DOUGLAS WALTON

# LOGICAL FORM AND AGENCY*

(Received 17 December, 1974)

A good deal of Donald Davidson's important and widely influential paper, `The Logical Form of Action Sentences',[1] is taken up with demonstrating the failure of the Kenny-Chisholm-von Wright style [2] account of the syntax of agency to adequately cope with a varied collection of problems. The approach repudiated by Davidson enjoins partitioning an action-sentence into an agent, a state of affairs, and an operation of *bringing about*: `Socrates drops the cup'. becomes `Socrates brings it about that the cup falls'. I call this style of analysis the Anselmian approach, arguing that not only can this approach deal well enough with Davidson's problems to restore itself as an interesting subject of investigation, but in some respects it handles these problems so perspicuously that we can begin to see them in an entirely new perspective, one that is favorable to the Anselmian approach.

## 1. THE ANSELMIAN APPROACH

The Anselmian approach, more or less exemplified by Kenny, Chisholm, von Wright and other recent action theorists,[3] is to treat agency as a sentential operator relativized to individuals, $\ulcorner \delta_a p \urcorner$, paraphrased as `*a* brings it about that *p* obtains', or more literally, `*a* brings it about that *p* is true'. Intuitively, *p* may be thought of as a state of affairs or event, if such paraphrases are helpful, but more strictly, *p* should be thought of as a statement, something that simply has the property of being true or false, atemporally.[4] Ultimately various refinements in Anselmian systems of agency such as tenses, or the device of ruling $\delta$ vacuous over theorems and negations of theorems,[5] could bring `statement' more in line with what is usually thought of as an event, but let us not initially worry unduly about `events' or `states' and read $\ulcorner \delta_a p \urcorner$ in *de dicto* fashion as `*a* made *p* true'.

*Philosophical Studies* **29** (1976) 75-89. All *Rights Reserved*
*copyright* 1976 *by D. Reidel Publishing Company, Dordrecht-Holland*

In a recently discovered fragment, *Lambeth Manuscript 59,* St. Anselm of Canterbury took a step that is tantamount in our terms to allowing schemata of the form $\ulcorner \sim p \urcorner$ to come within the scope of the $\delta$-operator. He argued that sometimes *non facere* is also an instance of *facere*: "Nam qui non amat virtutes et qui non odit vitia, male facit... ." [6] This allowed him to distinguish among varieties of 'not-doing' such as we would represent by the schemata $\ulcorner \delta_a \sim p \urcorner$, $\ulcorner \sim \delta_a p \urcorner$, and $\ulcorner \sim \delta_a \sim p \urcorner$. Concurrently, St. Anselm distinguished between direct action, `bringing it about that *p*', and indirect action `bringing it about that *q* where *q* is a sufficient condition for *p*'. As he put it, an agent can bring about something itself *(facere idipsum esse),* or bring it about through some other state of affairs *(facere aliud esse).* [7] The Anselmian approach is now capable of perspicuously distinguishing six varieties of agency. Using St. Anselm's illustration of the action of killing, we can set these out as follows.

| | | |
|---|---|---|
| (1) | Killing directly | *Facere idipsum esse* |
| (2) | Not making not dead, (e.g., not raising the dead man to life, should one have the power so to do) | *Non facere idipsum non esse* |
| (3) | Making the killer have arms (arming the killer) | *Facere aliud esse* |
| (4) | Not arming the victim | *Non facere aliud esse* |
| (5) | Making the victim not armed (disarming the victim) | *Facere aliud non esse* |
| (6) | Not making the killer not armed (not disarming the killer) | *Non facere aliud non esse* [8] |

Using the $\delta$- operator, we can now construct schemata corresponding to these expressions.

(1) $\delta_a p$
(2) $\sim \delta_a \sim p$
(3) $\delta_a q \ \& \ (q \supset \delta_b p)$
(4) $\sim \delta_a q \ \& \ (q \supset \sim \delta_b p)$
(5) $\delta_a \sim q \ \& \ (q \supset \sim \delta_b p)$
(6) $\sim \delta_a \sim q \ \& \ (q \supset \delta_b p)$.[9]

The adequacy of the above translations can be somewhat better appreciated by reflecting on these awkward paraphrases.

