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De re modality without possible worlds[1]

A distinction is drawn between *de dicto* modality which is a matter of which propositions can, cannot and must be *true*, given the laws of logic, and *de re* modality which is a matter of which situations (events or states of affairs) can, cannot and must *exist*, given the laws of nature. It is argued that Kripke's *de re* modality, defined in terms of what is true in some possible world, no possible world and all possible worlds, is an unsatisfactory amalgam of the two.

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1. Modality from the Standpoint of Conceptual Analysis

I begin with a well-known quotation from John Austin's (1956/1970) paper 'Ifs and cans':

> . . . it needs no emphasizing that both *if* and *can* are highly prevalent and protean words, perplexing both grammatically and philosophically: it is not merely worth while, but essential, in these studies to discover the facts about *ifs* and *cans*, and to remove the confusions they engender. In philosophy it is *can* in particular that we seem so often to uncover, just when we had thought some problem settled, grinning residually up at us like the frog at the bottom of the beer mug. (Austin, 1970, p. 231)

In a paper (Place 1997) presented to the 1996 IUC conference on 'Truth', I discussed some of the facts about 'ifs', in other words, conditional sentences. In this paper which was my contribution to the 1997 IUC conference on 'Modality', I discuss some facts about 'cans' or to be more precise about sentences containing the auxiliaries *can*, *could* and *may* and their twofold negations *cannot*, *could not* and *may not* and *cannot but*, *could not but* and *must*. In talking about *facts* in this connection I am following what I take to be the implication of Austin's use of that word, namely that what Wittgenstein (1953) calls a "grammatical investigation" and Ryle refers to as "logical grammar" is an empirical investigation of the way sentence structure maps onto the structure of the reality that is thereby depicted. I argued for this empirical view of the nature of metaphysical enquiry in a paper (Place 1996) entitled 'Metaphysics as the empirical investigation of the interface between language and reality' which I presented at the 1995 IUC conference on 'Metaphysics'.

2. Two Facts about Modality in General

Before going on to discussing what will be the main focus of this paper, the distinction between *de re* and *de dicto* modality, I want to draw attention to two facts about modality in general, in other words about the use of the auxiliaries *can, cannot* and *must* etc., but regardless of whether it is a matter of what someone or something *can*, *cannot* or *must do*, of what *can*, *cannot* or *must exist* or of what *can*, *cannot* or *must be true*.

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[1] Paper presented to the IUC Conference on 'Modality', Bled, Slovenia, 5th June 1997.

The first of these facts is the logical relation between modal statements, statements about what *can*, *cannot* and *must be*, on the one hand and categorical statements, statements about what actually *is*, on the other. It is the point that whereas the possible, what *can be*, is consistent with both *is* and *is not*, the necessary splits into two. What *cannot be* implies *is not* and excludes *is*; whereas what *must be* implies *is* and excludes *is not*.

The second general fact about modality is that all modal statements of whatever kind presuppose some rule, law or principle or set of such rules, laws or principles which admit what *can be*, exclude what *cannot* and *require* what *must be*. In one group of cases which fall within the scope of ethics and social philosophy rather than metaphysics, the rules in question are those devised by human social groups or those having authority over them to regulate the behaviour of group members. In this case what the rules determine is what a group member can, cannot and must *do* on pain of incurring a penalty if he or she does what the rules forbid or fails to do what the rules require. For the metaphysician the interesting cases and the ones with which I shall be concerned in what follows are the case of *de dicto* modality where the *laws of logic* determine what *can*, *cannot*, and *must be true* and the case of *de re* modality where the *laws of nature* determine what *can*, *cannot*, and *must exist*.

3. *De Dicto* and *De Re* Modality

According to Bill and Martha Kneale's (1962) book *The Development of Logic* which is my principle source of information on this matter, the distinction between *de dicto* and *de re* modality is one which at the time they were writing had not been an important philosophical issue since the medieval period. Although the distinction appears to have originated with Abelard, it is in the writings of St Thomas Aquinas that it comes into its own. Aquinas believed that the distinction has important implications for theology; but in their account of this the Kneales mention only its implication for the theory of Divine Omniscience. A more obvious theological application of the distinction and one which, without being able to quote chapter and verse, I am sure I have heard in the mouths of theologians is the claim that, since what is logically impossible is simply a matter of what it makes no sense *to say*, to say that God could not create the logically impossible is not inconsistent with his Omnipotence; whereas, since the Laws of Nature are God's creation, it *would be* inconsistent with his Omnipotence to suppose that he could not create what is *de re* impossible, even though, as Leibniz argued, it would be inconsistent with his Omniscience to suppose that he would ever have occasion so to do.

