

DESCARTES, CONCEIVABILITY AND LOGICAL MODALITY

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THIS paper discusses Descartes's theory of the creation of eternal truths and the views of modality attributed to Descartes in recent interpretations of this theory. Descartes's statements of the original thesis that the eternal truths are freely created and established by God are sparse and disconnected, and it is not quite clear what view of modality Descartes commits himself to, or whether, indeed, he had any consistent view on the nature and origin of necessary and possible truths. Two general lines of interpretation can be discerned. According to the first, Descartes would hold that there is no absolute necessity or modality—there is only necessity for us or epistemic modality.¹ This reading, it has been claimed, commits Descartes to a radical universal possibilism, inconsistent with other fundamental tenets of his philosophy. Such a position would be incoherent, not to say extravagant and eccentric. Many scholars, to avoid this conclusion, have tried to attenuate the consequences of Descartes's doctrine by a distinction between different kinds of necessary or eternal truths. Descartes, it has been claimed, exempts some necessary truths from the thesis of the creation of the eternal truths and hence makes a distinction between "eternal" truths which are held to be absolutely necessary and that even God could not change, and other "eternal" truths created by God, the necessity of which would not be absolute and that God, if he so willed, could annihilate.² The interpretations offered along this line cannot, as I will try to show, be considered very successful. The problem is not only where and how to draw the distinction between different kinds of necessary truths, but also to account for the relation between them, something no one so far has succeeded in doing in a satisfactory manner.

Insofar as the interpretations offered share the assumptions of rationality that Descartes rejects they fail in doing justice to his theory. In my view, Descartes's theory is radical indeed, but it is not incoherent, and it does not commit Descartes to any irrationalist voluntarism. It raises interesting and important questions concerning the nature and foundation of rationality, of logical truth and conceivability. It is only against the background of

these questions that Descartes's original doctrine can be fully understood and assessed.³

In the first part of this paper I will recall, briefly, Descartes's statements of his controversial doctrine. In the second part I look at different ways of reading them and the difficulties they involve. The interpretations on which I will be focusing are those of Edwin Curley (1984), Hidé Ishiguro (1986) and Harry Frankfurt (1977). In the last part I discuss some differences between Descartes's view on the nature and origin of modality and the Scholastic view he opposes. The reasons for which Descartes opposes this view, as I will try to show, arise both from theological and logical considerations, and are related, in particular, to his unorthodox conception of the foundations of logic.

The most explicit statements of Descartes's doctrine that God has freely created the eternal (necessary) truths are found in his correspondence. Although it is not discussed at greater length in his printed work, it is mentioned both in the *Meditations* and the *Principles*, and it is one of the points on which Descartes whose thinking underwent considerable development in many other respects never changed his mind.⁴ It is announced, for the first time, in a famous letter to Mersenne, where Descartes asserts that the mathematical truths, called eternal truths by Mersenne, are posited by God and entirely dependent on him. He also asks Mersenne to "assert and proclaim everywhere" that these truths are laid down by God in nature, just as a king lays down the laws in his kingdom and that they are also inborn in our minds (and hence fully intelligible to us) just as a king would imprint his laws on the hearts of his subjects if he had power enough to do so.⁵

It is interesting to note that Descartes when first discussing the foundations of eternal truths considers mathematical truths and holds the issue to be of special importance to his new Physics. As we know from his published writings Descartes's mechanistic science of nature is built on the assumption that the laws of nature are mathematical laws deducible from certain primitive and self-evident notions about God's nature.⁶ But none of the mathematical truths derivable from inborn notions and exemplified in the order of nature are necessary or unchangeable in themselves. Descartes writes:

It will be said that if God has established these truths he could change them as a king changes his laws. To this the answer is: Yes he can, if his will can change. (To Mersenne, 15 April 1630, AT I, 145, K 11)

We understand these truths as eternal and unchangeable, because we understand God as immutable and eternal. But they are not immutable because of any intrinsic necessity. Because they are freely established by God, they could be other than they are. To say that the laws determining all the motions in the universe are independent of God's will, would indeed be to subject God "to the Styx and the Fates," committing Descartes to a

necessitarianism of the kind Spinoza eventually advocated, and which he was obviously very keen to avoid.⁷

Another interesting thing to note is Descartes's insistence, when explaining his position, on the intelligibility of the laws of nature on the one hand, and on the incomprehensibility of God's power on the other. The laws of nature, and with them, the (mathematical) essences of physical things, are fully intelligible to the human mind.⁸ They are intelligible because they can be derived from self-evident notions imprinted in our finite, created minds. They can be grasped by anyone using his intellect in the appropriate way. God's infinite nature and power, on the other hand, cannot be grasped by us: they are and remain incomprehensible. To say that the eternal truths, which we with our finite minds can comprehend perfectly, are uncreated and hence independent of God's intellect and power would be to put God's mind somehow on a par with ours. It would be to say not only that we understand the same truths that God understands, but also that these truths are prior to and imposed, as it were, externally, on God's intellect, subjecting God's incomprehensible power to laws which are perfectly intelligible to our finite minds:

...As for the eternal truths, I say once more that *they are true or possible only because God knows them as true or possible. They are not known as true by God in any way which would imply that they are true independently of Him.* If men really understood the sense of their words they would never say without blasphemy that the truth of anything is prior to the knowledge which God has of it. In God willing and knowing are a single thing in such a way that *by the very fact of willing something he knows it and it is only for this reason that such a thing is true. So we must not say that if God did not exist nonetheless these truths would be true;* for the existence of God is the first and most eternal of all possible truths and the one from which alone all others derive.⁹

It is not very clear how the remark that the eternal truths are "true or possible only because God knows them as true or possible" (*verae aut possibiles*) should be read.¹⁰ As it is here understood, Descartes's formulation is meant to emphasize his opposition to the view he rejects that the eternal truths are necessarily true independently of God's infinite intellect. According to Descartes there is no distinction between God's willing and knowing the eternal truths, and it is not only their necessity but also their possibility as objects of knowledge (i.e., their conceivability) that depends on God's willing and knowing them. God's sovereignty is not limited by any necessary truths about possible objects, because the very possibility of things depends to the same extent as their existence on God's knowledge, will and power.¹¹