(1) directly bringing it about that the victim is dead
(2) not bringing it about that the victim is alive, i.e., allowing him to remain or become dead
(3) bringing about some state of affairs *q* such that somebody else kills the victim [*q* =the killer has arms]
(4) failing to bring about some *q* such that somebody else does not kill the victim [*q* =the victim has arms]
(5) bringing it about that some *q* fails to obtain where the *q is* such that somebody else does not kill the victim [*q* =the victim has arms]
(6) not bringing it about that some *q* fails to obtain where *q* is such that somebody else kills the victim [*q*=the killer has arms].

We can see the potential of this approach from Anselm's own account of it. Obviously the varieties of agency it allows us to distinguish are crucial to the language of agency - the example of killing makes plain its application to jurisprudence.[10] Having adumbrated the foundations of the Anselmian approach, I turn to Davidson's critique of it.

## 2. FOUR PROBLEMS

Davidson raises four major problems for the Anselmian approach. First, the problem of *sentence shortage* - certain sentences expressing actions lack any obviously appropriate sentence adequate to characterize the relevant state of affairs. For example, try rendering `Smith coughed'[11] into the Anselmian idiom: Smith brought it about that - what? Smith brought it about that a 'cough-state' obtained? This translation is inadequate, however, since it might be true of the case where Smith slapped Jones on the back, causing him to cough, whereas `Smith coughed' does not allow for such a case.[12] An alternate suggestion: Smith brought it about that Smith is in a state of just having coughed. This alternative raises the problem of *agent inclusion* - note that the name of the agent, Smith, appears within the expression of what is brought about.[13] Obviously such inclusion poses a problem for an analysis that purports to

separate the agent, the operation of bringing about, and the state of affairs (minus the agent) that is brought about. A third problem is raised by *generalized actions* like `Smith walked to the store'. What is it that Smith brought about here? The translation, `Smith brought it about that Smith is at the store' won't do, for, even apart from its agent inclusion, it drops the idea of walking.[14] And `Smith brought it about that Smith is at the store, and is there through having walked', according to Davidson, still seems to require further analysis as an action-sentence and is therefore worse that the original.

The fourth problem is that of *infinite polyadicity*, stemming from the reasonable requirement that the addition of adverbial modifiers to an action-sentence, *p*, should result in a sentence that entails *p*. Generally, that is, `*p*+**adv**' should entail *p* - for example, `Jones buttered the toast in the bathroom' should entail `Jones buttered the toast'.[15] The problem arises because, under certain construals, the entailment fails. For instance, $\ulcorner F_{a\,b} \urcorner$ (*a*=Jones, *b*=the toast, F=is the butterer of) fails, in first-order logic, to entail $\ulcorner F_{a\,b\,c} \urcorner$ (as before and *c* =in the bathroom). Infinite polyadicity constitutes a problem for the Anselmian approach, according to Davidson, because it is obscure how `Jones brought it about that the toast was buttered in the bathroom' entails `Jones brought it about that the toast was buttered'. Kenny indicates the generality of the problem in his observation: "If we cast our net widely enough, we can make 'Brutus killed Caesar' into a sentence which describes, with a certain lack of specification, the whole history of the world."[16]

## 3. ANSELMIAN SOLUTIONS

I will argue that while the first problem, that of *sentence shortage*, is a translation problem for the Anselmian approach, a kind of problem that is shared even by more established regimentations of natural language,[17] the other three problems constitute more substantive syntactical difficulties. I think, however, that the Anselmian approach yields positive and helpful solutions. So contrary to Davidson, I see the capacity of the Anselmian approach for handling these problems as a strong argument in its favor.

