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LEIBNIZ AND THE ONTOLOGICAL ARGUMENT \*

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I

In his comments on Descartes' *Principles*, Leibniz formulates an ontological argument which he attributes to Anselm and Descartes as follows:

The necessary being exists (that is, a being whose essence is existence or a being which exists of itself), as is clear from the terms. Now God is such a Being, by definition of God. Therefore God exists.<sup>1</sup>

He goes on to remark that this argument is

valid if only it is granted that a most perfect being or a necessary being is possible and implies no contradiction, or, what amounts to the same, that an essence is possible from which existence follows. But as long as this possibility is not demonstrated, the existence of God can by no means be considered perfectly demonstrated by such an argument.<sup>2</sup>

Leibniz saw his own contribution to the ontological argument as completing it by providing a proof that God is possible. He claims that such a proof is required because

we cannot safely infer from definitions until we know that they are real or that they involve no contradiction. The reason for this is that from concepts which involve a contradiction, contradictory conclusions can be drawn simultaneously, and this is absurd.<sup>3</sup>

As this passage makes clear, Leibniz thought that a proof that the concept of God is not contradictory is needed to safeguard the ontological argument from the objection that 'God exists' follows from the definition of God merely because the latter is contradictory. Although this is undoubtedly Leibniz's primary reason for attempting to prove God's possibility, examination of the structure of the ontological argument suggests that there may be more to the matter. Leibniz often remarks that the ontological argument itself demonstrates only that if it is possible that God exists then God exists.<sup>4</sup> This suggests that the conclusion of the ontological argument is not 'God exists' but rather 'If it is possible that God exists then God exists'. If this is

correct then a proof of 'It is possible that God exists' would quite literally be required to complete the ontological argument.

In this paper I will formalize a version of the ontological argument, which seems to be Leibniz's version, in a system of modal logic. It turns out that in this formal system the paraphrase of 'If it is possible that a necessary being exists then a necessary being exists' is valid. Furthermore, the paraphrase of 'A necessary being exists' is consistent in this system. If we follow Leibniz and conclude from this that 'It is possible that a necessary being exists' is true, we arrive at what seems to be a valid and sound version of the ontological argument.

I will call the line of argumentation just sketched 'Leibniz's strategy'. However, I do not claim that Leibniz clearly viewed himself as following this strategy. Be that as it may, the strategy is suggested by Leibniz's discussion of the ontological argument and is worth pursuing for its own sake.

I will formalize the argument in a system of modal logic closely related to the system devised by Kripke in 'Semantical Considerations on Modal Logic'.<sup>5</sup> Let  $L$  be a first order language with modal operators. A  $K$ -structure for  $L$  is a triple,  $\langle W, D, f \rangle$  where  $W$  is a non-empty set of possible worlds,  $D$  is a non-empty set of possible individuals, and  $f$  is a function which assigns to each member  $w$  of  $W$  a subset of  $D$ . The value of  $f(w)$  is the set of individuals which exist at  $w$ . The definition of an interpretation of  $L$  on  $\langle W, D, f \rangle$  proceeds in the usual manner. For our purposes it will suffice to note the clauses for necessity and quantification.  $NA$  is true at  $w$  iff  $A$  is true at every  $u \in W$ .  $\exists xA$  is true at  $w$  iff  $A^b/x$  is true at  $w$  for some individual  $b$  which exists at  $w$ . A formula  $B$  of  $L$  is  $K$ -valid if and only if for every  $K$ -structure  $\langle W, D, f \rangle$  and every interpretation on  $\langle W, D, f \rangle$   $B$  is true at each member of  $W$ .