In stressing the dependence of the eternal truths on God Descartes goes far beyond Augustinian and Thomists view's according to which the eternal truths are contained in God's intellect and inseparable from the divine essence. His claim is that God produces the truths freely, as an efficient and total cause (*ut efficiens et totalis causa*).¹² At the same time Descartes is aware that the notions of causality and creation are inappropriate in

accounting for the way in which the eternal truths (moral and metaphysical as well as mathematical) depend on God.¹³ The important thing, for Descartes, is not to know how they depend on God, for this is something we cannot in fact understand, but to know that *they* depend entirely on him:

Again, there is no need to ask how God could have brought it about from eternity that it was not true that twice four make eight, and so on, for I admit this is unintelligible to us. Yet on the other hand I do understand, quite correctly, that there cannot be any class of entity that does not depend on God; I also understand that it would have been easy for God to ordain certain things such that we men cannot understand the possibility of their being otherwise than they are. (AT VII, 436, HR II 251)

The position outlined in the letters to Mersenne, seems, as has often been pointed out, to have been formulated almost verbatim in opposition to the view defended by Suarez. The theory endorsed by Suarez was shared by many late medieval thinkers and, largely accepted also by Descartes's contemporaries.¹⁴ (I will return to this view below, Section III.) Descartes's position is not only opposed to this widely accepted doctrine, it also seems contrary to common Scholastic assumptions about rationality and the conditions of intelligibility in general.

The Scholastics, currently, made a distinction between God's absolute power and his ordinary power, considering God's absolute power coextensive with the logically possible. God's omnipotence, interpreted in terms of absolute power, has no limit other than that imposed by the law of contradiction: anything which can be described without implying a contradiction *in terminis* can be created or actualized by God's power. God could have created another world, or change the laws he has ordained in the actual world. But God could not violate the laws of logic, he could not, for instance, create a being which would be at the same time a man and an ass, for asinity cannot, according to good Aristotelian logic, be predicated of human beings without contradiction of the terms. This restriction on purely logical grounds of God's absolute power did not, as generally understood, involve any impotence in God, for, as Aquinas and his followers stressed, what implies contradiction is neither feasible nor possible: it is nothing. Also one should not say of what is impossible in this sense that God cannot do it, rather one should say, since it involves contradiction, that it cannot be done.¹⁵

But God's power, as Descartes understands it, does not have any restrictions whatsoever,—not even logical ones. To say that God has created or established the necessary truths as a free and efficient cause is to make the necessary as well as the possible contingent upon his will: it is, in a way, to abolish the very distinction between the necessary, as that which cannot possibly not be, and the possible as that which may or may not be. Truth and logical consistency are separated: Descartes does not only say

that God can make necessary propositions untrue, he also says, repeatedly, that God can make contradictories true together.¹⁶

The interpretation of the crucial passages is, however, controversial. Is Descartes talking of real modalities,—of truths which according to the common understanding are necessary or possible in themselves, absolutely? Or is he talking of epistemic modalities, treating the necessary truths created by God merely as epistemic or psychological necessities, dependent on the constitution of our minds?

II

Descartes's use of the term "eternal truth" is never explicitly defined. The category of eternal truths, roughly, corresponds to the class of truths which are necessary in the traditional sense of truths the denial of which involves logical contradiction. It covers, as we have seen, mathematical truths as well as logical and metaphysical principles.¹⁷

According to one interpretation of Descartes's doctrine of the creation of the eternal truths, that Edwin Curley (1984) somewhat misleadingly labels the "standard" interpretation, Descartes holds that there are in fact no eternal truths in the above sense of necessary truths. This interpretation, as Curley understands it, attributes to Descartes the view that anything whatsoever is possible, from a strictly logical point of view, for the Cartesian God. Curley thinks it can be construed as the thesis that for any proposition p , p is logically possible ($(p) M(p)$). As Curley rightly observes there are serious systematic reasons for rejecting this reading: Descartes could not defend a universal possibilism without giving up central tenets of his philosophy and science, indeed, without giving up his whole philosophical enterprise.¹⁸

Curley's own interpretation may be less offensive and more plausible on systematic grounds, but as Curley himself admits, it seems to "trade one paradox for another." Taking up a suggestion originally made by Peter Geach, Curley proposes to read Descartes's doctrine as involving "not a denial that there are necessary truths, but a denial that those which are necessary are necessarily necessary."¹⁹ This actually is what Descartes seems to be saying when explaining his position to Mersenne in 1630 and later. The truths freely established by God are necessary and immutable, because God's will is immutable, but they are not necessary for God, since God can change them, if His will can change.²⁰ The idea, according to Curley, could best be expressed in terms of iterated modalities, using the symbolism of modal logic. Instead of the formula: $(p) M(p)$, representing what Curley takes to be a "standard" interpretation of Descartes's doctrine, we would have: $(p) MM(p)$ ("for any p , possibly possibly p ").²¹ Developing this idea Curley discusses at length the difficulties in finding a satisfactory formula which would be provable in something like a respectable logical system. Curley also thinks an exception must be made for the truths

concerning God's nature, which Descartes holds to be not contingently but "necessarily necessary," which creates the additional difficulty of accounting for the relation between two sets of necessary truths, those which are necessarily necessary and those which are contingently necessary. In spite of all its difficulties Curley seems to consider the interpretation in terms of iterated modalities the best (and most charitable) way to understand Descartes's bizarre and ambiguous statements.²²

One difficulty with this interpretation that Curley does not consider is that it seems to water down Descartes's doctrine to the view Alvin Plantinga characterizes as a "limited possibilism," according to which modal propositions (propositions ascribing modality to other propositions) would be within God's control, but not the necessary truths themselves. God could not have made " $2+2=4$ " false, "he could only have made it the case that he could have made it false. He could have made it possibly false."²³ This, however, is in conflict with Descartes's explicit claim that God could make it untrue, for instance, that all the lines from the center of a circle to its circumference are equal, or that the three angles of a triangle are equal to two right angles (cf. above notes 12 and 16, (1)). Curley may in fact be right in his suspicion that Descartes was confused about the modal status he wanted to accord to the eternal truths, and so may Plantinga in observing that Descartes does not separate different kinds of possibilism but seems to run both a "limited" and a "universal" possibilism together. Plantinga thinks that the latter is more in accordance with what he considers the "fundamental thrust" of Descartes's thought: it does not restrict God's control over the eternal truths in the way a limited possibilism would do.²⁴ But readings which ascribe a radical universal possibilism to Descartes seem equally unacceptable for both textual and systematic reasons.

