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Three theories of events.

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THREE THEORIES OF EVENTS

A Dissertation Presented

By

Edward R. Wierenga

Submitted to the Graduate School of the
University of Massachusetts in partial
fulfillment of the requirements for the degree of

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August

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Philosophy

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A Dissertation

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ABSTRACT

Three Theories of Events

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August, 1974

This dissertation is an examination of the theories of events proposed by Jaegwon Kim, Donald Davidson, and Roderick Chisholm.

In the first chapter I consider Kim's view that an event is the having of an n -adic property by an n -ary sequence of objects at a time. I show how Kim can coherently reply to a familiar trivialization argument whose conclusion is that there is only one event. I argue that Kim's view is vague in certain crucial respects and that it involves an objectionable brand of essentialism.

Since Davidson attempts to support his theory of events by appeal to his analysis of the logical form of action sentences, I devote two chapters to that analysis. In Chapter II I state Davidson's view that action sentences are existential quantifications over events and that many adverbial modifiers are predicates of events. I show how Davidson's theory can avoid an objection of Fodor's that it cannot accommodate those modifiers that function both as sentential modifiers and verbal modifiers. In Chapter III I claim that

Davidson's account of action sentences is defective because it cannot handle certain cases in which an agent does two things at once. I consider a revision of Davidson's theory designed to avoid this objection, but conclude for similar reasons that the revision is also defective.

In Chapter IV I consider Davidson's theory of events. There are two important features of his theory: events are concrete particulars and they are extremely coarsely individuated. I consider mainly the second. I claim that neither the positive support he provides for his theory, nor the identity condition he gives for events, nor his account of action sentences requires that events are coarsely individuated. I consider an objection to Davidson, urged by Goldman, that certain events which Davidson identifies occur at different times, but I find the objection inconclusive. I consider another objection that events which Davidson identifies occur at different places, and find it more persuasive. I also note that Davidson's view of events is incompatible with a natural treatment of sentences like 'He opened the window by turning the crank'. Finally, in an appendix, I criticize Davidson's attempt to explain his talk of actions "under a description".

In the fifth chapter I examine Chisholm's view that events are a species of states of affairs. I consider some objections to which Chisholm is able to reply. I claim, however, that Chisholm's theory does not do justice to our

ordinary notion of event, and, in particular, he has given no method for counting events. Moreover, although he has given a theory which allows for events that occur at some times and which fail to occur at others, he seems to ignore the possibility that an event may occur at some place while failing to occur at another. This possibility is exploited to reveal an ambiguity in Chisholm's primitive locution, 'pBq', read 'p occurs before q begins'. A similar consideration reveals a defect in a series of definitions by which Chisholm tried to reduce talk of particular occurrences of events to talk only of the occurrence and non-occurrence of his generic events.

In a brief conclusion I review some motivations which have led philosophers to suppose that there are events, and I list some problems which an adequate theory of events ought to solve. I conclude that none of the three theories examined is acceptable.

PREFACE

This dissertation is an examination of the theories of events proposed by Jaegwon Kim, Donald Davidson, and Roderick Chisholm. These theories were not chosen because they are the only currently available theories of events. On the contrary, there are several alternatives.¹ Rather, these theories were chosen because they interested me and because, in virtue of their differences, they represent a wide variety of alternatives.

There is a pair of distinctions made with respect to events. First, events might be thought to be concrete particulars or they might be thought to be some sort of abstract entities. Secondly, some philosophers argue that events are very finely individuated, while others conceive of events as very coarsely individuated.² The three theories to be considered cut across this pair of distinctions in an interesting way. According to Kim events are particular and finely individuated. According to Davidson events are particular but coarsely individuated. And according to Chisholm they are abstract³ and finely individuated.

In the first chapter I shall discuss Kim's theory of events. I shall first state and develop his view that an event is the having of an n-adic property by an n-ary sequence of objects at a time. Next, I shall consider a claim made by F. Robert Bohl, Jr., that anyone who accepts,

as Kim does, that sentences refer to or describe events is committed to the premisses of an argument whose conclusion is that there is only one event. I shall claim that Kim can coherently reject some of the premisses of this trivialization argument. Finally, I shall offer some criticisms of Kim's theory. I shall claim that it is vague in certain crucial respects, that it leaves several important questions unanswered. I shall also claim that Kim's view might involve an objectionable brand of essentialism. It seems to be his view, for example, that an event cannot occur at any time other than the time at which it does occur.

Since Davidson attempts to support his theory of events by appealing to his analysis of the logical form of action sentences, I shall devote two chapters to that analysis. In Chapter II I shall present Davidson's view that sentences like

(1) Boris strolled in Bologna

are existential generalizations over events, and that many adverbial phrases, like 'in Bologna' are predicates of events. I shall consider an objection due to Fodor that this account cannot handle adverbial modifiers that function both as sentential modifiers and verbal modifiers, and I shall show how Davidson can meet this objection.

In Chapter III I shall claim that Davidson's treatment of action sentences cannot account for certain cases in which an agent does two things at once. I shall consider

a revision of Davidson's theory designed to avoid this objection, but I shall conclude that similar considerations show the revision to be inadequate.

In the fourth chapter I shall consider Davidson's theory of events. As noted above, there are two salient features of Davidson's theory of events. First, he thinks that events are particular. Secondly, he thinks that events are coarsely individuated, that, for example, an agent's flipping a light switch might be the same event as his illuminating the room. I shall be mainly concerned with this second feature of Davidson's theory of events.⁴ And I shall argue, first, that it is not supported by the considerations Davidson adduces in its favor. Moreover, fine-grained event individuation, I shall argue, is not supported either by Davidson's account of action sentences or by the identity condition he gives for events.

I shall also consider some objections to Davidson's theory of events. The first, due to Goldman, is that certain events which Davidson identifies occur at different times. While I am sympathetic to this objection, I shall conclude that the unattractiveness of alternative attempts to fix the time of the occurrence of the events in question makes the objection unpersuasive. Another objection that I shall consider is that some events which Davidson identifies occur at different places. I shall also note that Davidson's view of events is incompatible

with a natural treatment of sentences like, 'He opened the window by turning the crank'. Finally, in an appendix to the fourth chapter, I shall criticize Davidson's attempt to explain his talk of actions "under a description".

In Chapter V I shall discuss Chisholm's theory that events are a species of states of affairs. A state of affairs, for Chisholm, is anything capable of being the object of a propositional attitude. An event is a state of affairs that can recur, that is, it can occur and then occur again after not occurring. Chisholm thinks that we can reduce talk of particular occurrences of events to talk only of the occurrence or non-occurrence of his generic events. I shall claim that Chisholm fails to do justice to our ordinary concept of event. Chisholm's theory is designed to accommodate events which occur at some times and fail to occur at others. I shall note that his events might occur at one place while failing to occur at some other place. I shall exploit this possibility to point out an ambiguity in his primitive locution 'pBq', read 'p occurs before q begins'. The same possibility will be used to show that a series of definitions by which Chisholm hopes to accomplish the reduction of talk about particular events to talk only of generic events is defective.

In a concluding chapter I shall review some of the motivations which have led philosophers to think that there

are events. I shall also list some problems which any adequate theory of events ought to solve. I shall claim that none of the three theories considered has acceptable solutions to all of these problems. For this reason, and on the basis of the specific criticisms developed in earlier chapters, I shall conclude that none of the three theories is at present acceptable.

I would like to express my appreciation to the members of my committee, Professors Gareth B. Matthews, Fred Feldman, and Terence Parsons, for their care in reading earlier versions of this dissertation and for their helpfulness in suggesting improvements. I would also like to express my appreciation to my wife for much encouragement.

Notes to the Preface

¹We might mention a few authors: Montague, "On the Nature of Certain Philosophical Entities" Monist 53 (1969): 159-194; Rescher, "Aspects of Action" Appendix II of Rescher, ed., The Logic of Decision and Action (Pittsburgh, 1966): 215-219; von Wright, "The Logic of Action - - A Sketch" in Rescher, op. cit., 121-136; R.M. Martin, "On Events and Their Descriptions" in Margolis, ed., Fact and Existence (Oxford, 1969): 63-74; Goldman, "Individuation of Action" Journal of Philosophy 68 (1971): 761-774, and A Theory of Human Action (Englewood Cliffs, N.J., 1970). Incidentally, the theories of Martin and Goldman are quite similar to Kim's view.

²Actually, I think that the second distinction is more properly thought of as a continuum. Aside from a brief remark in the conclusion, however, I do not consider alternatives between extreme fine-grained and extreme coarse-grained approaches to event individuation. Also, I have some reservations as to whether the first distinction can be clearly drawn. See Chapter VI, note 27. The remarks of this paragraph should be taken as introductory and superficial.

³He prefers the word 'generic'.

⁴The first feature, that events are particular, is treated implicitly to the following extent. Since Davidson's account of action sentences quantifies over

particular events, that account would provide a reason for embracing particular events, if it were acceptable. But, as I shall argue in Chapter III, it is unacceptable. Thus, the view that events are particular is not supported in at least one way in which Davidson thinks that it is.

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C H A P T E R I

KIM ON EVENTS

In a recent series of articles, Jaegwon Kim has developed an increasingly detailed and elegant theory of events.¹ Kim's proposals have been motivated by a desire to clarify the ontological issues underlying discussion of causation and explanation. Thus, his theory is primarily an attempt to analyse those entities which are the objects of explanation and the relata of the relation of causation.² Of particular interest are his claim that events are structured and his adoption of a canonical notation to make explicit that structure.