According to Leibniz, it is part of the definition of God that existence belongs to God's essence. This is expressed in  $L$  by

$$(1) \quad N((x)(Gx \supset N \exists y(y = x \cdot Gx)).^6$$

Formula (1) says that it is necessary that if anything is God then it necessarily is God and it exists. Although (1) does not imply  $\exists xGx$  it does imply

$$(2) \quad P \exists xGx \supset \exists xGx.$$

The proof goes as follows: Suppose that  $P \exists xGx$  is true at  $w$ . Then there is a  $u \in W$  at which  $\exists xGx$  is true. So there is an individual  $b$  which exists at  $u$  and  $Gb$  holds at  $u$ . Notice that (1) implies that  $(x)(Gx \supset N \exists y(y = x \cdot Gx))$

is true at  $u$ , so  $N(\exists y)y = b \cdot Gb$  holds at  $u$ . But this implies that  $\exists xGx$  holds at  $w$ . A similar proof shows that

$$(3) \quad P \exists xN \exists y(y = x) \supset \exists xN \exists y(y = x)$$

is  $K$ -valid.<sup>7</sup>

Leibniz's strategy for demonstrating that God is possible is to show that the concept of God is consistent; that  $\exists xGx$  does not imply a contradiction. His argument that  $\exists xGx$  is consistent is based on the idea that God is the being which possesses every perfection.

I call every simple quality which is positive and absolute, or expresses whatever it expresses without any limits, a perfection. But a quality of this sort, because it is simple, is therefore irresolvable or indefinable, for otherwise either it will not be a simple quality but an aggregate of many, or, if it is one, it will be circumscribed by limits and so be known through negations of further progress contrary to the hypothesis, for a purely positive quality was assumed. From these considerations it is not difficult to show that all perfections are compatible with *each other* or can exist in the same subject.<sup>8</sup>

Leibniz's argument that 'there is a perfect being' is consistent is proof-theoretic. He reasons that for this statement to be contradictory two of the perfections  $A, B$  must be incompatible. But this could happen, he claims, only if either  $A, B$  were negations of one another or one limited the other. But since  $A, B$  are simple, positive, and absolute neither of these situations can arise.

Leibniz claims that the preceding argument demonstrates that it is possible that a perfect being or God exists. Since necessary existence is, according to Leibniz, a perfection, it follows by the ontological argument that a perfect being exists.

Most commentators have found Leibniz's argument that  $\exists xGx$  is consistent unpersuasive. For example, Norman Malcolm comments

For another thing, it assumes that some qualities are intrinsically simple. I believe that Wittgenstein has shown in the *Investigations* that nothing is intrinsically simple, but that whatever has the status of a simple, an indefinable, in one system of concepts, may have the status of a complex thing, a definable thing, in another system of concepts.<sup>9</sup>

Although proving that the idea of a perfect being is consistent may face insurmountable difficulties it is an easy matter to show that  $\exists xN \exists y(y = x)$  is  $K$ -consistent. If we follow Leibniz we will then conclude the truth of

$$(4) \quad P \exists xN \exists y(y = x).$$

Formulas (4) and (3) together imply  $\exists xN \exists y(y = x)$ . So it seems that by

pursuing 'Leibniz's strategy' we have produced a valid and sound ontological argument.

## II

The preceding version of the ontological argument implicitly appealed to the following principle:

- (5) For all  $A$  if  $A$  is  $K$ -consistent then  $PA$  is true (at the actual world).

Clearly Leibniz also assumed that possibility is identifiable with consistency although, of course, he did not relativize consistency to a particular formal system. However, it turns out that (5) is false. This can be easily seen by noting that both  $\exists xN\exists y(y=x)$  and  $-\exists xN\exists y(y=x)$  are  $K$ -consistent but there can be no  $K$ -structure and interpretation which contains a world at which both  $P\exists xN\exists y(y=x)$  and  $P(-\exists xN\exists y(y=x))$  are true. (Nor can there be a  $K$ -structure which contains a world at which  $P\exists xN\exists y(y=x)$  is true and a world at which  $P-\exists xN\exists y(y=x)$  is true.) This shows that our Leibnizian argument for (4) fails since it is based on an appeal to (5).