Descartes's interpreters seem to be faced with the following awkward choices: 1) Read Descartes's enigmatic statements as committing him to some kind of universal possibilism, and declare his position inconsistent, unintelligible and extravagant; 2) Read them as involving merely a limited possibilism, thereby saving Descartes's respectability but at the same time cutting off the very edge of his doctrine; 3) Conclude that Descartes had no clear and distinct idea of the nature of necessary truths and was simply confused about the status he wanted to accord them.

Let us now consider a recent interpretation developed by Hidé Ishiguro (1986) which purports to escape this kind of dilemma. Ishiguro finds Descartes's theory "extremely subtle and worthy of a sympathetic reading" but thinks that its implications have been widely misunderstood. Differing from Jacques Bouveresse (1983), who insists on the "essentially epistemic" character of the necessity attributed to the eternal truths by Descartes, Ishiguro accepts Martial Guérout's (1968) suggestion that Descartes's theory of modality foreshadows the distinction made by Leibniz between

absolute necessity and necessity *ex hypothesi*. The distinction between absolute and hypothetical necessity in Descartes does not, as Ishiguro understands it, coincide with the Leibnizian distinction between the laws of logic and mathematics on one hand and those of physics on the other, but occurs in a very particular form. It is a logical distinction arising "from the way Descartes understands negation and from the fact that we are bound by our thought and the expressive powers of our language."²⁵

Descartes's eternal truths, as we have seen, have a true and immutable nature that cannot be arbitrarily changed, once they have been created. These truths, Ishiguro argues, can be described as "rules or forms of the working of the mind freely created by God." They depend on the constitution of our mind and are, in Kantian language, given "as *a priori* forms of thinking."²⁶ Ishiguro is right in insisting on their character of *a priori* conditions for rational thinking and science. They are not merely epistemic in the sense of depending on some historical, contingent facts about the constitution of human cognitive capacities. Rather, they are immutable, universal conditions of intelligibility for any created rational being or intellect. Not only are they exemplified in the order of the actual world, but if God created many worlds, they would be true in all of them. (AT XI, 47, AT VI, 43, HR I, 108.) That they are freely created by God means, in Ishiguro's reading, that the intellects created by God could have been constituted differently. Given the way our minds are constituted, the eternal truths are however immutable and necessary. Their necessity is, absolutely speaking, contingent, but once they have been "created" or "instituted," they are absolute in the sense that even God could not make what contradicts them true.

The necessity of Descartes's eternal truths, Ishiguro argues, is hypothetical in the Leibnizian sense of being dependent on God's choice and the facts of creation. If this is agreed, it is wrong to think that Descartes rejected the notion of "absolute nonepistemic modality": for Descartes the impossibility of actualizing what is contradictory is and remains absolute. Descartes's God could not make contradictories true.²⁷ Descartes, on this reading, can have it both ways: he can hold that the eternal truths could be other than they actually are, without committing himself to the problematic claim that actual contradictions could be rendered true by God's omnipotence.

Ishiguro's reading is perplexing, for the denial of a necessary truth is usually understood as equivalent to a contradiction. To say that a proposition is necessary is to say that its denial implies contradiction. Now if the impossibility of actualizing a contradiction (making a contradictory proposition true) is absolute, the impossibility of actualizing the negation of a necessary truth would seem absolute too.

This, however, is not the case according to Ishiguro, who wants to show that there is, on the contrary, an interesting asymmetry between the status

of necessity and that of impossibility in Descartes's theory. The asymmetry arises partly from Descartes's view that the eternal truths are contingent upon our concepts and the constitution of our minds, partly from Descartes's use of negation. Given the concepts we actually have of number and other arithmetical symbols, (including the rules governing their use), even God could not make it the case that " $2+2=5$." But God could have given us other concepts and made our minds to work according to other rules,—he could, presumably, have given us minds without any arithmetical rules at all, in which case the proposition " $2+2=4$ " would not be true—i.e., it would lack truth value. Given the way our mind is created and the rules according to which it actually works the impossibility of a contradiction is absolute: even God cannot render what contradicts the concepts he has given us true.²⁸ Logical contradictions are hence impossible absolutely. The negation of a necessary truth is not, however, absolutely impossible. This is so because Descartes, according to Ishiguro, treats negation not as a content of a proposition, but as an operation carried out on the proposition. But Ishiguro is not very explicit on the use of negation she ascribes to Descartes, and I must admit I find this point unconvincing.²⁹

Consider the standard example of a necessary truth discussed in this context, " $2+2=4$." Its necessity, according to this reading, is not absolute but contingent upon the way our minds are created. Descartes's God could render it false, he could make its negation true. To say that the negation of a necessary proposition is a logical possibility, is not to say that it can be denied, as such, without contradiction. It is to say that God could have created our mind in some different way, for instance, he could have created it without any arithmetical or mathematical concepts and rules at all. He could also, presumably, have created minds working according to quite different rules or concepts in terms of which those truths which are necessary given the concepts we have could not be intelligibly stated at all. Ishiguro finds, in the history of mathematics, an illustration of how we should understand the controversial assertions that God is free to make it not be true that the three angles of a triangle are equal to two right angles or that he can make contradictories true together. After the discovery of non-Euclidean geometries we know that the number of angles in a triangle can add up to more or less than two right ones. Ishiguro writes:

Indeed we can see how the above proposition would be true in a Euclidean geometry and false in general in Riemannian geometry. Thus, as Descartes writes, God could instantiate two apparent contradictories (e.g., when each belongs to a different geometry). We learn that each of the apparent contradictories were conditional truths, dependent on distinct, different antecedent conditions, and not contradictories.³⁰

In saying that God can make contradictories true together, Descartes would hence not be claiming that God could instantiate a contradiction in the sense of rendering a contradictory state of affairs true. Contradictions cannot be realized because they do not describe any possible state of affairs.

Also Ishiguro, I take it, does not mean Descartes to be saying that the negation of any of the propositions "2+2=4" or "all the lines drawn through the circumference of a circle are equal" or "There is no mountain without a valley" could, individually, be made true by God. The negation of a necessary proposition could be true only in case God also annihilated the antecedent conditions, that is, the language or mental constitution on which its content and truth depend. The denial of the truth of such propositions is, in itself, as unintelligible and impossible as the instantiation of any of the absolute contradictions discussed by Ishiguro.³¹

But if this is granted, it is difficult to claim that there is any real asymmetry or difference in principle between the negation of a necessary truth and the assertion of a contradiction, e.g., between "it is not the case that '1+2=3'" on one hand, and "1+2=4" or "p&-p" on the other. Necessity as well as impossibility are both hypothetical or conditional, for they are both relative to the language and concepts in which they are formulated, or, if you prefer, to the constitution of our mind. However, once these antecedent conditions on which the content and truth of a proposition depend are assumed or given, its modal status (necessity and possibility as well as impossibility) is absolute. The asymmetry, if there is one, is, rather, in the scope of what God can do. Talking of language (conceptual systems) we could perhaps say that God can create infinitely many languages which are mutually incompatible, and, as it were, incommensurable, actualizing within one language what appears as absolutely incoherent or impossible in terms of another. In this sense God can render (apparent) contradictories true together. But God could not make a real contradiction true.