This chapter is divided into three parts. In the first section I shall briefly present Kim's theory. In the second section I shall consider an argument to the effect that Kim's theory has the consequence that there is only one event. Finally, I shall offer some criticisms of the theory.

1. Kim's View. On Kim's view, an event is a complex which consists in an object (or n -tuple of objects) exemplifying a property (or n -adic relation) at an instant or during an interval of time. In monadic³ cases, an event is simply the having of a property by a thing at a time. To refer to events, Kim introduces the notation ' $[(\underline{x}, \underline{t}), P]$ ', where \underline{x} is the constitutive object of the event, P is the constitutive property, and \underline{t} is the constitutive time. ' $[(\underline{x}, \underline{t}), P]$ ' is read as 'the having of P by \underline{x} at \underline{t} '. Since Kim takes events to be the having of a property by an object,

his notion of 'event' is very broad, encompassing things which might ordinarily be thought of as states, states of affairs, or conditions.⁴

In the case of monadic events, there is a fairly straightforward condition of event identity:

I_1 : The event $[(x, t), P]$ is identical to the event $[(y, t'), Q]$ if and only if $x=y$, $t=t'$, and $P=Q$.

Thus, Socrates' drinking hemlock is the same event as Xantippe's husband's drinking hemlock. But, Socrates' dying is distinct from Xantippe's becoming a widow, for although the times at which these two events occur are identical, the respective constitutive objects and constitutive properties are distinct. This seems to accord with intuition, since Socrates' dying occurred in prison, while Xantippe's becoming a widow, if it occurred anywhere, presumably occurred wherever she was at the time of Socrates' death.

Kim's treatment of events in which the constitutive attribute is a relation is slightly more complicated.⁵ First, Kim abbreviates the n -tuple ' (x_1, \dots, x_n) ' as ' (x_n) ', and ' (x_1, \dots, x_n, t) ' is abbreviated as ' (x_n, t) '. The canonical notation can then accommodate events involving relations, as illustrated in the following condition of event existence.

Existence condition: $[(x_n, t), P^n]$ exists if and only if the n -tuple of concrete objects (x_n) exemplifies the n -adic empirical attribute P^n at time t .

Kim notes that his notation is not to be taken as denoting a triple. The triple (x_n, t, P^n) exists if (x_n) , t , and P^n exist.

By contrast, the event $[(\underline{x}_n, \underline{t}), P^n]$ exists, according to the existence condition, only if (\underline{x}_n) satisfies P^n at \underline{t} .

To the objection that his theory is committed to the position that $[(\text{Brutus}, \underline{t}) \text{ stabs Caesar}]$ is distinct from $[(\text{Brutus}, \text{Caesar}, \underline{t}), \text{stabs}]$, Kim replies that "mixed universals" such as stabbing Caesar are not admissible as constitutive attributes of events. Rather, only "pure universals" are allowed to be constituents of events.⁶ Kim does admit that the dyadic events $[(\text{Brutus}, \text{Caesar}, \underline{t}), \text{stabs}]$ and $[(\text{Caesar}, \text{Brutus}, \underline{t}) \text{ is stabbed by}]$ are identical. To account for this, Kim states an identity condition for dyadic events which has the requisite identity as a consequence. First, Kim defines for any dyadic relation R , a relation R^* which is its converse. Then:

$$I_2: [(\underline{x}, \underline{y}, \underline{t}'), R] = [(\underline{u}, \underline{v}, \underline{t}'), Q] \text{ if and only if either} \\ \text{(i) } (\underline{x}, \underline{y}) = (\underline{u}, \underline{v}), \underline{t} = \underline{t}', \text{ and } R = Q, \text{ or (ii) } (\underline{x}, \underline{y}) = \\ (\underline{v}, \underline{u}), \underline{t} = \underline{t}', \text{ and } R = Q^*.$$

To generalize I_2 to handle \underline{n} -adic events, Kim attempts to generalize the notion of converse. He notes that any \underline{n} -tuple can be permuted in $\underline{n}!$ ways. Where \underline{k} is a scheme of permutation on sequences of length \underline{n} , Kim writes ' $\underline{k}(\underline{x}_n)$ ' to denote the result of permuting (\underline{x}_n) by \underline{k} . Moreover, for each permutation \underline{k} , there is an inverse \underline{k}^{-1} such that $\underline{k}^{-1}(\underline{k}(\underline{x}_n)) = (\underline{x}_n)$. Kim then introduces a generalized notion of converse as follows:

If \underline{k} is a permutation on \underline{n} -termed sequences and R is an \underline{n} -adic relation, $\underline{k}(R)$ is to be the \underline{n} -adic relation such that, for every (\underline{x}_n) , (\underline{x}_n) has $\underline{k}(R)$ if and only if $\underline{k}^{-1}(\underline{x}_n)$ has R . It follows that, for each \underline{k} , $\underline{k}(\underline{x}_n)$

has $\underline{k}(R)$ if and only if (\underline{x}_n) has R . The $n!$ permutations of an n -adic relation R can be thought of as the converses of R .⁸

With this generalized notion of converse in hand, Kim gives a general condition for event identity.

I_n : $[(\underline{x}_n, \underline{t}, P) = (\underline{y}_m, \underline{t}'), Q]$ if and only if there exists a permutation k on n -termed sequences such that $(\underline{x}_n) = \underline{k}(\underline{y}_m)$, $\underline{t} = \underline{t}'$, and $P = \underline{k}(Q)$.

Thus, $[(\text{Agnes, the tin drum, Oskar, } \underline{t}), \underline{x} \text{ gives } \underline{y} \text{ to } \underline{z}] = [(\text{the tin drum, Agnes, Oskar, } \underline{t}) \underline{x} \text{ is given by } \underline{y} \text{ to } \underline{z}]$, since there is a permutation--the one that switches the first two members of a triple--from which the constitutive sequence mentioned by the event description on the left of the identity sign is transformed into the sequence mentioned by the event description on the right.

Kim thinks that a chief merit of his account of events is that on his theory events are structures. The structure of events corresponds, according to Kim, to the grammatical structure of those sentences which refer to events. Thus, a salient feature of Kim's analysis is that sentences or statements⁹ refer to, describe, represent, or specify events. Although Kim frequently uses the word 'refer' to characterize the relation holding between event-describing statements and events, I think he is most plausibly construed as intending some special relation, distinct from the familiar relation of referring. Not all sentences describe events, however. Kim says,

Generally speaking, the class of statements in question can be delineated very roughly by saying that they

attribute an empirical property (or relation) to a concrete object (or ordered set of objects) at a time. And we assume that for each event-describing statement there is some unique event specified or described by it....¹⁰

2. The Trivialization Argument. The notion that sentences refer to events, together with two natural assumptions, seems to lead, via a familiar argument, to the conclusion that there is only one event. Recall that on Kim's view the event of Socrates' dying is the same as Xantippe's husband's dying. As Kim would put it, 'Socrates died' and 'Xantippe's husband died' describe the same event. A natural conclusion to draw from this is that the replacement of co-designative singular terms in an event-describing statement preserves the identity of the event referred to, that is,

- C) If a statement S' is obtained from a statement S by replacing any referring expression in S by a co-referential expression, then if S is event-describing, S and S' describe the same event.

Similarly, we have seen that Kim wants to identify the events described by 'Brutus stabbed Caesar' and 'Caesar was stabbed by Brutus'. This identification is not sanctioned by (C). It is justified, however, by the equally plausible (L):

- L) Logically equivalent statements describe the same event.¹¹

But now (C) and (L) generate the following argument. Let p and q be any event-describing statements which agree in truth value. Consider,

- 1) p
 2) $\{x \mid x = \wedge \ \& \ p\} = \{\wedge\}$

3) $\{x \mid x = \wedge \& q\} = \{\wedge\}$

4) q .

(1) and (2) describe the same event, according to (L), since they are logically equivalent. Moreover, since p and q agree in truth value, $\{x \mid x = \wedge \& p\} = \{x \mid x = \wedge \& q\}$; and thus, according to (C), (2) and (3) describe the same event. Finally, since (3) is logically equivalent to (4), (L) has it that they describe the same event. Since no false statement describes an event, Kim adds, all true event-describing statements seem to describe the same event.¹²

Kim responds to this argument by considering the two principles (L) and (C). He notes that the subject-predicate, grammatical structure of an event-describing statement is reflected in the structure of the event described. Furthermore, he has loosely defined event-describing statements as those which attribute a property (or relation) to an object (or sequence of objects) at a time. But not all statements logically equivalent to event-describing statements have the right structure or attribute an empirical property to an object, and thus, are not themselves event-describing. In particular, Kim suggests that while 'Socrates drank hemlock' is event-describing, ' $\{x \mid x = \wedge \& \text{Socrates drank hemlock}\} = \{\wedge\}$ ' is not. Rather, "the second statement affirms a certain set-theoretic fact which obtains if and only if the event described by the first exists; but it does not describe, refer to, or specify any event."¹³ Thus, at the least, (L) should be

restricted to event-describing statements. And if this restriction is adopted, it does not follow that (1) and (2) describe the same event. So, the argument is blocked.

