

SOME CONSIDERATIONS ON THE *NIHIL OBSTAT* ANALYSIS OF
THE MODAL AUXILIARY VERB *CAN*¹

DOUGLAS WALTON

University of Winnipeg

The aim of this paper is to examine and evaluate a currently prevalent type of analysis of the English modal auxiliary verb *CAN*. According to this analysis, to say 'I can do x' means that there is no sufficient condition for my not doing x. Thus, to say that I can see the bus terminal from my office window now is to say, on this analysis, that there is no sufficient condition for my not seeing the bus terminal from my office now. Conversely, to say I can't see the bus terminal from my office window now would mean that there is a condition (such as a fog, or a curtain over the window) that is sufficient for my not seeing the bus terminal. This type of analysis — I will call it the *nihil obstat* analysis — is a commonplace in both linguistic and philosophical writings on *CAN* in one form or another. For example, these four authors propose versions of the *nihil obstat* analysis as follows:

Can; either Authoritative Freedom or adequate potentiality; the event is entirely possible in that no cogent factor stands against its occurrence: the event is consistent with all the circumstances (Joos 1964:180).

The basic meaning of *can* is that there is no obstruction to the action of the lexical verb of which *can* is an auxiliary; that is to say, the action is free to take place (Ehrman 1966:12).

...to say that some subject S can (at time t_x) do A at time t_y is simply equivalent to saying nothing has happened by time t_x sufficient to prevent S from doing A at t_y (Lehrer and Taylor 1965:397).

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Formally, to assert a 'can'-statement is to deny that there exists a valid argument with true premises and having as its conclusion the contradictory of the unmodalised version of the statement (Mayo 1968:271).

What these accounts have in common is they assert that the action described by a verb of which CAN is an auxiliary is *possible*, in the sense that there is no sufficient condition of its not occurring, or equivalently, in the sense that the action is consistent with all the circumstances, or free to take place.²

The *nihil obstat* analysis requires consolidation in two main areas, if it is to be at all convincing: (a) it must be shown to be a clear analysis, in that the terms that occur in it such as 'sufficient condition' are defined exactly, and (b) it must square with an apparent host of counter-examples. Let us consider problem (a) first.

What the *nihil obstat* analysis seems to assert as the meaning of a *can*-statement can be stated in two ways, the second being more precise.

(G) There is no condition sufficient (in the broadest sense of this term) for the event not happening.

(H) There is no true sentence (or set of sentences) *logically* sufficient for the truth of the sentence that the event will not happen.

The main difference to notice for the present between (G) and (H) is that (G) is stated in event-language and (H) is in sentence-language. This type of difference of statement is common to causal concepts and is commonly cited in works on the concept of probability. It is possible to speak of the probability of the occurrence of an event, or, equivalently, to speak of the probability of a proposition (describing that event) being true. The case here, it seems to me, is quite similar. We can choose to adopt sentential modes of speaking or we can talk about events, occurrences, etc., and there are obvious ways of translating from one mode of speaking to the other. Mayo's account is the most explicitly sentential, Ehrman's and the Lehrer-Taylor account being stated more in event-language, and Joos's account being mixed, but seeming to incline more towards event-language. Of the two types of expression, I will prefer the sentential mode of expression in what follows, since this account is closer to the usual terminology of logic.

Now we can express the *nihil obstat* analysis thus

(I) *p can be true* =df there does not exist a set of true sentences that entails $\sim p$.

* Perhaps it is needless to add the *nihil obstat* analysis is no *rara avis* in either philosophical or linguistic writings. A good bibliography to provide a starting place for finding linguistic sources is to be found in R. L. Allen (1966). For philosophical sources, Brand (1970). To their mutual detriment, philosophical and linguistic writings on CAN rarely take cognizance of results in the other area. I shall not, however, attempt an interdisciplinary bibliography here, although I feel such an effort would be very useful.

Defining 'p is consistent with q' in the usual fashion as 'p does not entail the negation of q', we get an equivalence to (I),

(I') *p can be true* =df p is consistent with every true sentence.

Thus expressed, the analysis promises to be of potentially great explicative value — we have explicated CAN via the logical concepts of truth, entailment and negation.³

Let us set down two requirements for the adequacy of any analysis of CAN as a rudimentary means for testing definitions like (I) and (I') above. First we should require that if I actually do something then it should follow that, at that particular time, I can do it, i.e., if p is true then p can be true.

(R₁) $p \supset Cp$

Presumably also the contrapositive of R₁ must hold, namely, that if I can't do something then I do not do it, i.e., if p can't be true then p is false.