The advantage of the reading proposed by Ishiguro—as far as I understand it—is that it seems to render Descartes's enigmatic claims about modality somehow intelligible without committing him to assumptions about any *a priori* limits constraining God's omnipotence. Although that remains inconceivable to us, God is as free to create minds which use other concepts and rules incompatible with those conditioning our thinking, as he is free to create worlds operating according to other laws. But given the rules and the contents of the concepts within the language he has chosen to create, even God cannot bring about what contradicts these notions.

This reading too, unfortunately, has its drawbacks. For what, it might be asked, have we gained, if we look back at the three alternatives facing Descartes's interpreters mentioned above? If, as I have argued, there is no real asymmetry of the kind Ishiguro assumes between the Cartesian notions of necessity and impossibility, then the assumption that there is a distinction between absolute and contingent modality in Descartes must be reconsidered. All modality is hypothetical, in the sense of depending on the conceptual systems or mental constitutions that God chooses to create. But given these antecedent conditions, modalities are absolute. We seem to have ended up with another version of the second interpretation, open

to the same criticism as can be raised against Curley's interpretation: it leaves Descartes's most radical statements of the doctrine difficult to account for. Of the interpretations here considered, only the one defended by Harry Frankfurt (1977) takes full account of those statements. But Frankfurt's reading does not, I want to argue, commit Descartes to irrationalism or to the incoherences of a universal possibilism.

Frankfurt, like Ishiguro, understands the necessity of Descartes's eternal truths as a necessity relative to the contingent nature of the human mind, and like Ishiguro, he seems to consider them a kind of Kantian *a priori* conditions for intelligibility and rational science.³² Differently from Ishiguro, Frankfurt takes Descartes's statements about the unintelligibility of God's unlimited power seriously, and does not attempt to explain (away) Descartes's enigmatic claims about God's ability to make what involves logical contradiction true and is, therefore, inconceivable to us. On the contrary, he takes those claims quite literally, and admits, as I think one should do, that the power Descartes attributes to God to make, e.g., the radii of a circle unequal, or any other self-contradictory proposition true, surpasses our understanding. To seek a logically coherent explication of such assertions, is, as Frankfurt recognizes, a mistake.³³

Contrary to what Curley assumes, Frankfurt's reading does not commit Descartes to a radical, logical possibilism of the kind the "standard interpretation" is supposed to ascribe to him.³⁴ Frankfurt does not take Descartes to deny that there are necessary truths the denial of which involves logical contradiction and is hence inconceivable to us.³⁵ What Descartes denies is not that there are truths that cannot be denied without contradiction, but that the very principle of contradiction in virtue of which things are non-contradictory and hence conceivable to created (rational) minds also determines the limits of what is conceivable or possible to God. We cannot conceive what is self-contradictory, but what we cannot conceive need not be inconceivable to God. God's infinite understanding and will are not limited by the logical laws determining what created minds can coherently describe and conceive.³⁶ We can talk, as Descartes insists, only of what we understand as necessary and possible, not of what is necessary or possible to God. For although anything we understand as possible is possible in itself, we cannot grant that what we judge impossible, because it contradicts our concepts, is impossible also for God.³⁷

This, I want to stress, is not to say that Descartes is committed to any other, higher-order possibilism. Descartes's doctrine, properly understood, involves neither a limited nor a universal possibilism. What is implied by Descartes's thesis is that there are no possible or necessary truths before or independently of God's voluntary act of creating them. The idea of iterated modalities presupposes that modalities are given, which is precisely what Descartes wants to question. Similarly, the notion of hypothetical necessity presupposes that of absolute necessity. But nothing precedes

and nothing predetermines the modal structure freely established, *ex nihilo*, by God. That certain truths are necessary and other contingent is not by itself necessary. In making the universe God confers, as it were, necessity upon some propositions, determining hereby, once and for all, the absolute limits of conceivability to which finite, created minds are confined. The propositions chosen to be necessary by God cannot, however, constitute limits for what God, who creates them, could conceive or do. It does not follow that anything whatsoever is possible to the Cartesian God or that there are no limits at all to God's omnipotence. What follows is that since God creates the modal structure by which our thinking is bound there is no common, absolute frame in which questions about what is possible independently of this structure can be posed. There are no independent standards of rationality or possibility, shared by created rational beings and God, against which the acts of God infinite intellect and will can be measured.

III

From a very broad historical perspective one can distinguish, roughly, three general views or accounts of the foundations of modality and conceivability: the ancient realist model found in Aristotelian and Platonist doctrines, the modern conceptualist model developed by the late medievals, and voluntarist or constructivist accounts. In what is here called the realist model modalities are ontologically founded in the invariant intelligible structure of the universe as contained in the Divine intellect (or essence) and exemplified in the natural kinds, potencies and tendencies of real things in the world. The conceptualist model can be described as a secularized, "detheologized" theory of the foundation of modality. Logical necessity and possibility are here dissociated from real powers and potentialities of things and also from the Divine intellect or essence as their ontological foundation. They are identified, instead, with semantic and logical relations between the terms of modal propositions.³⁸

Suarez, whose theory Descartes opposes, defends a version of the modern conceptualist view. This view, which can only be briefly outlined here, construes the eternal truths as conditionals which are necessarily (analytically) true not because they are eternally known by God but in virtue of the content and the relations of their terms. Propositions expressing essential predications are reduced to conditionals of the form "If something is a man, it is an animal." The truth of such conditionals is not, as Suarez argues, dependent on the existence of the thing described: they express relations between thinkable or possible objects. Things are possible or thinkable (conceivable) insofar as their notions or essential descriptions are non-contradictory. Self-contradictory propositions, according to the common rationalist assumption, do not describe any real or possible essence or being: what is contradictory can neither be made nor conceived by

any intellect or power. Eternal truths, understood as propositions which are necessarily true, are, for Suarez, propositions describing possible states of affairs the denials of which are inconceivable. No intellect, finite or infinite, could form an idea of their contradictories. The possibility of things is therefore not founded on the fact that things are conceived by an eternal intellect. Even God is bound to represent a man as a rational animal, for the divine model could not, Suarez says, represent man with another essence. He writes:

This is based on nothing else but the fact that man cannot have another kind of essence, because a thing with a different kind of essence would not be a man. So this necessity comes from the object itself and not from the divine model.³⁹

The contents and relations between the terms of conditional truths about possible essences is thus taken to depend, ultimately, on the natures or essences they denote. Although these essences are conceived by the eternal intellect from all eternity, and can therefore be described as being produced by or having some kind of intellectual (objective) being in God's intellect, they are thought to be possible or conceivable in and of themselves.⁴⁰

The meaning of modal notions is here spelled out without reference either to God's will or power or to his intellect. It is assumed instead that the eternal truths are founded on the formal natures of beings and the (logical) relations of compossibility or mutual exclusion between all possible beings (possible individuals and their possible properties) which are, as such (i.e., without having any kind of intentional or real actuality), given prior to or independently of God. The most elaborated version of the modal theory underlying the view defended by Suarez is the one developed by John Duns Scotus. "Being" in Scotus's general, metaphysical sense signifies not actual, real or intellectual being or existence, but mere compatibility with existence, that is, possible existence.⁴¹ Being in this general sense covers anything which can be conceived or thought of as existing without contradiction. The domain of possible being, in Scotus's theory, consists of all possible individuals, their possible properties and the relations between them. Because of the relations of compatibility and incompatibility between things or their possible properties and existence, possibilities are portioned into classes of compossible and impossible states of affairs, forming several alternative "possible worlds." Logical possibility is defined as freedom from contradiction, and contingency applies to any event or thing the opposite of which can be (conceived as) actual at the very moment it occurs. Logical necessity can be described as what has no (conceivable) counterexample in any possible world, and logical impossibility, correspondingly, to what cannot be not be exemplified (conceived of as existing) in any possible world or state of affairs.⁴²

Scotus says that things are produced by the divine intellect first in intelligible and then in possible being prior to becoming objects of the divine

will or power. It is however not, as Simo Knuuttila and I have argued elsewhere, implied in this view that possibilities as such are freely created by God.⁴³ All the things which are produced by the divine intellect in intelligible being are possible in themselves. Impossibility always involves impossibility, which arises from the combination of possible beings which are mutually incompatible.⁴⁴ God's eternal and infinite intellect conceives or comprehends whatever can be conceived without contradiction. This, one could say, is what an infinite, omniscient intellect is: the container of all intelligible—possible as well as actual—beings with their relations of compossibility and impossibility and the necessary and contingent states of affairs determined by these relations. What is possible or not is so in and by itself, and it is what it is for any intellect contemplating it as well as for any power through which it could receive actual existence.⁴⁵

In the conceptualist theory the domain of possibility can thus be described as having a prefixed logical structure which is determined *a priori* by the formal natures of its objects (all possible beings) and which constitutes the absolute preconditions of thinking for any intellect or rational mind as such. God can actualize, by his free choice and power, any compossible states of affairs, but God is not free to choose which combinations of things or states of affairs are compossible.

This kind of theory involves what from Descartes's point of view seems to be quite arbitrary restrictions of God's infinite and incomprehensible power. It leads to what Descartes considers the "heretical" assumption that God's intellect is somehow on a par with our finite intellect.⁴⁶ Why should the acts of an infinite and incomprehensible being satisfy the criteria of intelligibility to which our rational thinking and understanding of the world have to conform? To take this for granted is not only to presume that God has created the human intellect to resemble his own (the only difference between a finite and an infinite mind would be a difference in scope), it is also to say that God could not have created the human mind in a different way. Any intellect or mind would be bound to the same set or sets of possibilities. Such consequences are unacceptable to Descartes, because they are incompatible with what he considers a true conception of God's nature. Part of that conception is Descartes's view of the radical freedom of the Divine will and his denial of any distinction between the acts of God's intellect, will and power.⁴⁷

In some texts Descartes seems to give the priority to the will and hence to reverse the traditional ordering of God's faculties.⁴⁸ His position, on this ground, has been characterized as an extreme voluntarism. This label as I see it is inadequate or at least not very illuminating: it makes sense only given traditional distinctions between reason and will that Descartes rejects. Voluntarism, as ordinarily used, presupposes not only a distinction but also an opposition between reason and will, and it is usually, because of this contrast, associated with irrationalism.⁴⁹ We cannot, however, talk

of the rationality *versus* irrationality of what God understands and wills without presupposing a standard of rationality, the one God has actually willed and imposed on our minds, but which for this reason cannot be used as a standard shared by the human and the divine (or any) intellect, a standard against which God's will could be opposed or measured. Descartes's claim that the area of possibility and hence conceivability is freely set by God and could therefore be different from what it is does not imply any contradiction, because in his account the notions or propositions chosen to be necessary or possible do not, in themselves, have any modal status at all. They are, one could say, modally indifferent.

Leaving out God and his voluntary act of creation from this account of the origin and foundation of necessary and possible truths, Descartes's position, as it is here understood, does not seem to be very different from the one defended by Georg Henrik von Wright in his recent writings on truth and modality.⁵⁰ In discussing the nature and foundation of the necessity of generic propositions the instantiations of which are necessarily true (e.g. "p or ~ p"), von Wright concludes that it consists ultimately in our attitude towards the propositions understood as necessary, and not in any independently given, prefixed logical structure of reality. We treat certain propositions as necessary as long as this is useful, "as long as this attitude to them gives us a useful instrument for describing reality." Von Wright continues:

No system of logic can establish the necessity of its own principles (axioms, theorems). Nothing is necessary "by virtue of the laws of logic" alone. Necessity stems from an attitude we take to some propositions or, which is the same, from a way of applying and using some sentences. And the "laws" of a logic exemplify propositions to which such an attitude is usually, or for some purpose, taken. (1984, 114-115).