4. The Kneales' Disparagement of the Distinction between *De Dicto* and *De Re* Modality

In their book, written, needless to say, before the distinction was revived by Kripke (1972/1980), Bill and Martha Kneale make it abundantly clear that they regard the distinction between *de dicto* and *de re* modality as a medieval sophistry which has been rendered unnecessary by recent developments in logic, particularly by Frege's (1879/1960) introduction of the theory of quantification. In making this judgment, the implication is that it is the notion of *de re* modality that has been superseded. All modal statements, they believe, are *de dicto*, statements, in other words, about whether a given proposition *can*, *cannot* or *must be true*. In drawing this conclusion they appear to be influenced by two things. The first of these is the fact that the assumption that the modal operators *possible* and *necessary* qualify the truth or falsity of a *proposition* has been common ground in all philosophical discussions of modal logic since the time of Aristotle. They mention only two exceptions, one is in the case of Aquinas who held that, whereas in a *de dicto* modal proposition the modal operator stands outside of the proposition it qualifies, as in 'It is possible that Socrates is running', in a *de re* modal proposition the modal operator lies inside the proposition and qualifies a predicate as in 'Socrates is possibly running' - a better example might be 'Socrates can run'. The

other exception is in their discussion of "Problems of Intensionality" in the Chapter X on "The Philosophy of Logic after Frege" where they discuss formulae such as $(\exists x) \square$ Fx, $(x) \square$ Fx, $(\exists x) \lozenge$ Fx, and $(x) \lozenge$ Fx. In both these cases the Kneale's evidently regard strings in which the modal operator qualifies a predicate expression, rather than the proposition as a whole, as problematic.

The second consideration which appears to have influenced the Kneales towards rejecting the *de dicto/de re* modality distinction is the belief that it is always possible, *salve veritate*, to replace a *de re* modal statement of the forms

> *S can exist*
>
> *S cannot exist*
>
> *S must exist*

a *de dicto* statement of the form

> *It can be true that S exists*
>
> *It cannot be true that S exists*
>
> *It must be true that S exists*.

That such substitutions can be made without altering the truth value of what is said I do not doubt. What is *not* preserved, in my view, when such substitutions are made, is the *sense* of the original statement. That is because the two sets of sentences are about (*de*) different things. *S can exist*, etc. are *de re*, i.e., about the kind of things that can, cannot or must exist. *It can be true that S exists,* etc. are *de dicto*, i.e., about a statement that can, cannot or must be true. The reason why the one can be substituted for the other *salve veritate* is that the *de re* statement describes the situation whose existence makes that statement true, a situation whose existence is itself described by and makes true the *de dicto* statement.

5. Linguisticism and the Reduction of *De Re* Modality to *De Dicto*

In Chapter 5 of *Dispositions: A Debate* (Armstrong, Martin and Place, 1996) C. B. Martin repudiates what he describes as

> the Linguisticism that renders properties being had by objects as merely a matter of predicates
> being true or false of the object, if any, to which the subject term refers. (Armstrong, *et al.*, 1996,
> p. 71)

In Chapter 7 of the same book I endorse Martin's rejection of linguisticism and add to his example of the disease (Quine's thesis that to exist is to be the value of a variable) the claim that wanting is a propositional attitude, the view that causal necessity is a species of logical necessity and the practice which I discussed in '*De re* conditionals and their truthmakers' (Place 1997) of representing causal subjunctives and causal counterfactuals as "inference licences" of the form 'If *p* then *q*'. To these we can now add the practice of substituting statements about what can, cannot and must be true for statements about what can, cannot and must occur or exist.

As I pointed out, linguisticism contravenes two principles to which all three authors of *Dispositions: A Debate*, D. M. Armstrong, C. B. Martin and myself, are committed, namely,

> •   to realism, understood as the claim that the universe exists independently of our
>   conceptions, beliefs and knowledge about it,
>
> •   to the truthmaker principle, understood as the claim that, at least in the case of those
>   [affirmative] propositions which are contingently true,[2] a proposition is true, if and only

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[2] There is a difference of view between Armstrong and myself in that he thinks every true proposition, whether analytic or synthetic, affirmative or negative, requires the existence of a state of affairs to make it true. I think that analytic propositions require no truthmaker, and that the truthmaker of a negation is the non-existence rather than the existence of the situation it specifies. Where Martin stands on this issue is not clear to me.