However, even restricted to event-describing statements, (L) is not without its problems. For Kim thinks that Xantippe's husband's dying and Xantippe's becoming a widow are distinct events, even though 'Xantippe's husband died' and 'Xantippe became a widow' are logically equivalent. Kim argues that these events are distinct, for the former occurred in the prison where Socrates drank the hemlock, while the latter--if it makes sense to say where it occurred--occurred where Xantippe was, which was not in the prison. Kim further notes that the two statements ascribe different properties to different individuals, and thus, by (I_n) , ought to be construed as referring to distinct events. What is puzzling about this example is why Kim thinks that the two statements are logically equivalent. If 'Xantippe's husband' is a rigid designator for Socrates, there is no reason at all to think that the two statements are logically equivalent. For, Xantippe's husband, that is, Socrates, could have died even had Xantippe never married. In such a case, 'Xantippe's husband died' would have been true and 'Xantippe became a widow' false. So, perhaps 'Xantippe's husband' should be understood non-rigidly, that is, as picking out in each world whoever happens to be Xantippe's husband in that world (if there is exactly one such person). Suppose Xantippe predeceases

her husband. Then clearly it would not be true that at her husband's death Xantippe becomes a widow. But is it also clear that 'Xantippe's husband dies' would be false? I think not. Perhaps if Xantippe had predeceased her husband by a considerable amount of time, and if he had subsequently remarried, we would be reluctant to say near the end of his life that he has the property of being married to Xantippe (although we would admit then that he has the property of having been married to Xantippe). But this is not a reason for thinking that in such a case 'Xantippe's husband died' is false at and after the death of her husband. Anyway, it is possible that Xantippe and her husband die simultaneously, and in this case surely 'Xantippe became a widow' is false while 'Xantippe's husband died' is true. Thus I conclude that the example of these events does not provide an exception to (L) restricted to event-describing statements.

Kim has another putative counter-example to (L) restricted to event-describing statements. He suggests that

5) Wilbur married Edith, and

6) Edith married Wilbur

are logically equivalent, although they describe different events. Kim's reason for thinking that (5) and (6) describe different events is that what explains why Wilbur married Edith need not explain why Edith married Wilbur. Are there two events here? We might think that on Kim's view (5) and

(6) describe, respectively,

7) [(Wilbur, t), marries Edith], and

8) [(Edith, t), marries Wilbur].

But marries Edith is surely a "mixed universal"¹⁴ and is thus inadmissible as a constitutive property. The same remark holds for marries Wilbur, so (7) and (8) are not events, after all. We might think then that (5) and (6) describe

9) [(Wilbur, Edith, t), marries], and

10) [(Edith, Wilbur, t), marries].

But now note that since the relation denoted by 'x marries y' is symmetric, all of its converses are identical. Also, there is a permutation on ordered pairs which transforms (Wilbur, Edith) into (Edith, Wilbur) and has associated with it a converse of the relation marries. Thus, by (I_n), (9) and (10) refer to the same event. So Kim has not given us a case in which, according to his own theory, (L) restricted to event-describing statements fails.

In a footnote Kim suggests that it might be argued that the apparent explanatory and causal asymmetry between (5) and (6) results from understanding those sentences as

11) Wilbur intentionally marries Edith, and

12) Edith intentionally marries Wilbur,

respectively. But these two are not logically equivalent.

Accordingly, Kim suggests modifying the example to

13) Wilbur intentionally marries Edith who intentionally marries him.

14) Edith intentionally marries Wilbur who intentionally marries her.

Now (13) and (14) seem to be logically equivalent. But do they describe different events? How would they translate into Kim's canonical notation? If we let 'M' abbreviate 'intentionally marries', 'w' abbreviate 'Wilbur', and 'e' abbreviate 'Edith', (13) and (14) can be written as

13') $wMe \ \& \ eMw$

14') $eMw \ \& \ wMe$

Now we can define a predicate 'W' as

15) $\underline{xWy} =_{df} \underline{xMy} \ \& \ \underline{yMx}$.

In terms of these abbreviations, then, (13) and (14) really amount, respectively, to

13'') wWe

14'') eWw .

In that case, the events described by (13) and (14) seem to be given, respectively, by

16) $[(w, e, t), \underline{xWy}]$, and

17) $[(e, w, t), \underline{xWy}]$.

But, as in the earlier case, there is a permutation, \underline{k} , on ordered pairs which transforms (w, e) into (e, w) , and ' \underline{xWy} ' denotes a relation which any pair $(\underline{x}, \underline{y})$ exemplifies just in case $\underline{k}^{-1}(\underline{x}, \underline{y})$, that is, $(\underline{y}, \underline{x})$, exemplifies \underline{xWy} . This last follows from the fact that \underline{xWy} is symmetric. But then by (I_n) , (16) and (17) describe the same event. So again I conclude that Kim has not provided us with an exception to (L) restricted to event-describing statements.¹⁴

Does it follow that no two logically equivalent event-

describing statements refer to different events? I think not. Consider,

18) Jones constructs an equiangular triangle, and

19) Jones constructs an equilateral triangle.

Clearly, (18) and (19) are logically equivalent. Moreover, they respectively describe

20) [(Jones, t), constructs an equiangular triangle], and

21) [(Jones, t), constructs an equilateral triangle].

Since the constitutive properties of these events are distinct, it follows according to Kim's theory, that the events are distinct. We might wonder, of course, whether these ought to be construed as distinct events, but that is another question.

Kim also objects to (C), the principle which sanctions substitution of co-extensive singular terms in event-describing statements. Since, as we have already seen, Kim thinks that Socrates' dying and Xantippe's husband's dying are the same event, we should expect that the co-extensive term 'Xantippe's husband' could be substituted for 'Socrates' in 'Socrates died' without change of reference. However, the following kind of case seems objectionable to Kim. Suppose that Wilbur is both the best player on the team and the fastest player on the team, then,

22) The best player on the team = the fastest player on the team.

In virtue of (22), (C) would have it that

23) Wilbur is the best player on the team, and

24) Wilbur is the fastest player on the team

describe the same event. Kim notes that there is an explanatory asymmetry between (23) and (24). We might, for example, explain the former by reference to the latter, but we would probably not explain Wilbur's being the fastest player on the team by pointing out that he is the best player.

Kim responds to this case by invoking a distinction of Wiggins,¹⁶ between genuine identity statements and statements of predication. According to Kim (23) and (24) are statements of predication, and the singular terms in the respective predicates do not make "genuine reference". Finally, Kim says that co-extensive singular terms may be substituted in an event-describing statement only if the terms make "genuine reference" in the statement. Incidentally, since genuine identity statements do not attribute an empirical property to an object at a time, they are not event-describing statements. This restriction serves to further block the above trivialization argument, since (2) and (3) cannot describe the same event if they are not event-describing statements in the first place.

Not all have agreed with Kim's rejection of (L) and (C). F. Robert Bohl, Jr.,¹⁷ for example, has argued that Kim's counter-examples to (C) and (L) are implausible and that the supposition that sentences refer commits one to those principles. Although I have already argued that Kim has failed to provide counter-examples to (L) restricted to event-describing statements, I do not find Bohl's rejection

of Kim's examples especially convincing. He says, for example, that the location at which an event occurs is often unclear. With this I agree, but the fact that the location of an event is sometimes unclear does not refute the claim that Socrates' dying and Xantippe's becoming a widow are distinct. For it is clear that the former occurred only in the prison and the latter did not occur only in the prison. Bohl also thinks that explanatory asymmetry cannot be used to individuate events. His claim is that events are explained only "under a description", and thus, what counts as an explanation of an event depends in part on how the event is described. I shall not attempt here to make sense of the notion of explanation "under a description".¹⁸ Rather, I shall discuss Bohl's claim that if sentences are taken as referring expressions, (L) and (C) ought to hold.

Bohl claims that if we take sentences to be referring expressions, we should strive to avoid any disanalogy between sentences and other referring expressions such as proper names and definite descriptions. He says,

In order that we make the analogy between sentences and other referring expressions as strong as possible, we ought to have some way of saying that sentences refer to the same entity without mentioning those sentences. It is clear that material equivalence will not do at all, for then any two true sentences will refer to the same event. To accept logical equivalence would be to accept [(L)]. Stronger, intensional connectives will serve to break the analogy down, for we do not need such a strong connective for definite descriptions and names; such connectives would probably serve only if we were willing to say two sentences refer to the same event if and only if they mean the same thing, which would clearly be unacceptable to Kim.¹⁹

The exact structure of Bohl's argument is not clear to me, but he elsewhere provides a hint as to what he means. "... [W]e have a straightforward way of saying in our language that two ordinary referring terms are co-referential, namely, identity sentences. We do not have an analogous way of saying that two sentences are co-referential, i.e., a way in which we use rather than mention the sentences."²⁰ Perhaps Bohl has something like the following in mind: "In the case of names and descriptions, we can say things like

25) Cicero = Tully.

What (25) says is that two names are co-referential, and it says this by using the names, not by mentioning them. If sentences are to be referring expressions analogous to names and descriptions, there must be a way of saying that two sentences are co-referential without mentioning the sentences. An obvious device for accomplishing this is to assert that two sentences are logically equivalent."

But this seems to be mistaken. (25) does not assert that two names are co-referential, that is, (25) does not assert that

26) 'Cicero' and 'Tully' are co-referential.