Von Wright, in writing this, opposes the tendency of logicians to "mystify necessity," that Wittgenstein also criticized in questioning the idea of "the hardness of the logical must" and with it, that of the "crystalline purity of logic."⁵¹ The view that necessity is conferred on propositions by attitudes we take to them or the way we treat them, could be labelled "conventionalist," "linguistic" or "subjectivist," but each label would also be misleading, von Wright says (*loc. cit.*). They would certainly be misleading in talking of Descartes. In Descartes's theory, the attitude we take to certain propositions, in treating them as necessary, is not a matter of choice or convention: God has created our minds in such a way that we must accept as necessarily true propositionsthe denials of which are contradictory and hence inconceivable to us. The necessity of the truths we have to accept is not, however, founded on any absolute logical principles structuring an atemporal and non-spatial world of pure intelligibles, but on the facts of creation, on how God has constituted our mind and on the principles or conceptual system God has chosen as preconditions of our thinking and understanding of the world we live in. This would explain why Descartes

seems to give so much weight to immediate intuition and the experience of evidence in the place of demonstration and logical proof as a ground for accepting the truth of propositions.⁵²

A question often raised in discussions of Descartes's theory of eternal truths is whether Descartes had any clear view of necessity in the "modern" sense of analyticity?⁵³ The class of propositions Descartes would call self-evident or eternal truths (and which he characterizes in the traditional way as truths which cannot be denied without contradiction) includes a number of metaphysical principles which can hardly be considered as "analytic" in the modern sense, and which certainly seem to require some external validation or foundation. Descartes, however, was hardly an exception in this respect, and it is not clear that any of the authors mentioned had a very clear view of how the distinction between "eternal truths" or "truths of reason" and contingent truths or "truths of fact" should be drawn or what it involved.⁵⁴ Indeed, what "analyticity" means and how it should be accounted for is still a matter of controversy.

On account of what I have argued here, it seems to me that the real difference between Descartes and the tradition he opposes is not so much one concerning the nature of the eternal truths as a difference concerning the deeper question of their foundation. It is hence not that Descartes was unaware of the merely semantic or conceptual character of the necessity of eternal truths. It is rather that his conception of the foundations of logic was radically different from the view of the philosophers in the mainstream of rationalism. In contrast to the kind of "platonistic" or "semi-platonistic" view of the foundations of modality and conceivability to be found in the theories of Duns Scotus, Suarez and Leibniz, and which can be said to exemplify a tendency to "mystify" the status of logical principles, Descartes can be said to emphasize the mystery of God's infinite, uncomprehensible power, and creation of things *ex nihilo*. But Descartes's "voluntarist" (or as I have called it, although this is equally misleading, "constructivist") position can also be seen as a step towards the new way of thinking about logic and logical modality developed during this century.⁵⁵

NOTES

1. Recent versions of this reading are found in Harry G. Frankfurt, "Descartes on the Creation of the Eternal Truths," *The Philosophical Review*, vol. 86 (1977), pp. 36-57; A. Plantinga, *Does God Have a Nature* (Milwaukee: Marquette University Press, 1980). Jean-Luc Marion, *Sur la théologie blanche de Descartes* (Paris: P.U.F., 1980) and J. Bouveresse, "La théorie du possible chez Descartes," *Revue Internationale de Philosophie*, vol. 146 (1983), pp. 293-310.

2. See, e.g., Martial Guérout, *Descartes selon l'ordre des raisons* (Paris: Aubier Montaigne, 1968), Amos Funkenstein, "Descartes, Eternal Truths, and the Divine Omnipotence," (1975), 185-199. Edwin M. Curley, "Descartes on the Creation of the Eternal Truths," *The Philosophical Review*, vol. 93 (1984), pp. 569-97, and H.

Ishiguro, "The Status of Necessity and Impossibility in Descartes," in A. Rorty (ed.) *Essays on Descartes' Meditations* (Berkeley and Los Angeles, California: University of California Press, 1986), pp. 459-72.

3. The only interpretation which does justice to this doctrine is the one defended by Frankfurt (1977), *op. cit.* His subtle and penetrating analysis of Descartes's view and its difficulties has not received due attention, and it has also been partly misunderstood. Frankfurt's interpretation is discussed below, Section II.

4. Alexander Koyré argues in his *Descartes und die Scholastik* (Bonn 1893, repr. Darmstadt 1971) that Descartes at a later stage abandoned his earlier radical voluntarism and accepted the traditional view of God's omnipotence as coextensive with the logically possible. But it is difficult to point to any real change in Descartes's formulations of his doctrine. Cf. Frankfurt (1977), *op. cit.*, p. 37 and Funkenstein (1975), *op. cit.*, p. 187. On the role and place of this doctrine in Descartes's philosophy see e.g., Emile Bréhier, "The Creation of Eternal Truths in Descartes's System" (1937) repr. in Willis Doney (ed.) *Descartes, A Collection of Critical Essays* (Notre Dame: University of Notre Dame Press, 1968); Genevieve Rodis-Lewis, *L'Oeuvre de Descartes* (Paris: J. Vrin, 1971), vol. I, 125-140, and also Geneviève Rodis-Lewis, "Quelques compléments sur la création des vérités éternelles," in M. Couratier (ed.) *Etienne Gilson et nous: la philosophie et son histoire* (Paris: J. Vrin, 1980), pp. 72-77; and Jean-Luc Marion, (1980), *op. cit.*

5. To Mersenne, 15 April 1630, AT I, 145, K, 11. Whenever possible, a double reference is given to the texts of Descartes, one to Charles Adam & Paul Tannery (ed.), *Oeuvres de Descartes* (Paris: Leopold Cerf, 1897-1913), 12 vols. (here quoted as AT), one to the standard English translation by E. S. Haldane and G. T. Ross, *The Philosophical Works of Descartes* (London: Cambridge University Press, 1911, 1978), 2 vols. (cited as HR), and to Anthony Kenny (transl. and ed.) *Descartes, Philosophical Letters* (Oxford: Clarendon Press, 1970) (cited as K).

6. AT VI, 41, 64, AT VIII, 2, 83 ff, AT XI, 47.

7. *Loc. cit.*

8. In a subsequent letter Descartes identifies the eternal truths with the essences of the creatures (To Mersenne, 27 May 1630, AT I 152, K, 14-15). But the essences of physical things, according to Descartes, are reducible to mere (geometrical) extension. All the truths that the human mind can discover about them are consequently mathematical truths concerning actual or possible modes of extension. See, e.g. *Meditations V* and VI, cf. AT VIII, 380, HR II 226.