> if there exists a situation (event or state of affairs) corresponding to that which the proposition depicts. (Armstrong, *et al.*, 1996, p. 105)

We can now see that, as applied to modality, linguisticism also contravenes the principle stated above whereby modal statements *de dicto* presuppose a different set of laws from those presupposed by modal statements *de re*, the laws of logic in the case of *de dicto* modality, causal laws or laws of nature in the case of *de re*. This shows not only that there is a genuine difference between these two forms of modality but that the difference between them is much wider and more fundamental than is usually supposed.

6. Five Fundamental Differences between *De Dicto* and *De Re* Modality

How large that difference is can be seen from Table I. on which I have set out five fundamental differences between these two forms of modality:

	DE DICTO (LOGICAL) MODALITY	DE RE (CAUSAL) MODALITY
1. Modality is a property of - • whereby they can, cannot or must - • given the laws of -	declarative sentences/propositions. be true. logic.	situations (events or states of affairs). happen (events)/exist (states of affairs). nature/causation.
2. The laws which underpin modal statements - • The laws which underpin modal statements -	ensure the validity of and thus the preservation of truth in deductive inferences. are determined by the linguistic conventions involved.	'sustain' the predictions and causal counterfactuals which are deduced from them. are determined by the way the universe is constituted.
3. The truth of modal judgments in ordinary language is decided by -	the linguistic intuitions of native speakers of the language in use -	the method of concomitant variation (the experimental method or its observational equivalent).
4. Modal statements are - • modal operators act - • modal operators qualify -	metalinguistic. extra-sententially. sentences/propositions.	ortholinguistic. intra-sententially. predicates.
5. 'Can'/'possible' = • 'cannot'/'impossible' = •'must'/'necessarily' =	not self-contradictory. • contingent as opposed to necessary, if true • logically possible as opposed to logically impossible, if false self-contradictory. to deny it would be self-contradictory.	would happen/have happened given the right circumstances. could not happen under any circumstances that could exist. inevitable in the circumstances.

As you will see the five differences are:

1.   *De dicto* modality is a property of declarative sentences or propositions whereby they can, cannot or must be true, given the laws of logic; whereas *de re* modality is property of situations (events or states of affairs) whereby they can, cannot or must happen or exist, given the laws of nature (causal laws).

2.   The laws of logic which underpin *de dicto* modality ensure the validity of deductive inferences and are determined by the linguistic conventions involved in the construction of modal sentences; whereas the causal laws which underpin *de re* modality 'sustain' causal counterfactuals and are determined by the way the universe is constituted.

3.   In ordinary language *de dicto* modal judgments are decided by the linguistic *intuitions* of native speakers of the language in which they are formulated; whereas *de re* modal judgments are decided by experimentation, where that is possible, or by repeated observation of the phenomenon under a corresponding variety of different conditions, where it is not.

4.   *De dicto* modal operators act extra-sententially on the sentences/propositions they qualify; whereas *de re* modal operators act intra-sententially on predicates within the sentence. As we have seen this is the only difference between *de dicto* and *de re* modality mentioned by the Kneales.

5.   *De dicto* modal operators are defined in terms of what can and cannot be denied without self-contradiction; whereas *de re* modal operators are defined in terms of what can and cannot happen given the prevailing causal conditions or any others which could possibly obtain.

7. Hume's Version of the *De Dicto/De Re* Modality Distinction

In view of the magnitude of these differences it is perhaps surprising that since the Middle Ages the only major philosopher to have acknowledged the distinction between these two varieties of modality was David Hume. Hume doesn't discuss possibility and impossibility. He discusses necessity, but only in the context of the "necessary connexion" between cause and effect. In other words, for Hume, necessity is exclusively a *de re* modal concept. He does have a concept of what we are here calling *de dicto* or logical necessity; but he doesn't call it that. He calls it "demonstrative certainty". Demonstrative certainty however, is to be had only in the deductive sciences of what we now call Mathematics, the sciences which deal with what Hume calls "Relations of Ideas" and which he contrasts with enquiries into "Matters of Fact".

