment for sin, or only as

preparation for future happiness, or as both, Leibniz is inclined to see it as ultimately good, in that it enhances the perfection of the universe. This it would do so is clear enough when physical evil serves as preparation for future happiness, but how would it do so when physical evil serves only as a punishment for sin? Leibniz explains that punishment contributes to the perfection of things by making the world more harmonious. He claims that "Sins are good, that is, harmonious, when taken together with punishment or atonement. For there is no harmony except through contraries."[51] Consequently, Leibniz insists that the administering of deserved punishments contributes to the perfection of the universe:

> Those who are punished are not the ones who impede the perfection of things, for, to put it briefly, that is impossible, but the ones who do not prevent the perfection of things from being impeded. These people by their own punishment contribute to the perfection of things.[52]

Now it is straightforward enough to suppose that of the two purposes that he identifies for physical evil, namely as preparation for greater happiness and as punishment for sin, Leibniz would be happy to appeal to the first to justify the suffering caused by earthquakes, because it could potentially justify any suffering whatsoever. But would he be happy to appeal to the second as well? That is, would Leibniz suppose that some of the suffering caused by an earthquake serves as a punishment for sins? To answer this question, we need to know more about the connection between suffering and sin. How, then, are physical evil and sin connected?

Physical evil, punishment, and natural disasters

Leibniz takes up this question in an oft-neglected text entitled "Can the bad outcomes of wicked actions be ascribed to wickedness?" Near the start, Leibniz makes it clear that the issue is not whether personal misfortunes and the suffering they cause can be ascribed to imprudent behaviour (which is not in doubt, he insists), but whether they are due to sin and wickedness.[53] He concludes that they are:

> it should be considered most certain that misfortune after wickedness is to be ascribed to that wickedness as it is that death following malignant fever is to be ascribed to that fever, even if the knowledge of doctors was so great that most of them could cure fevers of this kind.[54]

Here Leibniz clearly envisages misfortunes occurring after sins as somehow occurring on account of those sins, as punishment for them. It might be tempting to suppose that he is thinking of sins that are causally linked to their own misfortunes (such as drunkenness causing a hangover),[55] or of sins that are punished by God's direct intervention (such as by a lightning bolt), but neither is correct. Rather, Leibniz is thinking of misfortunes that from the very beginning of things were planned so as to arise naturally at a morally pertinent time, i.e. when they are deserved. Or as he opaquely puts it:

> It seems to me that this final opinion is the truest [viz. that sin is the cause of misfortune], since it is certain that God ... is the director of things, and he doesn't do anything rashly; instead, all things are traced back to some infallible calculation and are adjusted to each other by eternal decrees.[56]

Although Leibniz does not elaborate what he means by "some infallible calculation," it is natural to construe it in terms of God skilfully planning and arranging people, places, and events to ensure that misfortunes often follow sinful actions. Leibniz certainly holds that, prior to creation, God considered each possible thing separately, and then combined them (in his understanding) in every possible way that they could be combined, such that the resulting possible world-sequences exhaust his creative options, at least so far as world-sequences are concerned. He then selected the best of these for creation.[57] It is reasonable to suppose that Leibniz considered the best possible world to be the one in which connections between sins and misfortunes are often present; indeed, given the inherent desirability of justice, the presence of so many of these connections will be part of what makes the best possible world the best.[58]

Leibniz does, however, caution against supposing that all misfortunes are divine punishments, arguing that "where justice is doubtful and controversial, I say that an outcome should not be considered as a sentence pronounced by God."[59] In other words, if a person has not sinned, and thus is not deserving of physical evil, any physical evil she happens to suffer on account of a misfortune should not be considered a sentence pronounced by God. Instead, one would suppose that the suffering serves some other purpose, such as to prepare her for a greater happiness.