(R'₁) $\sim Cp \supset \sim p$

Next, merely because I can do something, it should not follow that I actually do it. I may truly be said to be able to pick up this pencil without actually doing it. That is, it must not be a consequence of any analysis that if p can be true then p is true.

(R₂) ' $Cp \supset p$ ' must not hold.

There are stronger reasons for requiring (R₂) than its intuitiveness. If we were to reject (R₂) and allow ' $Cp \supset p$ ' while jointly allowing (R₁), ' $p \supset Cp$ ', we would be maintaining the equivalence ' $Cp \equiv p$ '. That is, we would be maintaining that 'p can be true' is equivalent to 'p is true'. Here we have a violation of the *ab esse ad posse* principle—possibility collapse into truth, and becomes redundant. Thus if we require (R₁), we must concomitantly require (R₂). Otherwise, to say 'I can do x' merely becomes another way of saying 'I do x'. Similarly, the contrapositive of (R₂) must not hold. That is, merely because I don't do something it should not follow that I can't do it. It must not be a consequence that if p is false then p cannot be true.

(R'₂) $\sim p \supset \sim Cp$ must not hold.

These conditions seem so minimal that no plausible analysis could conceivably violate them. Nevertheless, as surprising as it may seem, (I') fails to

³ Logicians may balk at the notion 'every true sentence' — truth, since Tarski, is thought of as relative to a language (see Alfred Tarski 1943 - 44). Yet for some purposes it may be interesting to provisionally allow such talk. Cf. Meredith and Prior (1965).

meet (R_2)! To demonstrate this we reason as follows. Assume p is false. Then p is inconsistent with at least one true proposition, namely $\sim p$. Therefore by the definition (I'), p can't be true. Hence according to (I') if p is false than p cannot be true. This is a clear violation of (R'). So we see that (I'), as intuitively plausible as it may seem, is inconsistent with even the most minimal set of adequacy conditions for CAN.

Intuitively, it may seem reasonable to expect that there should be a sentence that is consistent with all the true sentences without itself being true. Yet we know by the above argument that this is impossible. Then why the expectation that it should be so? The reason may be that we do not always assume, or are aware of, bivalence in natural language. We assume truth value gaps, and find it natural to expect that there should be a sentence of indeterminate truth value consistent with all truths. Yet if we assume that any sentence is either true or false, it follows that a sentence consistent with all truths must itself be true. Reason: if it were false, it would be inconsistent with at least one truth, namely its own negation. It cannot be false, and hence it must be true. A related reason for the expectation in question may be our tendency to view the matter epistemically — sentence may be consistent with all known truths without being known true.⁴ Whatever the reason, the expectation is not fulfilled.

We might try to modify (I') to avoid this difficulty except that attempts at modification also exhibit an embarrassing tendency to violate our conditions of adequacy. For example we might try

(I_1) p can be true =df p is consistent with every true sentence except $\sim p$.

But here again the same problem arises. Assume that p is false. Then ' $\sim p, q$ ' is true and inconsistent with p , and (R_2') is violated. Again we might try

(I_2) p can be true =df p is consistent with every true conjunctively atomic sentence except $\sim p$.

But trouble can be found even here. Again, assume that p is false. Then $\sim (pv \sim p)$ is true and inconsistent with p . These difficulties may suggest defining the C-operator only for truth-functionally atomic sentences, and then searching for a separate, perhaps recursive, means of defining the operator over truth-functional compounds. Yet it is difficult to see how this latter project might be carried out without violating the *ab esse ad posse* condition. Our results above

⁴ This may suggest recasting the entire analysis as epistemic rather than alethic. For a clear statement of the distinction between truth-concepts and acceptance concepts see A. Tarski (1943 - 44). A difficulty in the epistemic approach is pointed out by Roderick Chisholm (1967).

indicate that so long as we have a truth-functional operation in the language, such as ' \sim ' or '.', we can effect a violation of the *ab esse ad posse* principle using (I). Thus, it appears that if we accept the *ab esse ad posse* principle and the standard truth-functional logic, we must only try to extend our analysis by finding some axiom weaker than (I).⁵

Now we have looked at some proposals for a solution to (a), the problem of exact statement of the *nihil obstat* analysis, let us turn to (b), the problem of squaring this analysis with counterexamples. The *nihil obstat* analysis, when applied to certain examples of CAN, seems compelling. Consider

(1) You can see the lakeshore from the 9th floor.

Here the CAN indicates the absence of interfering conditions. No particular conditions are specified. However, on some occasions of the utterance of (1), some such conditions might be specified by the context, such as smog, other buildings in between, and so on. Similarly, application to the following examples is fairly straightforward.

(2) You can shout your head off in here and not be heard.

(3) I can't get this ring off my finger.

(4) You can't do something for the first time twice.

(5) In today's London, you can buy anything.