> All reasonings concerning matter[s] of fact seem to be founded on the relation of *Cause and Effect"*
> (Hume, 1777/1902, p. 26)

And it is here, in the relation of Cause and Effect, that Hume locates the *de re* modal concept of "necessary connexion".

8. Logic Makes Modality *De Dicto*; Ordinary Language Makes it *De Re*

One possible explanation (and this is a *de re* possibility) of the failure of post-medieval philosophers, other than Hume (and he, as we have seen, recognises it only dimly) to distinguish *de dicto* and *de re* modality, is that both logic and ordinary language appear to have room for only one kind of modality, even though it's a different kind in each case. We have seen from the work of the Kneales that until Kripke's (1972/1980) more recent and idiosyncratic revival of the notion of *de re* modality, logicians and philosophers who take their ideas on such matters from the logicians were agreed that all modality is *de dicto*. Ordinary language, on the other hand, with its more practical orientation sees only modality *de re*.

Even expressions which, if taken literally, refer to *de dicto* or logical impossibility such as 'It is inconceivable that *p'* or 'It is nonsense to suppose that *p'* are used to describe events whose occurrence is precluded, not by the fact that sentences purporting to describe it are self-contradictory, but by causal factors so powerful that no countervailing strategy suggests itself.

9. Laws of Nature

As any reader of *Dispositions: A Debate* will be aware, David Armstrong and I hold very different views of the Laws of Nature that, as we have seen, are the foundation of the causal relation and the *de re* modality to which it is intimately connected. We agree that laws of nature are not, as the operationalists hold, mere theoretical constructs devised by scientists to summarise the observed regularities in our scientific observations and measurements. They are actual states of affairs in the world whose existence makes true, not only the law statements of science in so far as they *are* true, but also the subjunctive conditionals and counterfactuals that are implicit in our talk about the dispositional properties of things and the causal relations in which those dispositional properties are manifested, again in so far as the statements we make about such things are indeed true. Where we differ is in our conception of the nature, number and location of these substantive laws. For Armstrong, the laws of nature are abstract objects. They are intimately connected for him with universals which he also takes to be abstract objects.[3] He identifies universals with properties and suggests that laws of nature be construed as relations between such abstract universal properties. However, he rejects the Platonic view which assigns such abstract objects to a separate universe of their own. Laws of nature, like universals, are embedded in the texture of the universe, particularly in the instances in which they are manifested. Armstrong rejects universals that have no instances; and the same would presumably go for laws of nature. But laws of nature, if they are to 'sustain' counterfactuals, must continue to exist when no current manifestation of them exists.

My view is very different. Since, as I made clear in 'Metaphysics as the empirical investigation of the interface between language and reality', I reject abstract objects, I reject Armstrong's account of both universals and laws of nature. For me, universals are classifications which living organisms find themselves driven by their experience of interacting with their environment to impose on the particulars they encounter. In other words, universals for me are mental constructions. But they are mental constructions which in most cases are narrowly constrained by the actual texture of the universe. Laws of nature, on the other hand, are not mental constructions. I see them, as Armstrong does, as an essential part of the structure of the universe. But they are not for me laws of nature in general. Nor are they relations between properties, considered as abstracted from the particular properties of particular property-bearers. I agree with Nancy Cartwright (1989) in holding that the only laws of nature that actually exist independently of our attempts to formulate them in natural language and the symbolism of mathematics are the dispositional properties (she calls them "capacities") of particular entities, the laws, in other words, of the nature of those particulars.

My object in discussing the differences between Armstrong and myself over the laws of nature is to raise the question whether those differences should affect the view we take of *de re* modality, assuming that my analysis of the role of the laws of nature in *de re* modality is accepted. I don't think it should. But the question is perhaps worth bearing in mind, when considering our next topic, Kripke's contribution to

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[3] Armstrong rejects this characterization of his view. Abstract objects, he insists, have no location in space-time; whereas universals (and laws of nature *qua* relations between universals) , though in some sense distinct from their instances and manifestations, occupy the same segments of space-time as do of those instances and manifestations. What he cannot deny is that they are abstract objects in the sense that they consist in the properties and relations common to their instances *abstracted from* any other properties they may have or relations in which they may stand to other things.

the resuscitation of the *de dicto/de re* modality distinction, which has a much greater affinity with Armstrong's position on this issue than it has to mine.