The Anselmian approach trisects the world of agency into three areas - an agent, a state, and an operation of bringing about. The natural

language is not so clean in its cleavage, and forcing a three-way sharp distinction will of necessity outrun the sentences of the natural language - we will make distinctions where none were before. One result of juxtaposition of formal and natural languages is that certain formal locutions can be at best translated into awkward, *ad hoc* specimens of English. Thus `Smith coughed' can be rendered, if adequately at all, by some awkward locution like "Smith brought it about that the statement `A cough took place' is true." [18]

That the awkwardness of these paraphrases is not itself evidence of some intrinsic shortcoming of the Anselmian approach will be apparent to those familiar with the necessity of constructing exotic-sounding predicate-expressions in tmaslating into quantification theory. The convolutions required to construct categorical statements by torturing English (or Latin) is a part of logic-teaching lore. Yet neither of these familiar phenomena is generally construed as a good reason in itself for rejecting the formal language. More nearly analogous to the Anselmian approach is the translation problem for the probability calculus, where we may take the arguments of the probability function to be propositions, sentences, events, sets, and the like. [19] So in treating agency as an operator we have to decide on appropriate values: are they states of affairs, events, statements, sentences, or what? That there is no simple answer is in neither case, we are reminded, a good reason for jettisoning the proposed formalism.

On the question of *agent inclusion,* consider the following statements.

(1) Smith coughed
(2) Smith brought it about that a cough-state obtained
(3) Smith brought it about that Smith coughed
(4) Smith brought it about that Jones coughed

Despite Davidson's suggestion that (3) might be a proper paraphrase of (1),[20] it is quite clear that on no account can we permit the agent to appear within the state of affairs in any adequate translation of sentences having the structure of (1). The structure of (1) is represented by $\ulcorner \delta_a p \urcorner$ whereas (3) has a significantly distinct structure, namely $\ulcorner \delta_a \, \delta_a p \urcorner$. Similarly (4), represented by $\ulcorner \delta_a \, \delta_b p \urcorner$ is entirely distinct from (1) or (2). On the Anselmian approach, (2) is an acceptable paraphrase of (1), but (3) and (4) are distinct, both from each other and from (1) and (2). 1 think that it is to

the credit of the Anselmian approach that it allows us to clearly distinguish among (2), (3), and (4), a set easily conflated and confused, as Davidson shows.

The formal question raised here is that of the iteration of $\delta$-operators. Admittedly it is problematic how we are to understand the *dubia* $\ulcorner\delta_a\,\delta_a p\urcorner$, $\ulcorner\delta_a\,\delta_b p\urcorner$ and the like, just as in standard alethic modal logic we are confronted with expressions like `*p* is possibly necessary' and `*p* is necessarily necessary'.[21] Yet the possibility of constructing such expressions is not a good reason for rejecting the Anselmian approach. On the contrary, this possibility offers us an exact formal means of helping to clarify the tangled idiom of interpersonal transactions so important in understanding the language of agency, perhaps most notably in jurisprudence. [22]

This same question throws some light on a question that troubles Davidson: Is an action an event? [23] In Anselmian terms: Is $\ulcorner\delta_a p\urcorner$ a legitimate substitution-instance of p? The answer must be *yes* - actions can be treated as events in this respect. In another sense of this rather amorphous question, actions are not events, since it will be an adequacy condition for any reasonable Anselmian account of agency that the schemata $\ulcorner\delta_a p \equiv p\urcorner$ and $\ulcorner\delta_a p \leftrightarrow p\urcorner$ must not be theorems. A logic of agency must include $\ulcorner\delta_a p \supset p\urcorner$ [24] and exclude its converse $\ulcorner p \supset \delta_a p\urcorner$ – otherwise it simply collapses into sentence logic.

The problem of *generalized actions* indicates some further limitations of the Anselmian account - some locutions that would ordinarily be said to express actions fail to truly do so in the Anselmian reconstruction. `Smith walked to the store' thus comes out not as a single action but as something more akin to a series of actions, a continuous action perhaps, or a process in which agency played a part. Similarly, `Smith danced the boogie-woogie all night long' is, loosely speaking, *something* that Smith did. But more properly speaking, Smith did a number of things that, in effect, added up to dancing the boogie-woogie all night long. The relevant formal question is whether agency is closed under conjunction introduction, whether we have as a theorem,

$$(\delta_a p \;\&\; \delta_a q) \supset \delta_a(p \;\&\; q).$$

If I bring it about that *p* and I bring it about that *q*, do I thereby directly bring it about that *p*-and-*q*? Suffice it to say here that there are good reasons for denying that agency is closed under conjunction introduction,

assuming that the converse obtains, namely that agency is closed under conjunction elimination.[25]