To see this, it suffices to note that (26), but not (25) entails that the expressions 'Cicero' and 'Tully' exist. So perhaps Bohl means that if two names are co-referential we can form an assertion of identity which uses rather than mentions the expressions. If sentences are to be analogous

to names and descriptions, we ought to be able to do something similar with them. The only natural option seems to be to assert their logical equivalence.

First a minor quibble: ordinarily, when we assert that two sentences are logically equivalent, we mention, rather than use, the sentences, as when we say, falsely,

27) 'Xantippe's husband died' is logically equivalent to 'Xantippe became a widow'.

Thus, 'is logically equivalent to' cannot be the sentential analogue of '='. We can, using a slightly more complicated connective, avoid this criticism, as in

28) Necessarily, Xantippe's husband died if and only if Xantippe became a widow.

We have already seen that Kim would regard (28) as an unacceptable way of expressing event-identity, because it is too broad, leading to an identification of distinct events. But requiring logical equivalence for two statements to describe the same event is also too stringent, for according to Kim,²¹ 'Socrates dies' and 'Xantippe's husband died' refer to the same event although they are not logically equivalent.

To return to Bohl's argument, why is 'Necessarily, ___if and only if...' the only natural sentential analogue of '='? If we reflect for a moment on the fact that (25) would normally be expressed in English, not by using the identity sign '=', but as

29) Cicero is the same person as Tully

we might think of an alternative to 'Necessarily, ___if and only if...'. In fact, I think a sentential connective which

satisfies Bohl's requirement that the connective operate on sentences and not on names of sentences and which satisfies Kim's intuitions as to which events are identical, is 'That__ is the same event as that...'. If this connective does the trick, then accepting that sentences refer and that they bear a close analogy to names and descriptions need not commit us to (L).

We might think that no instance of this schema will be true, since the result of pre-fixing 'that' to a sentence denotes a proposition, not an event. Thus, all instances of this schema would say that some proposition is the same event as some other proposition, and such a claim would, on the face of it, seem to be false. Nevertheless, it is surely open to Kim to deny that, for example, 'that Socrates died' denotes a proposition and assert rather that it denotes an event. This seems to fit in with his claim that the sentence 'Socrates died' refers to an event. Thus, I do not think that he need be committed to (L).

Bohl also claims that considerations similar to those he has already advanced should force us to accept (C), if we believe that sentences refer to events and if we believe that sentences should bear a close analogy to other referring expressions. Kim denied that co-extensive singular terms can be substituted in event-describing sentences without the possibility of a shift in reference unless the singular terms make genuine reference in the containing sentences. But

according to Bohl:

Again if we consider the analogy between sentences and other referring expressions, e.g., definite descriptions, we find that in the case of definite descriptions such as 'the present king of Greece'²² we may substitute for terms which do not make genuine reference, in this case 'Greece', and there is no change of reference. If, then, sentences are to be referring expressions, there would seem no reason to restrict possible substitutions in the way Kim suggests.²³

Bohl goes on to claim that (C) is plausible because "there is an analogy between it and principles which are appropriate to our usual English referring expressions." Bohl's point, presumably, is that given the truth of

30) Greece = the country whose capital is Athens

we can replace 'Greece' by 'the country whose capital is Athens' in 'the present king of Greece' to obtain an expression which also denotes King Constantine, even though 'Greece' does not make genuine reference in the first description. The most that this shows, however, is that some substitutions of co-extensive terms within definite descriptions, even where those terms do not make genuine reference, preserves reference. But Kim can consistently admit that, as well as admitting that some substitutions of co-extensive singular terms in event-describing statements preserves reference, even though the terms fail to make genuine reference. For example, I believe that Kim would hold that the following pair of statements refer to the same event.

31) The present king of Greece lives in Italy.

32) The present king of the country whose capital is Athens lives in Italy.

We can admit that the inference that (31) and (32) describe the same event given the truth of (30), is a correct instance of (C) without thereby being committed to the truth of (C). And Kim has merely held that not all of the inferences sanctioned by (C) are correct. Moreover, not all substitutions of co-extensive singular terms within definite descriptions preserve reference. There are exceptions when the singular terms fail to make genuine reference or when they fail to make any reference at all. Even given the truth of

33) The fastest player on the team = the best player on the team.

'the property of being the best player on the team' and 'the property of being the fastest player on the team' are not co-extensive. Thus, given the failure of such substitutions in the case of definite descriptions, Kim's rejection of (C) seems to strengthen rather than weaken the analogy between sentences and other referring expressions.

Note that (C) should not be confused with the more plausible principle (C'):

C') If a statement S' is obtained from a statement S by replacing any referring expression, α , in S by another referring expression, β , such that α and β are co-referential in S and S', respectively, then if S is event-describing, S and S' describe the same event.

Nor need Kim be construed as denying (C'). His claim may be put as follows. If (23) is understood as a statement of identity, that is, as

23') Wilbur = the best player on the team

then it is not event-describing. On the other hand, if (23) is understood as a statement of predication, it amounts to

23'') Wilbur has the property of being the best player on the team.

But 'the best player on the team' and 'the fastest player on the team', though co-referential, are not co-referential in the context 'the property that...'; and thus, substitution of the one term for the other is not justified by (C'), although it is permitted by (C). (C') is a close relative of a familiar Fregean principle of substitution whereby substitution of singular terms in a given context is reference-preserving not merely if the terms are co-extensive, but if they are co-extensive in that context. It seems to be in Kim's favor that he denies that unrestricted substitution of co-extensive singular terms in an event-describing statement preserves the identity of the event described. For the analogue of (C) that co-extensive singular terms are everywhere substitutable without shift of reference, is false. But it also seems to be in Kim's favor that what he says is consistent with (C'), for given a Fregean semantics, the general referential analogue of (C') is indeed plausible.

In conclusion, then, Kim seems to me to be correct to deny (L) and (C). Finally, let me note that both of Bohl's arguments require that there be a strong analogy between sentences and other referring expressions if sentences are to be referring expressions, but I know of no reason to think

that this is true, especially in the absence of an exact specification of which characteristics are required to sustain the analogy.

3. Criticism of Kim's Theory. We have seen some of the details of Kim's theory, and we have seen that it can plausibly resist the challenge of a trivialization argument. Now let us turn to a criticism of the theory. I think that the theory is regrettably vague in certain crucial respects. In this section I shall try to indicate some of those respects.

Central to the Identity Condition I_n is the generalized notion of a converse of a relation, which Kim attempted to formulate with the aid of permutations on sequences and relations associated with each permutation.²⁴ Here again is how Kim introduces $\underline{k}(R)$, which is the converse of the relation R generated by a permutation \underline{k} on R . "If \underline{k} is a permutation on \underline{n} -termed sequences and R is an \underline{n} -adic relation, $\underline{k}(R)$ is to be the \underline{n} -adic relation such that, for every (\underline{x}_n) , (\underline{x}_n) has $\underline{k}(R)$ if and only if $\underline{k}^{-1}(\underline{x}_n)$ has R . It follows that, for each \underline{k} , $\underline{k}(\underline{x}_n)$ has $\underline{k}(R)$ if and only if (\underline{x}_n) has R ."²⁵ Let us, in a particular case, see how for a given relation we find its converse. There is only one permutation--the identity permutation--on sequences of length 1. Thus, where $\underline{n}=1$, $\underline{k}^{-1}(\underline{x}_n) = (\underline{x}_n)$. So in the monadic case, the first of the two quoted sentences tells us that $\underline{k}(R)$ is the property (1-adic relation) such that, for every \underline{x} , \underline{x} has $\underline{k}(R)$ if and only if \underline{x} has R . But, is it the case that for every property there is a unique

property a thing has just in case it has the first property? No, the familiar example that all and only creatures which are members of a species whose well-formed members have a heart are members of a species whose well-formed members have a kidney provides a counter-instance. One property a thing has if and only if it is a member of a species whose well-formed members have a heart is the property being a member of a species whose well-formed members have a heart. But another property a thing has if and only if it has this property is being a member of a species whose well-formed members have a kidney. Thus, 'k(R)' is not well-defined. In fairness to Kim, it should be noted that he admits that he has not given a definition. He says, in a footnote, "This is not intended as a definition, but only an informal exposition, of 'k(R)'. As a definition it would likely be construed as presupposing an extensional interpretation of attributes (whether in the possible-world semantics or in some other scheme), whereas I prefer to be silent on this issue here."²⁶ Let us take that parenthetical remark as a hint as to how 'k(R)' should be defined. Instead of saying that for all k and (x_n) , k(R) is the relation (x_n) has if and only if $k^{-1}(x_n)$ has R, we could require the stronger condition that for all k and (x_n) , k(R) is the relation such that in all possible worlds (x_n) has k(R) if and only if $k^{-1}(x_n)$ has R. Let us see, again, how this revised definition would work in a monadic case. As before, the inverse of any

permutation on 1-tuples is simply the identity permutation, so the revision comes to:

- 34) $(\underline{k})(\underline{x})(\underline{k}(R)$ is the relation such that $\square (\underline{x}$ has $\underline{k}(R)$ if and only if \underline{x} has R)).

Does (34) succeed in defining ' $\underline{k}(R)$ ' for monadic properties R ? I think that it does not; it is plausible only if properties that are co-extensive in all possible worlds are identical. But some properties co-extensive in all possible worlds are not identical. Suppose that x is a triangle. Is there a unique property which x has in all and only those worlds in which x is an equiangular triangle? No, for one candidate is the property being an equiangular triangle; another is being an equilateral triangle. Thus, this attempt to revise the definition of ' $\underline{k}(R)$ ' is unsuccessful. But then we do not know exactly what is to count as the converse of a relation.