10. Kripke

In *Naming and Necessity* Kripke introduces the distinction between *de dicto* and *de re* modality in the following cryptic sentence:

> Some philosophers have distinguished between essentialism, the belief in modality *de re*, and a
> mere advocacy of necessity, the belief in modality *de dicto*. (Kripke, 1980, p. 39)

In trying to make sense of this sentence we need to bear in mind that Kripke uses the term "essentialism" to refer to his own doctrine according to which instances of a natural kind are instances of that kind by virtue of containing an "essence" peculiar to that kind of thing. It is this essence which is "rigidly designated" by the natural kind term under which instances of such a kind are subsumed. A "rigid designator" according to Kripke is a word or expression, of which a proper name is a prime example, which a speaker can use correctly without having to have learned any particular definition or description of the object in question. Empirical scientific research may subsequently reveal the nature of the essence of a particular natural kind (for example H_2O in the case of water), but by virtue of rigid designation they can succeed in using a natural kind term correctly to designate the essence of the kind long before the *nature* of that essence is discovered.

The connection between essentialism in this sense and modality, *de re* modality in particular, lies in Kripke's claim that identity statements which connect rigid designators to their *designata* (as in 'This is Saul Kripke'[4] or 'Water is H_2O') are necessarily true. But, as he makes abundantly clear in the passage that follows the sentence I have quoted, this necessity is not the traditional *de dicto* necessity which, as he interprets it, consists in the self-contradiction which would result, if you were to deny that something is what its official definition states that it is, e.g. if you were to deny that a triangle is a three-sided plane figure. For such *de dicto* necessities are simply a matter of linguistic convention which we could decide to change at any time, if we found it convenient so to do. By contrast the necessity that connects rigid designators to their *designata* is immutable and *de re*. This is because it does not depend in the first instance on any agreed verbal description of what the designata all have in common (the "essence" of the kind in question). Moreover, when the essence is finally discovered by science what has been discovered is something about the actual instances of that kind of thing, what it is that they actually have in common. It is not simply a matter of finding something we didn't have before, an agreed definition of the word. That is the force of the claim that the necessity of identity statements which connect rigid designators to their *designata* is *de re* rather than *de dicto*.

11. Kripke's Motivation and the Re-Statement of the Necessity/Contingency Distinction

It will be obvious from what has already been said that there is at least one major difference between *de re* necessity as described by Kripke and the conception of *de re* modality described above. Kripke's *de re* necessity qualifies the truth of propositions, *not* the occurrence of events or the continued existence of states of affairs.

In order to understand the further ramifications of Kripke's theory of *de re* modality and why it occupies an uncomfortable half-way house between *de dicto* and *de re* modality as described above we

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[4] Assuming that Kripke would accept demonstratives as rigid designators.

need to understand his underlying motivation. I described that motivation in 'Metaphysics as the empirical investigation of the interface between language and reality' as having

> its source in Kripke's observation that interesting proofs in modal logic cannot be generated without the axiom
>
>> 'The proposition "*p* is necessary" is itself necessary'
>
> or formally
>
>> '$\Box p \rightarrow \Box \Box p$'.
>
> This axiom is inconsistent with the more traditional Leibnizian account of the necessity/contingency distinction which is assumed by conceptual analysis and which holds that a proposition is necessarily true if the linguistic conventions governing its constituent terms make its denial self-contradictory. On that view the proposition '*p* is necessary' becomes a contingent metalinguistic proposition about the effect of the semantic and syntactic conventions governing sentences that express *p*.
>
> Consequently, in order to preserve the axiom which makes '*p* is necessary' itself necessary, Kripke has to give an alternative account of the necessity/contingency distinction [which he does] in terms of what is and is not true in all possible worlds. (Place, 1996, pp. 102-3)

This alternative account of the 'necessary'/'contingent' distinction enables Kripke to bring the distinction into line with a substantial literature which connects laws of nature to causal laws, causal laws to counterfactuals and interprets counterfactuals in terms of what is true in some possible world. Interpreting counterfactuals by postulating a possible world in which there exists what does not (or did not) exist in the actual world has the advantage of bringing the deduction of counterfactuals from causal laws within the scope of predicate logic. For predicate logic, since its only particular quantifier is existential, allows the deduction of the particular from the universal only in a case where the particular can be said to exist. By interpreting the counterfactual as a claim that there *exists* a possible world in which there exists what does not exist in the *actual* world one can both *have* one's ontological cake *and* eat it.