What Davidson's objection on generalized actions reveals is that there are many broadly verbal expressions in English that do not express actions. Just as it is a dogma that every noun refers to an individual, likewise it would be fallacious to pronounce that every verb refers to an action. As a syntax of action, the Anselmian approach is a more modest proposal than either Frege's [26] or Reichenbach's [27] theory of verbs, and does not therefore contradict, at least directly, either of these more general programs. Davidson's point stands - there will be various verbal expressions in English that we ordinarily call actions that will not be classified as, strictly speaking, individual Anselmian actions. Perhaps ultimately the basic Anselmian approach might be enriched to bear on these broader notions related to actions, and perhaps not. As things stand, it is better viewed as a minimal syntax of some action-expressions that appears to have some interesting capacities of expressions, rather than masquerading as a full-blown theory of verbal expressions.

## 4. ACTIONS AND CONSEQUENCES

The problem of *infinite polyadicity* is best approached through considering the general questions of act-identity [28] and the consequences of actions [29] that Davidson also raises. The question of action-identity, in Anselmian terms, relates to the question of whether we should have as a theorem

$$\text{(T1)} \qquad (p \equiv q) \supset (\delta_a p \equiv \delta_a q).$$

This question is equivalent (given a reasonable assumption) to the question of the consequences of actions, namely whether we should have

$$\text{(T2)} \qquad (p \supset q) \supset (\delta_a p \supset \delta_a q).$$

Obviously (T2) implies (TI), but the implication is mutual if we accept the reasonable assumption that agency is closed under conjunction elimination,

$$\text{(T3)} \qquad \delta_a(p \,\&\, q) \supset (\delta_a p \,\&\, \delta_a q).$$

For assuming that (TI) and (T3) obtain, the following deduction is possible

| | | |
|---|---|---|
| (1) | $p \supset q$ | |
| (2) | $p \equiv (p \,\&\, q)$ | (1) |
| (3) | $\delta_a p \equiv \delta_a (p \,\&\, q)$ | (2), (T1) |
| (4) | $\delta_a p \supset \delta_a q$ | (3), (T3). |

The reasoning in all three steps is exclusively truth-functional. Thus the question of act-identity is, assuming (T3), equivalent to the question of the consequences of action.

Above we restricted ourselves to the questions of the *material* equivalences and *material* consequences of action-sentences. It is important to recognize some limitations of this approach as an adequate explication by itself of the syntax of agency locutions in natural languages. For example, it is easy to show that

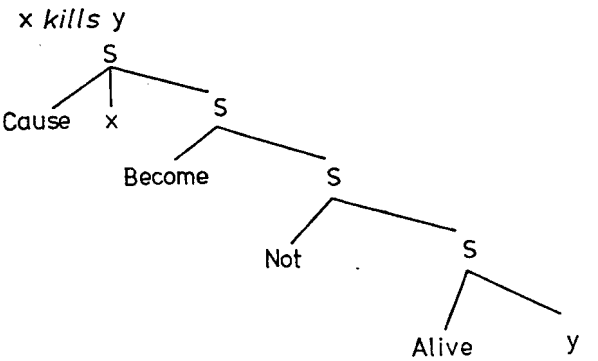
(T2*) $\quad (\delta_a p \,\&\, q) \supset \delta_a q$

is a truth-functional consequence of (T2). Yet (T2*) deviates intuitively from the standard syntax of agency, for consider an instance of (T2*): if Socrates scratches his head and Plato dies, then Socrates brings it about that Plato dies. Clearly (T2) can be regarded at best as a necessary condition, and not as a sufficient condition, of some truth about actions. Perhaps the inadequacy of (T2) to reflect a genuine principle of action is due to the well-known inadequacy of the material conditional as an account of conditionality in strongly causal or tensed contexts.