The question naturally arises whether there are systems of modal logic  $K^*$  in which a principle analogous to (5) (but for  $K^*$ ) holds. The answer is affirmative. Define a  $K^*$  structure  $\langle W, D, f \rangle$  and interpretation  $I^*$  on it as before with the added restriction

- (R) For each atomic predicate  $R$  of  $L$  and each subset  $E$  of  $D$  and each subset  $U$  of  $D$  there is a  $w \in W$  such that  $f(w) = E$  and  $I^*(R, w) = U$ .

$K^*$  structures are also  $K$  structures so system  $K$  is a subsystem of system  $K^*$ . Although the analogue for principle (5) holds for  $K^*$  it turns out that  $\exists xN\exists y(y=x)$  is not  $K^*$ -consistent. This is so simply because (R) requires that for each subset of  $D$  there is a world whose existants are precisely that subset. This rules out there being any necessary existants.

Are there any systems  $K'$ , at which the analogue of (5) holds and in which  $\exists xN\exists y(y=x)$  is  $K'$ -consistent? The answer here is also affirmative.

We can produce such a system by dropping the requirement in (R) that to each subset of  $E$  of  $D$  there is a  $w \in W$  such that  $f(w) = E$  and replace it by

the requirement that for each  $w$ ,  $f(w) = D$ . Notice that in this system  $\exists xN \exists y(y = x)$  is not merely consistent it is valid.

One can more easily see what is going on here by noting that the contrapositive of (5) for  $K'$  is

(6) If  $NA$  holds at  $w$  then  $A$  is  $K'$ -valid.

This means that the only systems in which an analogue to (5) holds and in which  $\exists xN \exists y(y = x)$  is consistent are systems in which  $\exists xN \exists y(y = x)$  is already valid. So an analogue to (5) can be used to establish  $P \exists xN \exists y(y = x)$  only for systems in which  $\exists xN \exists y(y = x)$  is valid. The attempted demonstration of  $P \exists xN \exists y(y = x)$  via the consistency of  $\exists xN \exists y(y = x)$  turns out to be completely redundant.

The preceding discussion shows that 'Leibniz's strategy', though it is tempting to follow, is ultimately unsuccessful. One may, of course, still find a demonstration that the concept of God contains no hidden contradictions desirable, since if the concept were contradictory no sound argument, ontological or otherwise, could establish that God exists.

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#### NOTES

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<sup>1</sup> *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*, 2nd ed., ed. and transl. by L. E. Loemker (Dordrecht, Holland 1969), p. 386, hereafter cited as *Loemker*.

<sup>2</sup> *Loemker*, p. 386.

<sup>3</sup> *Loemker*, p. 293.

<sup>4</sup> *Loemker*, p. 386, 293.

<sup>5</sup> This system is practically identical to the system of quantified modal logic devised by Saul Kripke in 'Semantical Considerations on Modal Logic'. In *Reference and Modality*, ed. by L. Linsky, Oxford University Press, Glasgow, 1971, pp. 63–72.

<sup>6</sup>  $NEy(y = x)$  is true of  $b$  at  $w$ , just in case  $b$  exists at every possible world; i.e., existence is part of  $b$ 's essence.

<sup>7</sup> Charles Hartshorne, Norman Malcolm, and Alvin Plantinga each formulate versions of the ontological argument whose conclusions are expressed by (2) or (3). The relevant articles are reprinted in *The Ontological Argument*, ed. by A. Plantinga, Anchor Books 1975. Plantinga also formulates a version of the ontological argument in terms of possible world semantics in *The Nature of Necessity*, Clarendon Press, Oxford, 1974.

<sup>8</sup> Leibniz; 'Two Notations for Discussion with Spinoza' in *The Ontological Argument*, ed. by A. Plantinga, Anchor Books, 1965, pp. 55–56.

<sup>9</sup> Norman Malcolm, *ibid.*, p. 157.