It leaves him, on the other hand, with a serious problem, that of deciding what is and is not true in all possible worlds. His solution to this problem is to appeal to *intuition*. This appeal resembles his endorsement of the principle whereby the modal operator acts metalinguistically on a sentence from outside and qualifies its truth. Both are features which, on the analysis presented above belong with *de dicto* rather than with *de re* modality. Both are motivated by the desire to find a role for formal modal logic in the area of scientific and metaphysical reality. Both succeed only in confounding the distinction to which they appeal.

The appeal to the linguistic intuitions of a native speaker of the language in use makes perfectly good sense, if what is at issue is whether there is a contradiction involved in, for example, claiming that some bachelors are married. In the case of a sentence such as 'All bachelors are unmarried', it is only our linguistic intuitions as competent speakers of English that tells us that its negation 'Some bachelors are married' is self-contradictory. That is an intuition that we inevitably acquire when we learn the criteria for applying the word 'bachelor'. Of course, showing that, given the conventions of the English language, the statement `All bachelors are married' is by this criterion a necessary truth also shows that, given those conventions, no possible world could contain a married bachelor in this sense. But that is not because our linguistic intuitions give us a special insight into the contents of possible worlds. It is simply because such intuitions tell us which English expressions do and do not make sense. In other words, we can only make sense of the appeal to intuition to tell us what is and is not true in all possible worlds by equating what is true in all possible worlds with what it is self-contradictory to deny, given the conventions of the language. And to do that is to return to the traditional *de dicto* analysis of necessary truth from which Kripke was trying to escape in proposing the analysis in terms of what is true in all possible worlds in the first place.

	DE DICTO (LOGICAL) MODALITY	*DE RE* (CAUSAL) MODALITY
1. Modality is a property of - • whereby they can, cannot or must - • given the laws of -	declarative sentences/propositions. be true. logic.	situations (events or states of affairs). happen (events)/exist (states of affairs). **nature/causation**.

2. The laws which underpin modal
   statements -
 	
• The laws which underpin modal
   statements -
	ensure the validity of and thus the
	preservation of truth in deductive
	inferences.
	are determined by the linguistic
	conventions involved.
		`sustain' the predictions and causal
		counterfactuals which are deduced
		from them.
		are determined by the way the universe is
		constituted.

3. The truth of modal judgments in ordinary language is decided by -	the linguistic **intuitions** of native speakers of the language in use -	the *method of concomitant variation* (the experimental method or its observational equivalent).
4. Modal statements are - • modal operators act - • modal operators qualify -	metalinguistic. **extra-sententially**. **sentences/propositions**.	ortholinguistic. intra-sententially. predicates.

5. 'Can'/'possible' =
 	
• 'cannot'/'impossible' =
 	
• 'must'/'necessarily' =
	not self-contradictory.
	
	• *contingent* as opposed to necessary, if
	   true
	• *logically possible* as opposed to
	   logically impossible, if false
	self-contradictory.
	
	to deny it would be self-contradictory.
		would happen/have happened given the
		right circumstances.
		
		could not happen under any
		circumstances that could exist.
		inevitable in the circumstances.

Kripke's confounding of the distinction between *de dicto* and *de re* modality is brought on Table II which is identical with Table I, except that I have printed in **bold** those elements which Kripke incorporates in his conception of *de re* necessity and contingency. You will see that in addition to the two elements which come from *de dicto* modality, the appeal to intuition and the principle whereby modal operators act extra-sententially and qualify the truth of a proposition, there are two which come from *de re* modality, the notion that what must be the case (in all possible worlds) is determined by the laws-of-nature/causal-laws and the notion which comes to us from Nelson Goodman (1955/1965) that the distinctive feature of causal laws is that they "sustain" the predictions and causal counterfactuals which are deduced from them (by an argument which can only be reconciled with standard quantification theory by postulating the existence of a non-existent possible world).

12. Conclusion

It must be conceded that unpicking this confusion within Kripke's conception of *de re* modality has damaging consequences, not only for formal modal logic as currently conceived, but also, as I argued in relation to *de re* conditionals at last year's conference (Place 1997), for the view that predicate logic is or could be the foundation either for natural language or for the language of science. No doubt future developments in both these fields will succeed where existing logics have failed, namely, in providing an acceptable formal representation of *de re* modality, as it occurs both in ordinary language and in the language of science. Maybe such formal representations are already available; but if they are, news of them has not yet reached me.

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