In each of these cases, the assertion of the *can*-sentence can plausibly be construed as the assertion that there is no obstruction to the occurrence of the event described by the sentence.

Seemingly more difficult to relate to the analysis is the CAN of pure permission. Consider the case where a husband grudgingly gives in to his wife's entreaties to let her hire a maid.

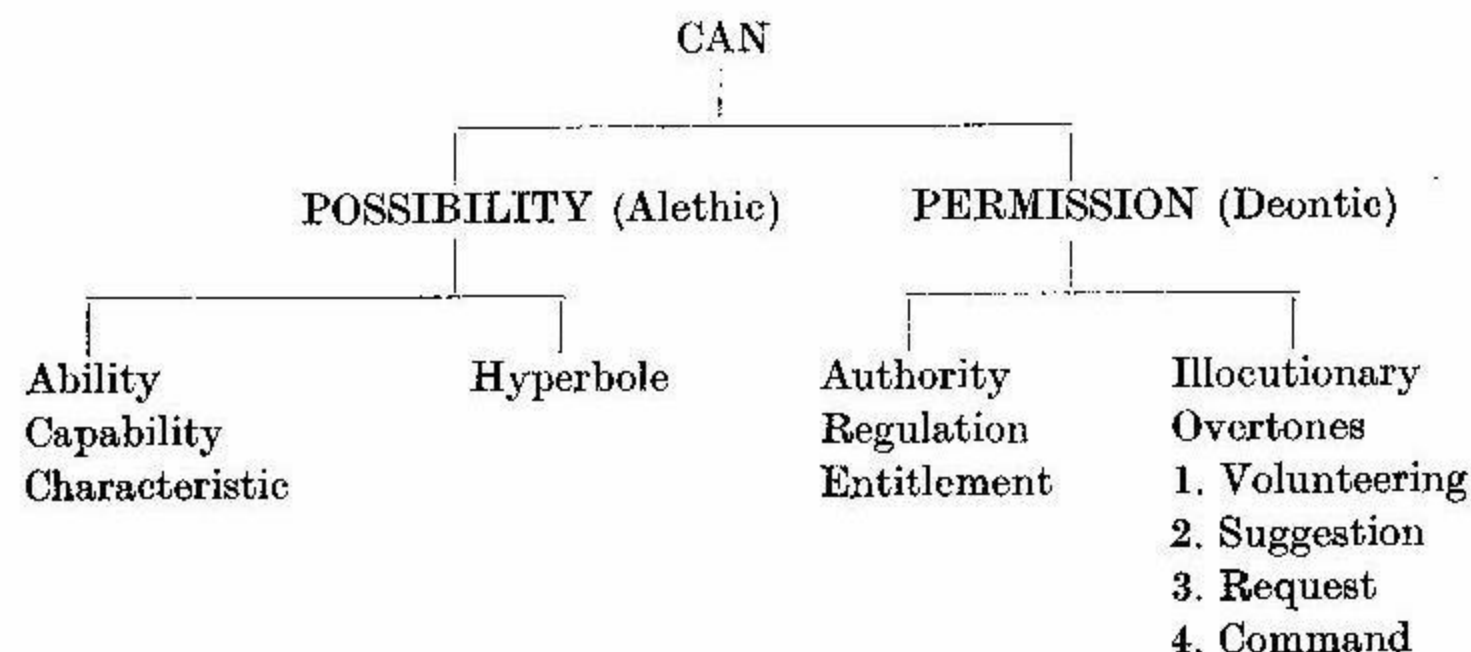
(6) O.K. O.K. You can have a maid.

It is difficult to see how the utterance of (6) is to be construed as making the assertion that the wife's having a maid is consistent with every true sentence. Indeed, (6) is not an assertion. It is more like a performative utterance — an act of granting permission, not a statement that such and such is the case. The semantic structure of (6) is clearly not conveyed by the *nihil obstat* analysis. This fact would be indicative of a serious weakness if the analysis purported to be an "over-all" hypothesis for CAN.

The CAN of (6) expresses a deontic rather than an alethic modality, and

⁵ An alternative approach, which I shall not pursue here, is to treat the concept of "possibility" expressed by CAN as a binary relation — p is said to be possible relative to a set K (of sentences or individuals). See Risto Hilpinen (1969).

the logical structure of deontic modal logic is sufficiently distinct from the structure of alethic modal logic⁶ to suggest that CAN is best considered ambiguous. Tentatively, a rough map of the overtone terrain might look like this.