Another respect in which Kim's account of events is vague, is that he places restrictions on which attributes are eligible to be constitutive attributes of events without making clear exactly how these restrictions are to be understood. An important feature of Kim's theory is that every event has a unique constitutive property. These constitutive properties he calls "generic events".²⁷ But exactly which properties count as "generic events"? Kim does say that constitutive properties must be empirical or factual. He suggests that this condition is intended to exclude tautological or evaluative properties. But until we have a precise idea of

what empirical, factual, and tautological properties are, we cannot know exactly which properties can be constituents of events.

Kim also says that no "concocted"²⁸ properties can be constituents, although except for suggesting that being fifty mile east of a burning barn is concocted, he gives no clue as to which properties he means to exclude.

Finally, as we have already noticed, Kim excludes "mixed universals", requiring that constitutive properties be "pure universals". According to Kim, x stabs Caesar is a "mixed universal", while x stabs y is "pure". We might propose the following as an attempt to characterize this distinction.

M) P^n is mixed if and only if $(\exists y) \{ \text{for any sequence } (\underline{x}_1, \dots, \underline{x}_n) [P^n(\underline{x}_1, \dots, \underline{x}_n) \rightarrow (E P^{n+1})(P^{n+1}(\underline{x}_1, \dots, \underline{x}_n, y))]\}$

P) P^n is pure =_{df} P^n is not mixed.

(M) has the result, as it should, that x stabs Caesar is mixed. There is some y, namely, Caesar, such that if anyone stabs Caesar, there is a relation, namely, x stabs y, such that (Caesar's stabber, Caesar) satisfies x stabs y. Note that the arrow in (M) must stand for strict implication and not material implication, for otherwise every property will be mixed. To see this, pick some property P. If P is not exemplified, (M) is true vacuously. If P is exemplified, then there is something, say Socrates, such that there is a property, namely, P and x is a man, such that (whatever satisfies P, Socrates) satisfies this latter property.

The following, however, seems to be a counter-example to (M). There is something, namely, the number nine, such that if anything, z, is a man, (z, 9) satisfies x is a man & y is a number. But this property seems intuitively (at least insofar as this distinction is intuitive) to be pure. We can avoid this objection by recasting (M) as

(M') P^n is mixed if and only if $(\exists y) \{ y \text{ exists contingently \& for any sequence } (\underline{x}_1, \dots, \underline{x}_n) [P^n(\underline{x}_1, \dots, \underline{x}_n) \rightarrow (E P^{n+1})(P^{n+1}(\underline{x}_1, \dots, \underline{x}_n, y))] \}$

(M') appears to have the consequence that x is greater than seven is pure, since seven exists necessarily. This contrasts with x is taller than Galbraith, which is mixed. I think that this is harmless enough; it merely suggests that the distinction between mixed and pure universals is a metaphysical one rather than a linguistic one. Both (M) and (M') seem to have the further consequence that x rides Pegasus into battle is pure, since Pegasus does not exist. One way to avoid this would be to prefix the characterization of 'mixed' with ' \diamond '. Another way would be to add the conjunct 'is exemplified' to the definiens of (P). On this alternative some properties would be neither mixed nor pure. Perhaps neither step need be taken, for, according to Kim, only exemplified pure universals are constituents of events.

There is, however, a more serious objection to (M'): it entails that every property is mixed. Kim wants x stabs y to be pure. But there is some z, namely, the event of there being some stabbing event or other (call this event

'e') such that whenever a pair (a,b,) satisfies x stabs y, there is a relation x stabs y and z is the event of there being some stabbing event which (a,b,e) satisfies. Since e exists contingently--it exists only in those worlds in which someone stabs someone--it follows according to (M') that x stabs y is mixed.²⁹ Moreover, this objection seems to be generalizable. I think that these considerations indicate how difficult it is to characterize mixed universals. But unless we have some adequate characterization, we do not know which properties can be constituents of events.

Although we do not have a characterization in hand, we can, I think, proceed to distinguish some mixed and pure universals. The property x stabs Caesar is mixed; so is x stabs y with this knife. The property x stabs y is pure; so is x stabs y with a knife; so are x stabs y regretfully and x stabs y intentionally. We can suppose all of these pure universals to have been exemplified by (Brutus, Caesar). Thus, by the existence condition, [(Brutus, Caesar, t), x stabs y], [(Brutus, Caesar, t), x stabs y with a knife], [(Brutus, Caesar, t), x stabs y regretfully], and [(Brutus, Caesar, t), x stabs y intentionally] all exist. We might be puzzled by the multiplicity of events here. We might wonder, for example, how they are all related. Some of them could have occurred without others of them having occurred. And we might wonder which of them is Brutus' killing of Caesar. The answer to this last question is, presumably, none of

them; for stabbing is not the same as killing. Moreover, no one of the mentioned events need have occurred for Brutus' killing of Caesar to have occurred. Here is another difficulty. Suppose Jones has a pain in his right foot and he has a pain in his left foot. Then the following events exist: [(Jones, t) has a pain], [(Jones, t), has a pain in his right foot], and [(Jones, t) has a pain in his left foot].³⁰ How are these events related? It is tempting to say that the first is a generic event of which the latter two are particular instances. But this suggestion is not open to Kim. For him, generic events are properties--those properties which are constituents of events. Moreover, according to Kim, no event is an instance of more than one generic event. Thus, the last-named event is an instance of the generic event having a pain in one's left foot, and not, on Kim's view, an instance of Jones' having a pain.

So far I have discussed restrictions on which properties may be constituents of events. But Kim also restricts the objects which may be constituents of events. Kim says at one point that events are "realizations of properties at particular space-time regions or by objects (if one accepts some sort of substance ontology)...."³¹ Kim goes on to say that he opts for objects rather than space-time regions. In another place Kim says that "we may represent an event by the notation '[x, P, t]' where x is an object ('Substance')....,"³² and he goes on to add that where "P is a mental property, that

may place a certain constraint on the kind of substance x is...." Thus, I think it is clear that the constitutive objects of events must be substances according to Kim, although it is certainly left open as to what a substance is and what sorts of substances there are. But this restriction seems to lead to a difficulty. Consider the apparent event-describing statement, 'Beethoven's Ninth Symphony was performed in 1824'. The obvious way of translating this statement into Kim's canonical notation is as '[(Beethoven's Ninth, 1824), was performed]'. But this will not do, for Beethoven's Ninth is not a substance. But then how do we, in canonical notation, refer to the event (let us suppose that the first performance was the only performance that year) which was the first performance of Beethoven's Ninth? Perhaps the event can be construed as the having of a very complicated property (involving playing certain notes in a certain order, making certain motions and gestures, listening, and more) by a very large sequence of objects (including the members of the orchestra and chorus, the conductor, and perhaps even the members of the audience). Or perhaps there is some object, maybe the concert hall, which has the property of being such that Beethoven's Ninth was first performed in it.³³ But even if we could establish what sort of property and what sort of sequence the having of the former by the latter is the first performance of Beethoven's Ninth, exactly which property and which sequence is involved? As in the earlier

case of Brutus' killing Caesar, there seems to be an endless number of possibilities. And this, I think points up an important limitation in Kim's theory: he has given us a fairly precise method for translating event-describing statements into his canonical notation, but he has given us no information at all as to how to put into canonical form an event description which is a definite description.

Finally, there seems to be a kind of essentialism involved in Kim's theory which I find counter-intuitive. The point to be made applies equally, I think, to constitutive objects and constitutive properties, but I shall put it in terms of constitutive times. Suppose we consider some event such as Jones' speaking from 8:00 p.m. to 9:45 p.m. Suppose, further, that we have established that this event is [(Jones, 8:00-8:45), speaking]. We might normally say things like, had this event been a little shorter it would have been more effective, or had it been a little shorter the audience might not have begun walking out. That is, we might normally say of this event, call it 'S', that it could have been different in certain respects, and in particular, we might say that S could have been a little shorter. But Kim's theory has it that had Jones stopped speaking at 8:35, S would not have existed, not that it would have been shorter. Of course, if Jones had stopped speaking at 8:35, there would have been another event, call it 'S*', that would have existed instead. But S* is a different event. My complaint can be put as

follows: Kim's theory is committed to saying, in cases like this, that there would have been a different event, and not that an event would have been different.

It might be objected that this criticism does not really apply to Kim's theory. Suppose, continues the objector, that someone introduces the following canonical notation to refer to persons. A person S is named by ' $[a,b,t]$ ' just in case 'a' names S 's father, 'b' names S 's mother, and t is the time at which S was born.³⁴ This theory could adopt the existence condition that $[x,y,t]$ exists if and only if at t y delivers a child fathered by x . And the following condition of person-identity is forthcoming: $[x,y,t]=[w,z,t']$ if and only if $x=w$, $y=z$, and $t=t'$. But now it need not be a consequence of this theory of naming persons that the time at which a person is born is the only time at which that person could have been born. The fact that the time at which a person is born is mentioned in the canonical name of the person is irrelevant to whether it is essential to a person that he be born at the time at which he actually is born. Similarly, the objector might conclude, the fact that the time at which Jones' speaking occurred is mentioned in the canonical name of that event is irrelevant to whether that event could have occurred at a different time.