It is notable that Leibniz does not offer any examples to illustrate his thinking, though his account is sufficiently broad in scope that any event which brings about a misfortune should qualify, for example someone who commits a sin and shortly afterwards is struck by a falling tree branch. In such cases, we are to suppose (1) that God did not will the accident for its own sake, and (2) that the resulting suffering nevertheless serves as punishment.[60]

This quite naturally leads us to wonder whether Leibniz would have been prepared to scale up his analysis so that it applies not just to the physical evil caused by small-scale

misfortunes, which affect a single person, but also to the physical evil caused by larger-scale events which bring misfortune to many people, such as natural disasters. There are grounds to suppose that he would. For given his belief that there is "some infallible calculation" linking sins and misfortunes, there seems to be no reason at all why this calculation should not apply to a clutch of misfortunes that have a common cause, such as a single natural disaster. Bear in mind also that Leibniz makes no distinction between physical evil brought about by a natural disaster, and physical evil brought about by other means: physical evil is defined in terms of ontology (pain and suffering) rather than in terms of its aetiology. Hence it is quite possible that, for Leibniz, some suffering caused by natural disasters serves as punishment.

There is, admittedly, an element of speculation in this, for as far as I can tell Leibniz always keeps the discussion of natural disasters in his work separate from his discussion of physical evil. For example, in a number of writings he mentions the Plurs landslide of 1618, which led to the loss of between 1,000 and 2,500 lives,[61] but when he does so it is only in passing and in matter of fact terms,[62] and he says nothing at all about the physical evils generated thereby. Similarly, when Leibniz discusses the River Po flood of November 1705, which devastated the Lombardy region of Italy and led to the loss of thousands of lives, he seeks only to identify the possible mechanisms behind the flood, even considering exotic options such as landslides and underwater earthquakes,[63] but at no point does he mention, let alone discuss, the physical evils that came about as a result.

There are, I think, two good reasons why Leibniz kept his treatment of natural disasters separate from his treatment of physical evil. First, when he does discuss natural disasters, he does so as a scientist or natural philosopher, not as a theodicist. As such, his interest lies in the cause(s) of the disaster, not in the suffering generated thereby. And when Leibniz does discuss suffering, his focus is on suffering in general, rather than specific instances of it. Second, and following on from the first, is that Leibniz claimed (and claimed

often) that it is not possible for human reason to determine God's reason for permitting evil in any given case.[64] Because of this, he typically avoided trying to offer an explanation for any specific evils, preferring instead to discuss the more general question of why God permits evil at all. One might reasonably expect him to exercise the same caution when it comes to the suffering caused by natural disasters: as he cannot reach into the mind of God to ascertain whether the suffering of this or that person serves as a punishment, or has some other purpose, the wisest course is to make no pronouncements on the matter, whether for or against.

Leibniz's unwillingness to offer an explanation for particular instances of physical evil (whether these are brought about by natural disasters or not) is thus understandable, and quite admirable, in that it reflects his humility vis-à-vis the mind and operations of God.[65] Nevertheless, it remains the case that Leibniz would have found it difficult to rule out the possibility that some of the physical evil caused by a natural disaster may have served as punishment; after all, as large-scale natural disasters give rise to numerous individual misfortunes, and Leibniz championed the view that misfortunes are quite often punishments, it is not unreasonable to suppose that this applies to those misfortunes caused by natural disasters. It should be stressed that even if this is the position Leibniz's claims commit him to (despite his apparent desire to remain agnostic on the matter), it does not commit him to saying that the disaster itself serves as punishment, only that certain misfortunes caused by the disaster serve as such.

Conclusion

We are now in a position to summarise Leibniz's thinking about earthquakes and their effects as follows:

(1) Leibniz considered earthquakes to be no more than the outcome of the normal workings of the law of nature, and not events planned or orchestrated by God.

(2) Leibniz divides the human cost of earthquakes into metaphysical evils (the loss of perfections, including deaths) and physical evils (pain and suffering).

(3) Leibniz did not think that metaphysical evils undermined God's justice because they made possible important goods that would otherwise have been unobtainable. This applies to death too, which is necessary (in some unspecified way) for the perfection of human beings.