It seems well-advised for the *nihil obstat* theorist to accept a distinction between "basic meanings" and "overtones" if any analysis of CAN is to be offered that purports to reflect the evident variety of uses of this verb.⁷ Granting acceptance of some such distinction, CAN may be seen to exhibit considerable overtone variety.⁸ Let us look at the overtones of PERMISSION first. These three sentences exhibit, respectively, the overtones of authority, regulation and entitlement.

(7) Only the House can originate financial measures.

(8) ... or any kind of boat with mechanical propulsion rated at more than 10 horsepower before it can be used on Federal waterways (Ehrman 1966:12).

(9) Any member of the club can petition for a rules change.

The other group of overtones of PERMISSION might be roughly ranged along a scale. These overtones are what could be called the illocutionary variations on the permission CAN. Sometimes CAN marks (in addition to permission) volunteering, suggestion, request or command. These various illocutionary acts can be

⁶ See, for example, G. H. von Wright (1968).

⁷ For support of the value of this distinction see Madeline Ehrman (1966) and Jaakko Hintikka (1969:Chapter I).

⁸ In what follows I am not concerned to present a final or complete argument for acceptance of the proposed scheme of organization of overtones for CAN. For the purposes of this paper, I merely wish to exhibit the pattern of variety of uses of CAN for those who may be unfamiliar with the literature on this subject. A bewildering variety of such schemes can be found in this literature. See Bruce Aune's article on CAN in P. Edwards (1967: 18 - 20). Also F. R. Palmer (1965:116 ff.).

arranged along a scale where left to right progresses from weaker to stronger. There are no exact cut-off points on the scale, it would seem, as examples are common where an occurrence falls just between two of the categories. The scale might be set up somewhat like this.

VOLUNTEERS / SUGGESTS / REQUESTS / COMMANDS

The following four examples illustrate the four illocutionary acts on the scale, going from left to right.

(10) Can I get you a drink?

(11) You can leave that to Mr. Goodwin.

(12) Can you hold it a little lower?

(13) Can I get two hamburgers in a hurry?

Actually the illocutionary act at the far right of the scale is perhaps more accurately described as almost a command. It seems almost a command, but not quite.

There is a group of overtones of the CAN of POSSIBILITY that might be called the "ability" group of overtones. There are three main overtones suggested here—ability, capability, and characteristic.⁹ First, the ability overtone could be restricted to cases where the agent is one that exhibits purposive behaviour. Usually this is a human agent, as in

(14) John can speak Siamese.

or

(15) John can swim.

But sometimes we also ascribe abilities to animals, as when speaking of the *hypostomus plecostomus*, we assert

(16) With its peculiar mouth, it can cling tenaciously to any smooth surface.

But abilities are not usually ascribed to inanimate objects, substances or properties. Here we might speak more felicitously of capabilities, as in the following three sentences.

(17) This weapon can destroy any tank in existence.

(18) Any form of junk can cause addiction.

(19) The Ford Falcon can hold five comfortably.

Sometimes CAN seems to assert the idea of a characteristic rather more than the idea of an ability or capability. A characteristic could be described as an

⁹ For an able elucidation of this three-way distinction see Duggan and Gert (1967: 127 - 136).

ability or capability that we expect to be exercised fairly often. There is scope for further distinctions here, but roughly speaking, the following sentences could be described as asserting that someone or something has a certain characteristic.

(20) Titanium can resist high temperatures.¹⁰

(21) I can be pretty determined sometimes.

Finally, there is the hyperbolic overtone of CAN. This is the type of CAN exemplified in "I'm sorry, I just can't make it to the party tonight—I have a splitting headache". Here the action is possible—presumably I could make it to the party in the basic sense, that is, there is no unsurmountable obstruction to my doing so. But when I say that I can't make it I mean that I don't really want to or that there would be unpleasant consequences of my doing so.

Reflecting on areas (a) and (b) jointly, the reader may best judge for himself whether these considerations call for abandonment or reformulation of the *nihil obstat* analysis. We suggest abandonment. Instead of pursuing variants of (I), we suggest that further investigation might more profitably follow the alternative route of strengthening the set of minimal adequacy conditions by tentatively adding to (R₁) and (R₂)

$$(R_3) \sim C \sim (p \supset q) \supset (Cp \supset Cq)$$

If (R₃) were acceptable, the C-operator would have the same properties as the M-operator in Feys' System T of Standard Modal Logic.¹¹ Conjointly, empirical investigation could extend the slender base of empirical adequacy sentences (I - 21). We conclude with the admonition that only from the interdisciplinary give-and-take between logical and empirical considerations will definitive results issue.

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¹⁰ This example is taken from Duggan and Gert (1967:128).

¹¹ See G. E. Hughes and M. J. Cresswell (1968: Part I, Chapter 2). For a list of postulates for modal logics, including T and equivalent systems see Appendix A in A. N. Prior (1967).

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