I think that we can see that this objection is mistaken. Kim has not merely given us an ingenious device for naming events analogous to the device just considered for naming

persons. Rather, Kim thinks that it is important that we recognize that events are structured--that they reflect the structure of the sentences by which we typically describe them. Thus, Kim's canonical notation is designed, in part, to make explicit this structure. There is no analogous structural similarity between persons and the parent-time-of-birth names of the objector. Furthermore, Kim says more than that events are structurally similar to complexes constructed from names of objects, properties, and times. He says that events are complexes, consisting in the having of a property by an object at a time.³⁵ Thus, I think that the criticism that Kim's view has an implausible essentialist consequence is not rebutted by this objection. It should be noted that I have not derived this essentialist view from anything Kim has said. Thus, I may be mistaken in attributing it to his theory. It might be that Kim has not told us enough about his theory to tell whether his events could have occurred at times other than the times at which they do occur.

In conclusion, we can admit that some support might be found for Kim's theory of events by considering its usefulness in dealing with particular problems, for example, causation or mind-brain identity;³⁶ although to examine these questions would be beyond the scope of this work. Nevertheless, from what we have seen of the theory, I think that we can agree that many problems need to be solved before Kim's theory can be judged an adequate theory of events.

Notes to Chapter I

¹"On the Psycho-Physical Identity Theory" American Philosophical Quarterly 3 (1966): 227-235; "Events and Their Descriptions: Some Considerations" in N. Rescher, ed., Essays in Honor of Carl G. Hempel (Dordrecht, 1969): 198-215; "Causes and Events; Mackie on Causation" Journal of Philosophy 68 (1971): 426-441; "Causation, Nomic Subsumption, and the Concept of Event" Journal of Philosophy 70 (1973): 217-236. I shall refer to these articles as PPI, E&D, C&E, and CCE, respectively.

²E&D 204.

³I shall follow Kim and label 'monadic events' those whose constitutive property is monadic, 'dyadic events' those whose constitutive property is dyadic, etc. Strictly, monadic events have dyadic constituent properties, since the time of an event occupies an argument place in its constitutive property. I shall ignore this complication, as does Kim.

⁴It might be possible, following Chisholm, to define a narrow sense of 'event' which applies only to those events (in the broad sense) which involve change. Cf. "Events and Propositions" Noûs 4 (1970):15-24, esp. p. 20.

⁵CCE 222-236.

⁶Although Kim does not explain these terms, he refers, as a possible explanation to Arthur W. Burks, "Ontological Categories and Language", Visva-Bharati Journal of Philosophy 3 (1967): 25-46, esp. pp. 28f. I attempt below, pp. 21-23,

to characterize "mixed universal" in a way that accords with the few comments Kim makes about the notion.

⁷Kim notes that the $n!$ permutations on sequences of length n form a group. Strictly, a group can be thought of as a triple (E, \circ, O) , where E is a non-empty set, \circ a binary relation, and O an element of E such that, where 'a', 'b', and 'c' range over elements of E

$$\text{i) } (a)(b)(c)((a \circ (b \circ c)) = ((a \circ b) \circ c))$$

$$\text{ii) } (a)(O \circ a = a)$$

$$\text{iii) } (a)(\exists x)((a \circ x) = O)$$

Now, for each n , let E be the $n!$ permutations on n -termed sequences, let \circ be the relation of composition of permutation ($k_1 \circ k_2 = k_2(k_1(x_n))$), and let O be the identity permutation. For $n > 3$, the group formed from permutations on n -termed sequences is non-Abelian, that is, composition of permutation is not in general commutative.

⁸CCE 225.

⁹In CCE Kim says that sentences refer to events (e.g., 222), while in E&D he says that statements refer to events (e.g., 204). He says that statements contain referring expressions (206) and that one statement in different circumstances can be used to make different assertions (213). Since he thus speaks of statements as linguistic entities, containing expressions, and being used to express different things, I take it that by 'statement' Kim means sentence, or at least that he does not intend to mark any distinction by his use of the two terms.

¹⁰E&D 205.

¹¹I take it that two statements are logically equivalent just in case the biconditional formed from them is necessarily true.

¹²This statement of the argument follows very closely Kim's.

¹³E&D 209.

¹⁴See above p. 2; also below, pp. 21-23.

¹⁵I think that Kim is mistaken in thinking that what explains (13) need not explain (14), although I shall not argue the point here.

¹⁶David Wiggins, "Identity-Statements" in Analytical Philosophy, ed. R. J. Butler, (Oxford, 1965), Second Series, esp. pp. 42-46.

¹⁷"On Sentences Referring", forthcoming in Logique et Analyse, Sept., 1973.

¹⁸For some attempts see Davidson, "Causal Relations", Journal of Philosophy 64 (1967): 691-703; "Eternal vs. Ephemeral Events", Noûs, 5 (1971): 335-349, esp. pp. 340f.; Bohl, "Events, Adverbs, and Prepositions", (forthcoming); for a criticism of the notion cf. Chisholm, "States of Affairs Again", Noûs, 5 (1971): 179-189, esp., pp. 187f.

¹⁹"On Sentences Referring", (7). References to this article in parentheses are to pages of the manuscript.

²⁰Ibid. (5).

²¹E&D 21.

²²I assume that current political developments are irrelevant to this example and that 'the present king of Greece' denotes King Constantine.

²³Op. cit. (9).

²⁴See pp. 3f., above.

²⁵CCE 225.

²⁶Ibid.

²⁷Ibid. 226.

²⁸Ibid. 231.

²⁹I am indebted to Fred Feldman for this example. It might be thought that the event in question, that is, the event, e , of there being some stabbing event or other is $(\exists e)(\exists x)(\exists y)(\exists t)([(x, y, t), \text{stabs}] = e)$. But this formula denotes a unique event just in case one individual stabs one individual; and if, for example, the only stabbing in some world is that of Caesar by Brutus, then in that world the above formula picks out the event of Brutus stabbing Caesar, and not the event of there being some stabbing event or other. But why not let the event in question be $(\exists e)(\exists x)(\exists t)([(x, t), \text{is such that there is some stabbing event or other}] = e)$? In order for this event to be one which exists in all and only those worlds in which someone stabs someone, let $x =$ the number nine.

³⁰If one thinks that Jones could not have a pain in his right foot without having the particular right foot that he has, then having a pain in his right foot is mixed. The

event should then be described as [(Jones, Jones' right foot, t), x has a pain in y]. Similar remarks hold for Jones' left foot. If Jones could have had a pain in his right foot while possessing a different foot, what is the relation between the event just mentioned and the monadic event mentioned in the text? On Kim's view the relation is not identity.

³¹C&E 438.

³²"Phenomenal Properties, Psychophysical Laws, and the Identity Theory", Monist 56 (1972): 177-192.

³³Kim suggested this possibility in conversation. The event in question could be represented as $(\exists e)((\exists x)(([x, 1824), \text{is such that Beethoven's Ninth is first performed in it}] = e))'$ Kim suggested the city in which the performance took place as a value of x . I find the concert hall a more plausible choice. Given that there is more than one choice available, we might wonder whether there is a unique event e . The point made in the text remains: we are confronted with indefinitely many candidates for the event which is the first performance of Beethoven's Ninth.

³⁴This example is due to Fred Feldman. We can assume, for the sake of the discussion, that no two children of the same parents are born simultaneously.

³⁵CCE 222, 226; "Phenomenal Properties, Psychophysical Laws, and the Identity Theory", 182-185; C&E 438f.

³⁶For the former see C&E and CCE; for the latter see PPI and the paper mentioned in note 32.

C H A P T E R I I

DAVIDSON'S ACCOUNT OF ACTION SENTENCES

In this chapter and the next I shall examine Donald Davidson's treatment of the logical form of action sentences. This chapter will be mainly expository; criticism of Davidson's theory will come later. In the first section I shall indicate the larger context against which Davidson's treatment of action sentences may be seen as a working out of details. That larger context is Davidson's program of giving a theory of meaning for English by defining a Tarski-type truth predicate. In the second section I shall set out some of the details of Davidson's treatment of action sentences. In the third section I shall note two restrictions on the range of application of Davidson's novel treatment of adverbial modification. Finally, I shall consider an objection to Davidson's account posed by J. A. Fodor. I shall argue that Davidson's theory can cope with Fodor's objection.

1. Davidson's Program. Davidson's attempt to give the logical form of action sentences is part of a general program of giving a theory of meaning for English. According to Davidson, all that is required for a theory of meaning for a language L is a theory which places enough restrictions on a predicate 'is T' to entail all true sentences of the form

(T) s is T if and only if p,

where 's' is a structural description of a sentence of L and 'p' is replaced by that sentence.¹ In effect, all Davidson requires of a theory of meaning is that it satisfy Tarski's convention T for the adequacy of a formal semantical definition of truth.² As Davidson puts it, "the definition works by giving necessary and sufficient conditions for the truth of every sentence, and to give truth conditions for the truth of every sentence, and to give truth conditions is a way of giving the meaning of a sentence."³ Furthermore, Davidson thinks that any successful definition of 'is T' will automatically reveal the semantically significant structure of the sentences of the language. Davidson apparently thinks that the revelation of semantically significant structure is automatic, because "the theory must work by selecting a finite number of truth-affecting constructions from which all sentences are composed. The theory then gives outright the semantic properties of certain of the basic expressions, and tells how the constructions affect the semantic properties of the expressions on which they operate."⁴

A technique which Davidson employs in a first step toward providing a truth definition for English is to translate certain English sentences into a canonical, extensional, first-order language. If a technique can be found for translating parts of English into such a language, then the truth-definition of the formal language can be extended to

include those English sentences which can be shown (by the translation technique, perhaps) to have the same truth conditions as sentences of the formal language.⁵ By translating fragments of English into a first-order language Davidson hopes to bring those fragments within the scope of a recursive definition of truth, and hence within the scope of a theory of meaning. Davidson's account of the logical form of action sentences, which consists in specifying a canonical first-order language into which English action sentences can be translated, can be seen as a first step in a program of giving a theory of meaning for English.