We should distinguish between (T2) and a principle that is, if less amenable to exact explication, a potentially more adequate account of the syntax of agency. Read $\ulcorner p \Rightarrow q \urcorner$ as `*p causes q*'.

$$(\Rightarrow 1)\ (p \Rightarrow q) \supset (\delta_a p \supset \delta_a q).$$

It is well to reflect that the Anselmian expressions 1. to 6. could be more adequately expressed in an explicitly causal idiom. That the Anselmian approach is ultimately causal should not detract from its potential value however, since the importance of the role of causal concepts in the analysis of the basic syntax of agency is indicated by (a) Davidson's own recent use of causal concepts in the analysis of the concept of event,[30] and (b) the analysis notably by James D. McCawley [31] of verbs of action through an underlying causal structure as illustrated below.




It is a fascinating historical oddity that both St. Anselm and McCawley chose the verb *kill* as their key illustration.

Other kinds of principles should also be considered, such as the logical consequences and equivalences of actions, exemplified in the following pair. Read '$\rightarrow$' as strict implication and '$\leftrightarrow$' as strict equivalence.

(T4) $(p \leftrightarrow q)\,(\delta_a p \leftrightarrow \delta_a q)$
(T5) $(p \rightarrow q)\,(\delta_a p \rightarrow \delta_a q)$.

An obviously related theorem,

(T6) $\delta_a(p \supset q) \supset (\delta_a p \supset \delta_a q)$[32]

draws our attention to another question of consequence. The general question posed by such schemata is: to what extent are the consequences (equivalences) of an action a part of the original action? Direct consequences of an action transmit agency, but as the consequences become more remote, we tend to become increasingly reluctant to carry over the imputation of agency. We could call this the question of the $\delta$-hereditariness of agency. Obviously it would be inevitably arbitrary to draw one line where agency stops - there seem to be *levels* of agency.

(T6) has been proposed as as axiom for agency by Ingmar Porn,[33] as part of a logically well-developed system of agency along Anselmian lines. Porn acknowledges as a consequence of his system a theorem of this form.

(T6*) $\delta_a \sim p \supset \delta_a(p \supset q)$.

An instance of (T6*): if Socrates does not scratch his head then Socrates

brings it about that if he scratches his head, the earth collides with the sun. Thus (T6) contains some controversial consequences, as initially plausible as it may seem in itself. Elsewhere[34] I have examined some interesting divergencies of (T6) from the ordinary language of agency. Porn's system, I suggest, shows the power and elegance of the Anselmian approach as a tool to aid in the explication of the syntax of agency.

The Anselmian approach proceeds by rejecting (TI) and (T2) and accepting only a weaker theorem expressing a necessary condition of indirect agency.

(T7) $[(\delta_a p \ \& \ (p \supset q)] \supset \mathring{\delta}_a q$.

Paraphrased: if *a* brings it about that *p* and *p* is a (materially)[35] sufficient condition for *q*, then *a* indirectly brings it about that *q*. One way to achieve this result is to adopt as a definition.

Def. $\mathring{\delta}$: $\mathring{\delta}_a p =_{df} \delta_a q \ \& \ (q \nrightarrow p)$.

Paraphrased: *a indirectly* brings it about that *p* is, and only if, *a* brings it about that *q* and *q* causes *p*.[36] We can also define the class of logical consequences of the action.

Def. $\ddot{\delta}$: $\ddot{\delta}_a p =_{df} \delta_a q \ \& \ (q \rightarrow p)$.

Paraphrased: *a interdirectly* brings it about that *p* if, and only if, *a* brings it about that *q* and *q* strictly implies *p*. Thus conceived, indirect (including interdirect) agency is a *relative* matter in that *p* may be indirect relative to *q* but not so relative to *r* - where *p* is indirect relative to *q*, we do not specify by Def. $\mathring{\delta}$ how *q* itself is picked out as an action. Thus it is a fallacy to imagine we have thereby defined some 'rock-bottom' direct action, relative to which all appropriately related actions are indirect. The reader needs to clearly appreciate the difference between indirect actions and socalled `basic actions.'[37] We return to the relativity of indirect agency below where we deal with infinite polyadicity.