(4) Leibniz did not think that physical evils undermined God's justice because they served one of two very particular purposes: as preparation for future happiness, and as punishment, both of which contribute to the perfection of the universe. However it was not possible for us to know in any particular instance of suffering (whether the suffering was caused by a natural disaster or not) which of these purposes it served.

We can reasonably expect that Leibniz would have said all of these things about the Lisbon earthquake too, had he lived to know about it. If that is right, then it would be fair to say that he would not have joined the voices of those who sought to blame the inhabitants of the city for bringing the earthquake upon themselves. Leibniz might, however, have supposed that some of the victims had brought their own particular woes on themselves, i.e. that their suffering was punishment for their sins, though it is unlikely that he would have been willing to identify specific cases of this. Whether he would have echoed Rousseau's infamous suggestion that many of the victims of Lisbon had only themselves to blame since they chose to run into burning houses to save their possessions,[66] is uncertain, but this is a different point in any case.

There is, of course, a degree of speculation in the position I have attributed to Leibniz, inasmuch as it assumes that, if he had known about the Lisbon earthquake, he would have appealed to the same explanations for physical and metaphysical evil that he had already developed. It might be argued that this assumption is not a reasonable one to make; indeed, it might be objected that, as Leibniz never encountered a catastrophe of the magnitude of the Lisbon earthquake,[67] for all we know the earthquake – or an event like it – may have inspired him to modify or develop elements of his theodicy. It might also be objected that Leibniz may have been so horrified by the catastrophe as to abandon optimism altogether. While these objections cannot be decisively rejected, I do not think them plausible. This is because Leibniz's explanation and justification of physical and metaphysical evils is such that, if it holds at all (as he clearly believed it did), it holds good no matter what quantity of physical and metaphysical evils there may be, and in the case of physical evils, no matter how they come about. After all, if metaphysical evils make possible important goods that are otherwise unobtainable, and if physical evils serve to prepare us for future happiness and/or serve as punishment (either way contributing to the perfection of the universe), then whatever quantity of these evils obtain would be justifiable; likewise, the physical evils that obtain would be justifiable no matter how they come about – whether it be by earthquake, diseases, natural causes, or some other cause. Consequently, there is no good reason to think that Leibniz would have felt the need to modify or abandon his theodicy in light of the Lisbon earthquake, had he known about it.[68]

Bibliography

Maria Rosa Antognazza, "Metaphysical evil revisited," in *New Essays on Leibniz's Theodicy*, eds. Larry M. Jorgensen and Samuel Newlands (Oxford: Oxford University Press, 2014), 112-34.

Augustine, *City of God*, trans. Henry Bettenson (London: Penguin, 2003).

Augustine, *On the Free Choice of the Will, On Grace and Free Choice, and Other Writings*, ed. Peter King (Cambridge: Cambridge University Press, 2010).

R. B., *The General History of Earthquakes* (London, 1734).

David K. Chester, "The 1755 Lisbon earthquake," *Progress in Physical Geography* 25 (2001), 363-83.

René Descartes, *The Philosophical Writings of Descartes Volume 1*, eds. John Cottingham, Robert Stoothoff and Dugald Murdoch (Cambridge: Cambridge University Press, 1985).

Eusebius, *De Evangelica praeparatione, libri XIII* (Cologne, 1539).

Hugo Grotius, *De iure belli ac pacis libri tres* (Frankfurt, 1626).

John Hick, *Evil and the God of Love* (Basingstoke: Palgrave Macmillan, 2007, 2ed).

Nicholas Jolley, "Is Leibniz's theodicy a variation on a theme by Malebranche?" in *New Essays on Leibniz's Theodicy*, eds. Larry M. Jorgensen and Samuel Newlands (Oxford: Oxford University Press, 2014), 55-70.

T. D. Kendrick, *The Lisbon Earthquake* (Philadelphia: J. B. Lippincott Company, 1955).

Martin Lin, "Leibniz's Philosophical Theology," in *The Continuum Companion to Leibniz*, ed. Brandon C. Look (London: Continuum, 2011), 192-207.