9. Descartes continues: "It is easy to be mistaken about this because most men do not regard God as an infinite and incomprehensible being, the sole author on whom all things depend;... Those who have no higher thoughts than these can easily become atheists; and because they perfectly comprehend mathematical truths and do not perfectly comprehend the truth of God's existence, it is no wonder that they do not think that the former depend on the latter. But they should rather judge on the contrary, that since God is a cause whose power surpasses the bounds of human understanding, and since the necessity of these truths does not exceed our knowledge, they must be something less than, and subject to, the incomprehensible power of God." To Mersenne 6 May 1630, AT I, 148, K, 13-14. The passages in italics are written in Latin in the French text.

10. Marion takes *aut* as disjunctive and assimilates this distinction to the one made by Descartes elsewhere between the essence and the existence of creatures. Anthony Kenny thinks that "the most consistent way to take the expression is as meaning 'necessarily true of actual or possible objects.'" See Marion, *op. cit.*, p. 30; Anthony Kenny, *The God of the Philosophers* (Oxford: Clarendon Press, 1979), pp. 17-18.

11. I have discussed the differences between Descartes's view and scholastic

theories in L. Alanen, "Descartes, Duns Scotus and Ockham on Omnipotence and Possibility," *Franciscan Studies*, vol. 45 (1985) sect. 2. See also L. Alanen and S. Knuuttila, "The Foundations of Modality and Conceivability in Descartes and His Predecessors," in Simo Knuuttila (ed.) *Modern Modalities: Studies in the History of Modal Theories From Medieval Nominalism to Logical Positivism* (Dordrecht-Holland: D. Reidel Publ. Co., 1988), pp. 1-69.

12. Descartes writes: "...just as He was free not to create the world, so He was no less free to make it untrue that all the lines drawn from the center of a circle to its circumference are equal." To Mersenne 27 May 1630, AT I 152, K, 15, cf. AT VII, 435-436, HR II, 251.

13. "There is no need to ask what category of causality is applicable to the dependence of this goodness upon God, or to the dependence upon him of other truths, both mathematical and metaphysical. For since the various kinds of cause were enumerated by thinkers who did not, perhaps, attend to this type of causality, it is hardly surprising that they gave no name to it. But in fact they did give it a name, for it can be called efficient causality, in the sense that a king may be called the efficient cause of a law, although the law itself is not a thing which has physical existence, but is merely what they call a 'moral entity.'" AT VII, 436, HR II 251, cf. To Mersenne 27 May, K, 15.

14. See, e.g., Etienne Gilson, *La liberté chez Descartes et la théologie* (Paris, 1912); Timothy J. Cronin, "Eternal Truths in the Thought of Descartes and His Adversary," *Journal of the History of Ideas* (1960), pp. 553-59, Marion, *op. cit.*, p. 27 ff.

15. ST 1a 25,3. Cf. Alanen (1985), and Alanen and Knuuttila (1988).

16. Compare the following statements:

(1) "...I now turn to the difficulty of conceiving how it was free and indifferent for God to make it not be true that the three angles of a triangle were equal to two right angles, or in general that contradictories could not be true together." (To Mesland, 2 May 1644, AT IV, 118, K, 151)

(2) "...But I do not think that we should ever say of anything that it cannot be brought about by God. For since everything involved in truth and goodness depends on His omnipotence, I would not even dare to say that God cannot make a mountain without a valley, or that one and two should not be three. I merely say that He has given me such a mind that I cannot conceive a mountain without a valley, or an aggregate of one and two which is not three, and that such things involve a contradiction in my conception." (To Arnauld 29 July 1648, AT V 224, K, 236)

(3) "...I boldly assert that God can do everything which I conceive to be possible, but I am not so bold as to deny that He can do whatever conflicts with my understanding—I merely say that it involves a contradiction." (To More 5 February 1649, cf. AT VII, 436, HR II, 251)

17. Cf. the discussion in Funkenstein (1976).

18. Curley, *op. cit.*, 570 ff.

19. Curley, *op. cit.*, p. 581.

20. To Mersenne, 15 April 1630, AT I, 145, K, 11. Cf. the difficult passage to Mesland: "I turn to the difficulty of conceiving how it was free and indifferent for God to make it not be true that the three angles of a triangle were equal to two right angles, or in general that contradictories could not be true together. It is easy to dispel this difficulty by considering that the power of God cannot have any limits, and that our mind is finite and so created as to be able to conceive as possible only things which God has wished to be truly possible, but not to be able to conceive as possible things which God could have made possible, but which he has nonetheless wished to make impossible. The first consideration shows us that God *cannot have been determined to make it true that contradictories cannot be (true) together, and therefore he could have done the opposite.* The second consideration shows us that

even if this be true, we should not try to comprehend it since our nature is incapable of doing so. And even if God has willed that some truths should be necessary, this does not mean that he willed them necessarily; for it is one thing to will that they be necessary, and quite another to will them necessarily, or to be necessitated to will them." AT IV, 118-119, K, 151. (Emphasis mine.) Cf. also quotes (1)-(3) in note 13 above. The best discussion, to my knowledge, of these passages and the difficulties they raise is in Frankfurt, 1977, sections IV-VII.

21. Curley, *op. cit.*, pp. 581-83, and p. 589 ff. Speaking of necessity, we would have, correspondingly, "for any p, it is not necessary that necessarily p."

22. Curley, *op. cit.*, pp. 592-97. For a fuller discussion of Curley's interpretation and the difficulties involved in the notion of an immutable will acting by free choice see Alanen (1985), sections IV and V.

23. See Alvin Plantinga, *Does God Have a Nature?* (Milwaukee: Marquette University Press, 1980), pp. 112-13.

24. Curley 589, Plantinga, *op. cit.*, pp. 103-4 and pp. 112-13.

25. Hidé Ishiguro, *op. cit.*, pp. 463-64, cf. Guérout (1968), vol. II, p. 39, and Bouveresse (1983).

26. Ishiguro, *op. cit.*, pp. 460-61.

27. Ishiguro 467. Ishiguro points out that Descartes actually never asserts that a logically inconsistent affirmative proposition, e.g. " $2+3=6$," could be a necessary truth, or that God could have made it the case that $2+3=6$. What he says is that God could have made necessary truths not to be true. (Ishiguro 460.) Ishiguro refers to the passages as those quoted in note 12 and (1) in note 16 above. Statements as those in the letter to Mesland, quoted in note 20 above, are obviously problematic for this interpretation.