Many questions might be raised at this point. Is giving a Tarski-like truth-definition really all there is to giving a theory of meaning? Does every successful definition of the truth predicate automatically reveal significant semantic structure? Can significant fragments of English be mechanically translated into a first-order language? I propose to ignore these questions, however, and plunge ahead with an investigation of Davidson's account of action sentences. My motivation for moving on is that even if defining a truth predicate does not yield a theory of meaning, translation of a troublesome fragment of English into a canonical first-order language is interesting in its own right, if only because the notion of logical consequence for such a language is well understood.

2. Davidson's Account of Action Sentences.⁶ Davidson begins his analysis of action sentences with a problem which

Kenny has called the problem of the "variable polyadicity" of action verbs.⁷ A typical account of the logical form of

- (1) Jones buttered the toast in the bathroom with a knife at midnight

would make 'buttered' a five-place predicate taking, in this case, 'Jones', 'the toast', 'the bathroom', 'a knife', and 'midnight' as arguments. The same approach would construe 'buttered' in

- (2) Jones buttered the toast in the bathroom with a knife

as a four-place predicate. Similarly, in

- (3) Jones buttered the toast

'buttered' would be taken as a two-place predicate. This strategy has at least two drawbacks. In the first place, it fails to account for the fact that (1) entails (2) and (2) entails (3). I shall call such inferences instances of modifier elimination. Secondly, it ignores the fact that 'buttered' is a common syntactic element of each of (1), (2), and (3).

The ploy of taking (3) as elliptical for

- (3') Jones buttered the toast somewhere with something at sometime

fares no better, for we seem to be able to add extra places to the predicate at will. For example, we could add to (1) 'on January 20'. Thus we do not seem to be able to tell in general how many places an action verb should be construed as having to accommodate all possible constructions.

Davidson's solution is to suggest that verbs of action contain an implicit place for singular terms referring to, or variables ranging over, events. Action sentences are existential quantifications over events. Thus,

(4) Shem kicked Shaun

amounts, on Davidson's account, to

(5) $(\exists x)(\text{Kicked}(\text{Shem}, \text{Shaun}, x))$.

which is read "There is an event x such that x is a kicking of Shaun by Shem." In

(6) Shem kicked Shaun behind the garage

Davidson would regard 'behind the garage' not as introducing an additional place into the three-place predicate 'kicked', but rather as qualifying any event satisfying the implicit existential quantification. Thus, (6) would be rendered as

(7) $(\exists x)(\text{Kicked}(\text{Shem}, \text{Shaun}, x) \ \& \ \text{Behind}(\text{the garage}, x))$.

That is, "There is an event x such that x is a kicking of Shaun by Shem and x occurred behind the garage."

In addition to showing that action verbs do not suffer from "variable polyadicity", Davidson's account has the merit of showing that the inference of (4) from (6) is a matter of logical form. Moreover, the Davidsonian paraphrases are extensional. Given the truth of

(8) Shem = the meanest kid on the block

it follows from (5) that

(9) $(\exists x)(\text{Kicked}(\text{the meanest kid on the block}, \text{Shaun}, x))$.

Davidson regards this as an advantage because extensionality allows the possibility of giving a recursive definition of truth.

3. Not All Grammatical Modifiers Get the Treatment.

Davidson's paraphrase of (6) relies on taking the prepositional phrase in (6) as a predicate demanding its own conjunct. For grammatical modifiers that can be so treated, modifier elimination is clearly a matter of logical form. Those modifiers which "introduce a new entity (a place, an instrument, or time)" ought to be so treated, according to Davidson. Examples include, in addition to 'behind the garage', the prepositional phrases of (1): 'in the bathroom', 'with a knife', and 'at midnight'. Davidson explicitly withholds his treatment from modifiers, such as 'slowly', which might be called "adverbs of manner". Davidson suggests that 'Susan crossed the Channel slowly' should not be understood as 'There is an event of Susan's crossing the Channel and it was slow'; for Susan's crossing might have been a fast swimming. If Davidson's treatment of grammatical modifiers applied to 'slowly' and 'fast', he would be committed to holding that Susan's crossing the Channel (which in the case described Davidson identifies with Susan's swimming the Channel) was both slow and fast. This difficulty is similar to the one involved in giving the logical role of 'small' in 'Bimbo is a small elephant', given that Bimbo is not small for a mammal. We do not want to treat 'small' as an independent predicate requiring its

own clause, for then we could infer that Bimbo is an elephant and he is small and he is a mammal and he is not small. Since this problem is not unique to modifiers in action sentences, Davidson thinks that he can ignore it.

Davidson also declines to treat such adverbs as 'deliberately' or 'intentionally' as predicates of events. His reason here is that "intentional actions are not a class of actions."⁸ To say that an action is intentional is, according to Davidson, "to describe the action in a way that bears a special relation to the beliefs and attitudes of the agent."⁹ Davidson sometimes speaks of an action being intentional "under a description", by which he apparently means to express a relation between an agent, an event, and a description. I shall postpone discussion of this topic.

Exactly which adverbial modifiers are to be treated as predicates? Are there modifiers in addition to adverbs of manner and adverbs imputing intention to which Davidson's treatment ought not be extended? I do not know the answer to these questions. My intent in this section is merely to call attention to these restrictions and to suggest that they should be born in mind while assessing Davidson's claims to have given a theory of adverbial modification.¹⁰

4. Sentential vs. Verbal Modifiers. Fodor claims that some modifiers ought in some contexts be construed as modifying an entire sentence and in other contexts be

construed as modifying a verb phrase. "English acknowledges (at least) two kinds of relations between an adverbial phrase and the other structures in a sentence which contains it. The adverbial phrase may modify the entire sentence, or it may modify (just) the verb phrase of the sentence."¹¹ Fodor further claims that Davidson's notation is only able to capture at most one of these two kinds of constructions. He suggests that this is a serious difficulty for Davidson, "that Davidson's theory is at best insufficiently rich to account for the full range of types of relations that English allows between events [sic] and their modifiers."¹²

I shall consider two of the examples with which Fodor attempts to support his claims. I shall suggest with respect to each of them that they can be handled within Davidson's notation, and thus, I shall conclude that Fodor has not found a serious difficulty with Davidson's analysis.

Fodor first considers the following sentences.

- (10) John spoke clearly,
- (11) John spoke, clearly,
- (12) Clearly, John spoke.

Fodor notes that 'clearly' in (10) modifies the verb 'spoke', while in (11) and (12) 'clearly' modifies the sentence 'John spoke'. Thus, the logical form of (10) ought to differ from the logical form of (11) and (12). Fodor then claims that the only relevant translation available to

Davidson is

(13) (Ex) (Spoke(John, x) & Clearly(x)).

Fodor concludes that (13) might be an analysis of (11) and (12), but as an analysis of (10), "it would appear to be a non-starter."

Fodor does seem to be correct in claiming that 'clearly' can modify either a verb phrase or a sentence. We might take note of some differences in the two constructions. As a verbal modifier, 'clearly' is a comparative, and suffers from a difficulty noted above¹³ in connection with the adverb 'slowly'. As Fodor is aware, John might speak clearly for someone with his mouth full of marbles, but unclearly for someone who has taken five years of elocution lessons. As a sentential modifier, 'clearly' also functions as a comparative. One sentence might be more clear than another. But the sentential modifier 'clearly' is also incomplete in a certain respect. Sentences are often clear to someone. Thus, a sentence might be clear to Saul Kripke, but unclear to the rest of us. Finally, as a sentential modifier, 'clearly' is opacity-inducing. Given appropriate assumptions,

(14) Clearly, Cicero wrote Cicero's Orations, and

(15) Cicero = Marcus Tullius

are true, although

(16) Clearly, Marcus Tullius wrote Cicero's Orations is false.

One reply which Davidson might make to Fodor's objection is that comparatives, like 'clearly' in both of its constructions, 'slowly' and 'small', among others, were explicitly excluded from his account of action sentences, on the ground that the problems such words raise are not unique to their occurrences in action sentences. Fodor claims, however, that his objection does not depend on the comparative feature of the adverb 'clearly', and if there are adverbial phrases not excluded by Davidson which do function as both verbal and sentential modifiers, the problem will have to be faced at some point. So let us see whether Davidson has a more satisfying reply.