Moses Maimonides, *The Guide of the Perplexed*, ed. and trans. Shlomo Pines, 2 vols. (Chicago: University of Chicago Press, 1963).

Nicolas Malebranche, *Traité de la Nature et de la Grace* (Rotterdam, 1712, final edition).

Steven Nadler, "Choosing a theodicy: The Leibniz-Malebranche-Arnauld connection," *Journal of the History of Ideas*, 55 (1994), 573-89.

Steven Nadler, *The Best of All Possible Worlds* (New Jersey: Princeton University Press, 2010).

Susan Neiman, *Evil in Modern Thought* (New Jersey: Princeton University Press, 2002).

Samuel Newlands, "Natural disasters and the wrath of God," *The Wall Street Journal* (7 April 2010). URL = http://online.wsj.com/news/articles/SB10001424052702304017404575165724219623474 [accessed 7 November 2015].

Origen, *Contra Celsum*, ed. and trans. Henry Chadwick (Cambridge: Cambridge University Press, 1953).

Edward Paice, *Wrath of God: The Great Lisbon Earthquake of 1755* (London: Quercus, 2008).

Paul Rateau, *La Question de Mal chez Leibniz* (Paris: Honoré Champion, 2008).

Bruce R. Reichenbach, *Evil and a Good God* (New York: Fordham University Press, 1982).

André Robinet, *Malebranche et Leibniz* (Paris: Librairie Philosophique J. Vrin, 1955).

George MacDonald Ross, "Leibniz and the concept of metaphysical perfection," in *Leibniz, le meilleur des mondes*, eds. Albert Heinekamp and André Robinet (Stuttgart: Franz Steiner Verlag, 1992), 143-52.

Jean-Jacques Rousseau, *Rousseau on Philosophy, Morality, and Religion*, ed. Christopher Kelly (Lebanon, NH: Dartmouth College Press, 2007).

Thomas P. Saine, *The Problem of Being Modern, Or, The German Pursuit of Enlightenment from Leibniz to the French Revolution* (Detroit: Wayne State University Press, 1997).

Tad M. Schmaltz, "Malebranche and Leibniz on the best of all possible worlds," *The Southern Journal of Philosophy* 48 (2010), 28-48.

Nicholas Shrady, *The Last Day: Wrath, Ruin, and Reason in the great Lisbon Earthquake of 1755* (London: Viking, 2008).

Lloyd Strickland and Michael Church, "Leibniz's Observations on Hydrology: An Unpublished Letter on the Great Lombardy Flood of 1705," *Annals of Science* 72 (2015), 517-532.

Richard Swinburne, *Providence and the Problem of Evil* (Oxford: Oxford University Press, 1998).

Voltaire, *Candide and Related Texts*, ed. and trans. David Wootton (Indianapolis: Hackett, 2000).

Catherine Wilson, "Leibnizian optimism," *The Journal of Philosophy* 80 (1983), 765-83.

[1] For further details, see Kendrick, *The Lisbon Earthquake*; Chester, "The 1755 Lisbon earthquake"; Shrady, *The Last Day*; Paice, *Wrath of God: The Great Lisbon Earthquake of 1755*.

[2] For accounts of many of these, see Kendrick, *The Lisbon Earthquake*.

[3] Voltaire, "Poem on the Lisbon disaster," in *Candide and Related Texts*, 99-100.

[4] Voltaire, "Poem on the Lisbon disaster," in *Candide and Related Texts*, 105.

[5] Saine, *The Problem of Being Modern, Or, The German Pursuit of Enlightenment from Leibniz to the French Revolution*, 103. In a similar vein, Susan Neiman claims that the Lisbon earthquake "focused the problem [about faith in providence], but it didn't invent it." Neiman, *Evil in Modern Thought*, 37. See also Shrady, *The Last Day*, 118.

[6] See P 48-9. I have sometimes modified the translation cited, and in those cases I have indicated this. Where no published translation is available, the translation is my own.