## 5. INFINITE POLYADICITY

Davidson sets down the requirement on any reasonable theory of the logical form of action-sentences that it preserve the kind of entailment exemplified by the pair of sentences `Jones buttered the toast in the bath-

room' and `Jones buttered the toast'.[38] Since we could presumably add adverbial modifiers indefinitely,[39] the requirement was named `infinite polyadicity' by Kenny. Davidson argues that the Anselmian approach only obfuscates the problem because it is even more obscure how the relation of entailment is supposed to obtain in the pair, `Jones brought it about that the toast was buttered in the bathroom' and `Jones brought it about that the toast was buttered' than in the original pair above.[40] Without commenting on the value of Davidson's preferred solution, I will simply argue, on the contrary, that the Anselmian approach makes the issue clearer.

The reason why Davidson's entailment is preserved, according to the Anselmian approach, is to be found in the entailment between the pair, 'The toast was buttered in the bathroom', and `The toast was buttered'. Since the latter is a logical consequence of the former, we have it by Def. $\delta$ that Jones interdirectly (and hence indirectly) brought it about that the toast was buttered in the bathroom. Thus the agency is preserved in the *implicandum*, according to Davidson's requirement, and moreover the important distinction is marked between the original action cited 'buttering in the bathroom' and its derivative, `buttering'. As Davidson points out many times, the exact wording of the specification of the action is often crucial to the rational allocation of responsibility. Thus the explicit demarcation of the Anselmian approach is very helpful, a strong advantage. Moreover the Anselmian approach rejects the implication inherent in Davidson's paper that *all* the logical implications of action-sentences (by deleting adverbial modifiers or whatever) are themselves action-sentences at the same level. A genuine logical consequence of an action-sentence might be quite logically complex, replete with quantifiers and the like, and therefore `remote in thought' from the original action-sentence. Significantly, none of the cases Davidson considers are of this type. I suggest however that reflection on a wider range of cases indicates the wisdom of rejecting strong consequence or equivalence principles like (Tl) and (T2) in favor of the Anselmian approach, an approach that helps to clarify the nature of these action-entailments considerably.

The Anselmian approach also throws some light on Kenny's worry that any sentence describes, with a certain lack of specification, the whole history of the world. A formal analogue of Kenny's worry is that we seem to have it as a consequence of the Anselmian approach that we can

generate spurious direct actions as follows: take any action-sentence such as `Jones buttered the toast', then we can always concoct an action-sentence that entails it such as `Jones buttered the toast somewhere'. In particular, for any action-sentence $\ulcorner \delta_a p \urcorner$, we can generally concoct some $q$ such that we have it that $\ulcorner \delta_a(p \ \& \ q) \urcorner$. Thus by (T3), any action-sentence whatever easily yields up some obviously spurious `direct' action of which it is a consequence. This very genuine difficulty is handled by the Anselmian approach, however, when we remember the restriction that the direct action must be picked first - it is a relative matter then to find the indirect actions. Thus where the indirect action-statement is $q$, it is inadmissable to pick any $p$ at random and make the direct action-statement $\ulcorner p \ \& \ q \urcorner$. This would constitute the very fallacy mentioned earlier of failing to recognize the essential relativity of indirect agency. Thus the Anselmian approach, far from succumbing to the problem of infinite polyadicity, not only accommodates it but throws considerable light on it.

## 6. SOME REMAINING PROBLEMS

Davidson's other examples, such as `The doctor removed the patient's appendix', `Jones raised his arm', and `Jones batted an eyelash' can obviously be handled within the Anselmian framework more or less in the same way as the cases we have already examined, so I will leave these as an exercise for the reader instead of tediously going through them. The capacity of the Anselmian approach to handle these cases with reasonable adequacy should be now be established. Perhaps a word is in order however on the problem of the Morning Star (p. 89) to which, writes Davidson, the Anselmian style of analysis does not yield a solution. Davidson writes that we want to preserve inferences such as: I flew my spaceship to the Morning Star, the Morning Star is identical withe the Evening Star; so I flew my spaceship to the Evening Star. As we have seen, not all inferences of the form

$$(\text{T1.1}) \quad (p \equiv q) \supset (\delta_a p \supset \delta_a q)$$

are valid in the Anselmian scheme although we do have the weaker thesis,

$$(\text{T1.1}') \quad (p \equiv q) \supset (\delta_a p \supset \hat{\delta}_a q).$$