28. The necessity of " $2+2=4$ " is contingent, but the proposition "Given the way our mind was created, it is necessary that $2+2=4$ " seems, Ishiguro recognizes, to be absolutely necessary. But, she adds, such theological metatruths are not the one's with which Descartes is concerned and they have a special status in his thinking. Ishiguro, *op. cit.*, p. 471, note 19.

29. The evidence Ishiguro invokes—the discussion of error in the 4th Meditation—is, at best, inconclusive. See Ishiguro, *op. cit.*, pp. 468-69.

30. Ishiguro, *op. cit.*, p. 468. But are we really, one may ask, using, as Ishiguro seems to think, the same concept of triangle in different geometries? And is not Descartes's point, in the statement she refers to, precisely to deny that the possibility of making a self-contradictory proposition true can be understood at all by our limited intellects? See the passage quoted in note 20 above.

31. " $2+2=5$," or " $1+2=4$ " are contradictions the impossibility of which Ishiguro takes to be absolute in the sense that even God cannot make them true. Ishiguro, *op. cit.*, p. 467.

32. Frankfurt, *op. cit.*, p. 45.

33. Frankfurt, *op. cit.*, p. 44.

34. Curley, *op. cit.*, p. 570. I'm indebted to Harry Frankfurt for having pointed out to me that Curley in fact misrepresents his reading.

35. This, however, is what anyone subscribing to the thesis "for any propositions p, p is logically possible" would have to do. I have not been able to find any serious interpretation ascribing this thesis to Descartes.

36. See Frankfurt, *op. cit.*, pp. 42 ff., cf. also Alanen (1985), Section X.

37. Descartes writes: "By possible either you mean, as all commonly do, whatever does not disagree with human thought:...Or either you imagine some other kind of possibility, one proceeding from the object itself, but which, unless it agrees with the preceding variety can never be known by the human mind. ...all contradicto-

ness or impossibility is constituted by our thought, which cannot join together ideas that disagree with each other; it cannot reside in anything external to the mind, because by the fact that a thing is outside the mind it is clear that it is not contradictory, but is possible." AT VII, 152, HR II, 46-47.

38. This "modern" view of modality is expressed in its most radical form in the idea that the only necessity is verbal or linguistic necessity. The first explicit identification of necessity with analyticity has been traced to the writings of Duns Scotus. Cf. Calvin Normore, "Ockham, Possibility and the Past," *Franciscan Studies*, vol. 45, and Simo Knuuttila, "Time and Modality in Scholasticism," in S. Knuuttila (ed.), *Reforging the Great Chain of Being* (Dordrecht: D. Reidel Publ. Co., 1981), p. 225, notes 151 and 170.

39. Suarez, *Disputationes metaphysicae* XXXI, xii, 40, *Opera omnia*, vol. XXV, Paris 1866, repr. (Hildesheim: Georg Olms, 1965), Vol. II, p. 298. A more detailed account of Suarez's view and of the emergence of the "modern" conceptualist theory of modality it is here taken to exemplify is given in L. Alanen and S. Knuuttila, "The Foundations of Modality and Conceivability....".

40. Suarez, *op. cit.*, p. 295.

41. See, e.g., S. Knuuttila, "Being qua Being in Thomas Aquinas and John Duns Scotus" in S. Knuuttila and J. Hintikka (eds.), *The Logic of Being: Historical Studies* (Dordrecht: D. Reidel 1968), pp. 207-10.

42. For references, see Alanen and Knuuttila, (1988), sect. 4.

43. Cf. Alanen (1985), and Alanen and Knuuttila, (1988) section 4.

44. *Scriptum in I Sent.* d. 43, q.u., 16, Cf. Alanen (1985).

45. Cf. Alanen and Knuuttila (1988), sect. 4. As is there argued, Ockham, in spite of his criticisms of Duns Scotus's position, seems to have held a very similar view. Also Henry of Ghent, in the account given by John Wippel, held the possibles to be such necessarily, from eternity, although Henry also held that they do depend somehow on God's power, when viewed as enjoying some kind of (objective) reality in themselves. See John Wippel, "The Reality of Nonexisting Possibles According to Thomas Aquinas, Henry of Ghent and Godfrey of Fontaines," *Review of Metaphysics*, vol. 33 (June 1981), pp. 750-51.

46. Cf. the letter quoted in note 9 above.

47. In God, Descartes insists, "willing, understanding and creating are all the same thing without one being prior to the other even conceptually (ne quidem ratione)." To Mersenne 27 May 1630, K, 15.

48. "In God willing and knowing are one single thing so that *by the very fact of willing something he knows it and it is only for this reason that such a thing is true.*" The passage in italics is written in Latin. To Mersenne 6 May 1630, AT I, 149, K, 13-1455.

49. See, e.g., Frankfurt, *op. cit.*, p. 53 ff.

50. See G. H. von Wright, "Truth, Knowledge and Modality," *Philosophical Papers*, vol. III (Oxford: Basil Blackwell, 1984), pp. 104-16. I am grateful to Georg Henrik von Wright for having drawn my attention to this.

51. *Philosophical Investigations*, I, 107-8, 437, quoted by von Wright, 115.

52. Cf. Harry Frankfurt, who writes: "what is conceivable or inconceivable, what we identify as necessary or as impossible, depends in the end upon the occurrence of certain experiences—our experiences of an inability to refuse assent." Frankfurt also notes, in passing, the similarity between Descartes's views on this subject and those of Wittgenstein: "Both seem to locate the ultimate ground of our logical and mathematical knowledge in some sort of experience of necessity." Frankfurt 46, n. 12. See also Charles Larmore, "Descartes Psychologistic Theory of Assent," *The History of Philosophy Quarterly*, vol. 1 (1984), pp. 61-74.

53. This modern notion can be said to appear in some form already in the writings

of Duns Scotus, Ockham and Suarez, although the first explicit statement of it is usually attributed to Leibniz.

54. Cf. Funkenstein, *op. cit.*, pp. 197-98.

55. This essay is an extended and revised version of the paper "Descartes, Omnipotence and Kinds of Modality" read at the conference "Doing Philosophy Historically," SUNY/Buffalo, April 2-4, 1987, forthcoming in the proceedings of that conference. Earlier versions have been read at Philosophy Colloquia at Columbia University, Ohio State University, University of Turku and University of Helsinki. I am grateful to the members of these colloquia for helpful discussions on the subject. My thanks are due, in particular, to Nuel Belnap, Harry Frankfurt, Simo Knuuttila, Fred Stoutland, and Georg Henrik von Wright for valuable comments on earlier drafts.