[7] See for example R. B., *The General History of Earthquakes*, 6.

[8] H 254-5.

[9] See for example Malebranche, *Traité de la Nature et de la Grace*, 290 (Premier eclaircissement, section XV).

[10] H 328. See also Robinet, *Malebranche et Leibniz*, 202-3. In recent years scholars have done a lot of work to identify Leibniz's philosophical debt to Malebranche, especially in the area of theodicy. See for example Wilson, "Leibnizian optimism"; Nadler, "Choosing a theodicy: The Leibniz-Malebranche-Arnauld connection," 577f. More recently, scholars have been looking to emphasise the differences between the theodicies of

Malebranche and Leibniz. See Schmaltz, "Malebranche and Leibniz on the best of all possible worlds"; Nadler, *The Best of All Possible Worlds*, 139f; Jolley, "Is Leibniz's theodicy a variation on a theme by Malebranche?"

[11] See H 328.

[12] See for example H 254-5; H 257.

[13] GP I, 360. English translation: http://www.leibniz-translations.com/malebranche1712.htm

[14] "[God's] goodness together with his wisdom prompts him to create the best, which includes the whole sequence, the effect and the ways." H 269.

[15] H 260 [translation modified].

[16] Robinet, *Malebranche et Leibniz*, 203. See also H 276: "it is good to consider not only that it was better to admit these defects and these monsters than to violate general laws, as Reverend Father Malebranche sometimes argues, but also that these very monsters are in the rules, and are in conformity with general volitions, though we be not capable of discerning this conformity."

[17] H 254 [translation modified].

[18] Lin, "Leibniz's Philosophical Theology," 204. For similar interpretations, see Antognazza, "Metaphysical evil revisited," 124; Neiman, *Evil in Modern Thought*, 38; Ross, "Leibniz and the concept of metaphysical perfection," 145-6.

[19] Newlands, "Natural disasters and the wrath of God."

[20] Lin, "Leibniz's Philosophical Theology," 206.

[21] Reichenbach, *Evil and a Good God*, 101ff; Swinburne, *Providence and the Problem of Evil*, 189ff.

[22] One might wish to extend this to include devastation to flora and fauna as well, though in what follows I shall focus only on human devastation.

[23] H 277-8.

[24] See the unpublished manuscript held by Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliothek, Hanover, under the shelfmark Ms 33, 1749 Bl. 60.

[25] See A I 5, 171.

[26] H 136. See also LGR 291, and GP VI, 443.

[27] More specifically, on account of the fact that they are disorders and irregularities in inanimate things; such disorders can only qualify as metaphysical evils. See H 277-8.

[28] GP III, 574.

[29] See GP VII, 530.

[30] LGR 291. See also GP VI 443.

[31] Unpublished manuscript held by Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliothek, Hanover, under the shelfmark LH I I 3 4 Bl. 7-8.

[32] H 98.

[33] H 281. See also H 136.

[34] Rateau, *La Question de Mal chez Leibniz*, 623.

[35] See for example H 276ff.

[36] H 278.

[37] LTS 349.

[38] LTS 275, cf. 146-7, 286.

[39] "Punishment is an evil of suffering, which is imposed because of the evil of the action." A slight misquoting of Grotius' *De iure belli ac pacis libri tres*, 359.

[40] "We are the cause of our evils." Eusebius, *De Evangelica praeparatione, libri XIII*, 37C.

[41] H 276 [translation modified]. See also H 137.

[42] PPL 490.

[43] See H 137.

[44] H 196-7.

[45] See Origen, *Contra Celsum*, 372 (VI.56). For Origen, evils are medicinal insofar as they serve for conversion.

[46] See for example Augustine, *City of God*, 1010-14.

[47] See Hick, *Evil and the God of Love*, 325ff.

[48] See Augustine, *On the Free Choice of the Will*, 108.

[49] H 137 [translation modified].

[50] "punishment may be of service to him [sc. the guilty party] or others, to contribute towards determining them another time not to sin." H 347.