Thus the desired implication is preserved through (Tl.l') - in flying my

spaceship to the Morning Star I indirectly (more specifically, interdirectly) brought it about that the spaceship was flown to the Evening Star. Moreover, the Anselmian rendering has the important advantage of clearly distinguishing direct actions from their consequences. The implication is not only preserved, but the analysis makes it more perspicuous. Eventually, the Anselmian analysis might be advanced still further, perhaps by introducing measures on the complexity of schemata, so that an estimation of the degree of remoteness of the consequences of actions could be obtained. How such measures of degrees of indirectness and interdirectness of actions are to be constructed and whether they may actually be useful in applications of action theory is a question I will not pursue here. But that the Anselmian approach allows for these kinds of further refinements is, I argue, a strong advantage, showing the potential fruitfulness of this style of analysis of the logical form of action-sentences.

*University of Winnipeg*

## NOTES

* My thanks are due to Professor M. J. Cresswell for some helpful comments.

1 Donald Davidson, `The Logical Form of Action Sentences', *The Logic of Decision and Action* (ed. by Nicholas Rescher), University of Pittsburgh Press, Pittsburgh, 1966, pp. 81-95. In the sequel, unspecified references to Davidson will refer to this paper.

2 Anthony Kenny, *Action, Emotion and Will,* London, Routledge and Kegan Paul, 1963. Roderick Chisholm, `The Descriptive Element m the Concept of Action', *The Journal of Philosophy* LXI, No. 20, 613-625. G. H. von Wright, *An Essay in Deontic Logic and the General Theory of Action, Acta Philosophica Fennica,* Amsterdam, North-Holland, 1968. A recent bibliography of related work is to found in Myles Brand, *The Nature of Human Action,* Glenview, Illinois, Scott Foresman, 1970.

3 None of these writers would presumably agree to *all* the details of what I call `the Anselmian approach'; their writings clearly exemplify the basic assumption in general outline however.

4 But see Jaegwon Kim, `Causation, Nomic Subsumption, and the Concept of Event', *The Journal of Philosophy* LXX (1973), 217-236.

5 See Frederic B. Fitch, `Natural Deduction Rules for Obligation', *American Philosophical Quarterly 8* (1971), 61-170.

6 F. S. Schmitt and R. W. Southern, *Memorials of St. Anselm,* Oxford University Press, London, 1969, pp. 333-354, *vide p.* 337. The contents of this manuscript were first described and printed in F. S. Schmitt, *Ein neues unvolledetes Werk des hl. Anselm von Canterbury, Beitrage zur Geschichte der Philosophy and Theologie des Mittelalters,* xxxiii, 3, 1936. A very helpful commentary and partial translation is to be found in D. P. Henry, *The Logic of St. Anselm,* Oxford University Press, Oxford, 1967, § 4.

7 *Memorials,* 339f.

8 *Memorials, 34417.* See also D. P. Henry, `St. Anselm on the Varieties of Doing', *Theoria* **19** (1953), 181.

9 See Douglas Walton, `Anselm and Agency', forthcoming. For other applications of the Anselmian approach, see Douglas Walton, `Some Theorems of Fitch on Omnipotence', *Sophia,* forthcoming, and Douglas Walton, `The Omnipotence Paradox', *The Canadian Journal of Philosophy,* forthcoming.

10 See the sections on interpersonal transactions in H. L. A. Hart and A. M. Honore, *Causation in the Law,* Oxford University Press, Oxford, 1969.