[51] A II 1 (2nd ed.), 187. English translation: http://www.leibniz-translations.com/wedderkopf.htm

[52] LGR 324.

[53] See LGR 283.

[54] LGR 286.

[55] The example is from John Toland's essay "Parallele entre la raison originale ou la loy de la nature" (after 1704), TI I 53-4. This text survives only because Leibniz made a copy of it.

[56] LGR 284.

[57] "The wisdom of God, not content with embracing all the possibles, penetrates them, compares them, weighs them one against the other, to estimate their degrees of perfection or imperfection, the strong and the weak, the good and the evil. It goes even beyond the finite combinations, it makes of them an infinity of infinites, that is to say, an infinity of possible sequences of the universe, each of which contains an infinity of creatures. By this means the divine Wisdom distributes all the possibles it had already contemplated separately, into so many universal systems which it further compares the one with the other. The result of all these comparisons and deliberations is the choice of the best from among all these possible systems." H 267.

[58] Indeed, recall the passage quoted earlier in which Leibniz states that "Those who are punished are not the ones who impede the perfection of things, for, to put it briefly, that is impossible, but the ones who do not prevent the perfection of things from being impeded. These people by their own punishment contribute to the perfection of things." LGR 324.

[59] LGR 284.

[60] This position has clear echoes of the theory of providence developed by the twelfth century philosopher Maimonides, who claimed that while it may be an accident that a ship sinks or a house collapses, it is no accident that a particular man boards that ship or enters that house. See Maimonides, *The Guide of the Perplexed*, II: 472.

[61] Plurs was a small Swiss village made prosperous by its mining of talcum from the nearby mountains. On 25 August 1618, a collapse of one of these mountains (the Conto) due to the careless excavation techniques of the villagers, caused a landslide which buried almost the entire village.

[62] See P 117, and the unpublished manuscript held by Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliothek, Hanover, under the shelfmark LBr 817 Bl. 66-71.

[63] See Leibniz's letter to Sophie, January 1706, published as an appendix to Strickland and Church, "Leibniz's Observations on Hydrology," 530-2 (original language and English translation). It is unclear how informed Leibniz was about the scale of the flood. He was almost certainly unaware of the true number of casualties (15,000), as this became clear only much later. For an analysis of Leibniz's treatment of the flood, see Strickland and Church, "Leibniz's Observations on Hydrology."

[64] See for example LGR 112-13, and the unpublished manuscript held by Gottfried Wilhelm Leibniz Bibliothek – Niedersächsische Landesbibliothek, Hanover, under the shelfmark LH 4, 4, 1 Bl. 8r.

[65] Leibniz's position contrasts with that of Descartes, for whereas the Frenchman supposed that we cannot know God's purposes at all, Leibniz supposed that we could know them, at least in general terms. See Descartes, *The Philosophical Writings of Descartes Volume 1*, 202 (*Principles of Philosophy* 1.28).

[66] "How many unfortunate people have perished in this disaster because of one wanting to take his clothes, another his papers, another his money?" Jean-Jacques Rousseau, "Letter from J. J. Rousseau to M. de Voltaire" (18 August 1756) in *Rousseau on Philosophy, Morality, and Religion*, 51.

[67] By Leibniz's own admission, the greatest causes of human misery in the Europe of his day were not earthquakes and other natural disasters (which were relatively mild in terms of their human cost, at least in comparison with Lisbon), but rather wars, religious persecution, and intolerance. Hence he states in the *Theodicy*, "One single Caligula, one Nero, has caused more evil than an earthquake." H 138.

[68] Earlier versions of this paper were read at the Oxford Seminar for Early Modern Philosophy, Oxford University, 15 March 2015, and at a Scientiae workshop at the University of California, Irvine, 11 September 2015. I would like to thank the participants of those events for their helpful comments, in particular Maria Rosa Antognazza, Paul Lodge, Nicholas Jolley, Sean Greenberg and Christopher Bobier.