11 Davidson, *op. cit.,* p. 86.

12 But see below on indirect agency.

13 Davidson, p. 8617.

14 Davidson, p.86.

15 Davidson, p. 8317.

16 Anthony Kenny, *op. cit.,* p. 160. Cited in Davidson, p. 83.

17 Davidson himself is admirably aware of the `costs' of trying to explicate action-locutions: "... oversimplification, the setting aside of large classes of exceptions, the neglect of distinctions hinted by grammar and common sense, recourse to disguised linguistic legislation." Donald Davidson, `Agency', *Agent, Action and Reason,* (ed. by Robert Binkley, Richard Branough, and Ausonia Marras), University of Toronto Press, Toronto and Buffalo, 1971, p. 4. My argument is essentially that the cost/benefit factor is favorable in the Anselmian case.

18 Again, see below on indirect agency.

19 See, for example, Henry Kyburg, Jr., *Probability and Inductive Logic,* MacMillan, London, 1970, p. 1217.

20 Davidson, p. 8617.

21 See G. E. Hughes and M. J. Cresswell, *An Introduction to Modal Logic,* Methuen, London, 1968, Ch. 3.

22 See Hart and Honore, op. *cit.,* and Joel Feinberg, *Doing and Deserving,* Princeton University Press, Princeton, N.J., 1970.

23 Davidson, p. 87. See also Donald Davidson, `Agency', in *Agent, Action and Reason,* p. 1417.

24 The suggestion that agency be considered a truth-entailing operator is found in Fredric B. Fitch, 'A Logical Analysis of Some Value Concepts', *Journal of Symbolic Logic* **28** (1963), 135-142.

25 Fitch (note *24)* has suggested that agency is closed under conjunction elimination.

26 See John Wallace, *Philosophical Grammar,* Standford University Ph. D. thesis, 1964, Ch. II.

27 Hans Reichenbach, *Elements of Symbolic Logic,* The Free Press, New York, Ch. VII.

28 The question of what sense, if any, can be attached to the notion that acts are `identical' or `equivalent' has been widely discussed - see the bibliographies in Brand and Binkley *et alla.*

29 Once an agent has done something, each relatively immediate consequence of it also presents us with a deed. A man moves his finger, flicking a switch, turning the light on, illuminating the room, and alerting a prowler. Joel Feinberg has dubbed this the `accordion effect'. See Joel Feinberg, `Action and Responsibility', *Philosophy in America* (ed. by Max Black), Cornell University Press, Ithaca, 1965. For discussion, see Davidson, in Binkley *et alia,* 1617.

30 Donald Davidson, `The Individuation of Events', in ***Essays in Honor of Carl G. Hempel*** (ed. by Nicholas Rescher *et al.),* Reidel, Dordrecht, *1970, pp. 216-234.*

31 James D. McCawley, `English as a VSO Language', *Language* **46** (1970), 286-299. See also Dieter Kastovsky, `Causatives', *Foundations of Language* **10** (1973), 255-315.

32 Be careful to distinguish between (T2) and (T6).

33 Ingmar Porn, *The Logic of Power,* Oxford, Blackwell, *1971.* See also Ingmar P6rn, 'Some Basic Concepts of Action', in *Logical Theory and Semantic Analysis,* Reidel, Dordrecht, 1974, pp. 93-101.

34 Douglas Walton, `Agency and Modal Logic', forthcoming *in Logique et Analyse.*

35 We restrict ourselves to the question of material and strict consequences in order to concentrate on the *minimal* logical form of action sentences. The Anselmian approach might be extended by considering richer concepts of sufficiency, such as that exemplified in recent analyses of counterfactuals. See David Lewis, *Counterfactuals,* Blackwell, Oxford, *1973,* and Robert Stalnaker, 'A Theory of Conditionals', in *Studies in Logical Theory* (ed. by Nicholas Rescher), American Philosophical Quarterly Monograph Series, Blackwell, Oxford, 1968, pp. 98-112.

36 Def. $\delta$ exemplifies one type of St. Anselm's class of indirect actions, *facere per aliud esse.*

37 The notion of a basic action is a richer, more complex notion than the comparatively minimal notion of indirect agency. See Annette Baier, `The Search for Basic Actions', *American Philosophical Quarterly* **8** (1971), 161-170.

38 Davidson, p. 83.

39 See Kenny, *op. cit.,* p. 160.

40 Davidson, p. 83.