Fodor claimed that

(13) (Ex) (Spoke(John, x) & Clearly(x))

analyzes

(12) Clearly, John spoke

(or (11)), and that

(10) John spoke clearly

is left unanalyzed by Davidson's theory. Why take (13) as the translation of (12) rather than (10)? Fodor is apparently led to do so by noting that the variable 'x' in (13) is naturally replaced by a nominalized sentence, for example, 'John's speaking'.¹⁴ Thus, Fodor thinks 'clearly' in (13) is a modifier of a sentence (albeit a nominalized one), and so (13) translates (12) in which 'clearly' functions as a sentential modifier. I think that this line

of reasoning is misleading. In the first place, nominalized sentences are not the only natural replacements for event variables. Other candidates include singular terms and definite descriptions, for example, 'Super Bowl VII' and 'the first speech John made'. But more importantly, Fodor seems to have confused the metalinguistic predicate 'Clearly',¹⁵ of (13) with the object language adverb 'clearly'. That the former can take as argument a nominalized sentence is not by itself grounds for thinking that it translates the sentence-modifying use of the latter. In fact, it is up to Davidson to tell us what the metalinguistic predicate 'Clearly' translates, since it is not, after all, English. To see that the distinction is important, consider Davidson's paraphrase of

(17) I flew my spaceship to the Morning Star,

which is

(17a) (Ex) (Flew(I, my spaceship, x) & To(the Morning Star, x)).

Now entails

(18) (Ex) (To(the Morning Star, x))

If (18) is read as 'There is something to the Morning Star', it is patently nonsense. The temptation to so read (18) is lessened if it is realized that the metalinguistic predicate 'To' occurring in (18) is something other than the object language preposition 'to' occurring in (17). Of course, (17a) does not make sense until it is given sense, and part of what is involved in doing that is defining the

metalinguistic predicate 'To'. We may suppose Davidson to have done this by saying that 'To(x,y)' is satisfied by a pair $\langle \underline{a}, \underline{b} \rangle$ just in case \underline{b} is an event involving motion toward and terminating at \underline{a} .¹⁶ It would be inappropriate, however, to render

(19) Privatus dedicated his poem to the Morning Star¹⁷

as

(19a) (Ex) (Dedicated(Privatus, his poem, x) & To (the Morning Star, x)),

since Privatus' dedicating presumably did not involve motion toward and terminating at the Morning Star. To account for (19) Davidson will have to introduce a new binary metalinguistic predicate, perhaps 'To_D', corresponding to the object language preposition 'to' of (30). Then if \underline{b} is an event involving dedicating to \underline{a} , 'To_D' will hold of the pair $\langle \underline{a}, \underline{b} \rangle$. Davidson's task is enormously more complicated than it might initially have seemed. For corresponding to the preposition 'to' he will have to have several, perhaps many, metalinguistic predicates, one for each of the many distinct uses of the preposition. A similar point holds, generally, for every English word that admits of a variety of uses. But then it seems unlikely that English could ever be mechanically translated into Davidson's canonical notation.¹⁸ Worse, it seems unlikely that we could non-trivially give a semantics for English by first translating it into a canonical notation like Davidson's and then giving a semantics for the canonical

notation. For, in order to decide, for example, whether an English sentence including the preposition 'to' should go over into a canonical sentence including the predicate 'To', 'To_D', or some other predicate, we must already know what the English sentence means. If all occurrences of the preposition 'to' were translated by one metalinguistic predicate, we might hope that the translation procedure could be purely syntactic. But since, as we have seen, several metalinguistic predicates are needed to handle the various uses of the English preposition, it seems likely that a purely syntactic translation procedure would be unworkable.

To return to the question of whether (13) translates (12), I have suggested that the fact that the variable in (13) is replaceable by a nominalized sentence is no ground for thinking that (13) captures the sentential modifier use of 'clearly'. I have also suggested that it is up to Davidson to define the metalinguistic predicate 'Clearly'. If both of these claims are correct, we can go on to imagine that Davidson has told us that the metalinguistic open sentence 'Clearly(x)' is satisfied by a unary sequence $\langle a \rangle$ just in case a is an event involving sound or speech that is distinctly perceptible. Then,

(13) $(\exists x)(\text{Spoke}(\text{John}, x) \ \& \ \text{Clearly}(x))$

is most naturally construed as translating

(10) John spoke clearly,

where 'clearly' is a verbal modifier.

How then could Davidson translate (11) and

(12) Clearly, John spoke,

where 'clearly' is a sentential modifier? I suggest that a plausible treatment would be

(20) Clearly ((Ex)(Spoke(John, x))).

It might be objected that, as noted above, 'clearly' as a sentential modifier is opacity-inducing. If it is, the context created by 'Clearly' in (20) is non-extensional, and thus (20) is not available to Davidson, who requires that action sentences be translated into an extensional first-order language.

This objection is not serious, however. For (20) is surely synonymous with

(21) It is clear that ((Ex)(Spoke(John, x))).

If we make the further assumption that (20) and (21) have the same logical form, we are near a solution. Davidson has given an account of indirect discourse¹⁹ according to which a sentence such as 'Galileo said that the earth moves' is represented as split into two semantic parts:

Galileo said that.

The earth moves.

The first sentence consists of the name of a subject, a two-place predicate, and a demonstrative which refers to the second sentence. The second sentence gives the content of what Galileo said. In a similar way, Davidson could

regard (21) as composed of the following two parts:

That is clear. (or, It is clear that.)

(Ex) (Spoke(John, x)).

The first sentence consists of a one-place predicate and a demonstrative referring to the second sentence, which is what is said to be clear.²⁰

I am not claiming either that Davidson's account of indirect discourse is in fact ultimately successful or that his account of indirect discourse can be applied successfully to other constructions, such as 'It is clear that...'. All I wish to claim is that this maneuver is open to Davidson and that it is not, on the face of it, unreasonable. But if this is correct, then Fodor is mistaken in claiming that Davidson's notation cannot formulate both (10) and (12).

Fodor gives another example which he claims poses a problem for Davidson. Since this example is different in certain respects from the previous case, it is worth examining separately. Fodor suggests that

(22) John aimed his gun at the target

is ambiguous. Fodor claims that (22) can answer the question 'What did John aim his gun at?', in which case he represents its structure as

(23) John ((aimed) at the target) his gun.

Fodor says that (22) can also answer the question 'Where did John do his gun aiming?', in which case he represents its structure as

(24) At the target (John aimed his gun).

Fodor thinks that the adverbial phrase 'at the target' can modify a verb, as it does according to the structural analysis (23), or it can modify a sentence, as it does according to (24). Fodor suggests that the only paraphrase available to Davidson's theory is

(25) (Ex) (Aimed(John, his gun, x) & At(the target, x)).

Finally, Fodor claims that (25) is a paraphrase of at most one of the two readings of (22), and thus there are some action sentences which Davidson's theory cannot express.

A reply which Davidson would be unwilling to make would be to claim that (22) under interpretation (23)²¹ is best translated by the primitive predicate 'Aimed-at'. Thus,

(26) (Ex) (Aimed-at(John, his gun, the target, x)).

This reply could then accept (25) as the translation of (22) under interpretation (24). But, taking 'Aimed-at' as an unstructured predicate would obscure the fact that 'aimed' is a common syntactic element of both variants of (22) and that 'at' is a common syntactic element of 'aim at', 'look at', 'point at', 'shoot at', and 'shout at'.²²

A reply which Davidson might make is the following. He could admit that (22) is ambiguous and that (25) is the only translation of (22) in his notation, while

maintaining that (25) is itself ambiguous, but harmlessly so. There is some textual evidence for attributing such a move to Davidson. "As long as ambiguity does not affect grammatical form, and can be translated, ambiguity for ambiguity, into the metalanguage, a truth definition will not tell any lies."²³ However, it is Fodor's claim that the ambiguity of (22) does affect its grammatical form. So unless it can be shown that the ambiguity of (22) does not affect its grammatical form, this reply does not seem to be available to Davidson. Moreover,

(27) At the target, John aimed his gun
is unambiguous and seems to be translated by (25). If (25) were ambiguous, Davidson's theory would translate an unambiguous sentence, (27), by an ambiguous one, (25), and there seems to be something wrong with that. So I suggest that we look for another way out of Fodor's objection.

I do not think that we need to look very far. All we need to do is notice that under interpretation (23) 'at' has the sense of 'in the direction of', while under interpretation (24) 'at' has the sense of 'occurring near or by'. Davidson can simply introduce into the metalanguage two predicates, perhaps 'At₁' and 'At₂', with 'At₁' translating the former sense of 'at' and 'At₂' translating the latter.²⁴ 'At₁' would serve other purposes, as well: it would figure in translations of such phrases as 'point at', 'look at', and 'shoot at'.

Finally, this way of avoiding Fodor's objection seems

to deny the claim that 'at the target' functions in (22) under interpretation (24) as a sentential modifier. But that seems to be all right. I feel little inclination to regard 'at the hop' as a sentential modifier in

(28) Danny lost his date at the hop,
yet the constructions are parallel. So I conclude that Fodor has not uncovered any serious expressive inadequacy in Davidson's theory.

Notes to Chapter II

¹"Truth and Meaning", Synthese 17 (1967):304-323 (T&M).

²Alfred Tarski, "The Concept of Truth in Formalized Languages", in Logic, Semantics, Metamathematics, (Oxford, 1956):152-278. Davidson retracts the claim that all he requires of a semantic theory is that it satisfy Tarski's Convention T in "In Defense of Convention T", in Truth, Syntax, and Modality, ed. Hugues Leblanc (Amsterdam, 1973): 76-86. In this paper Davidson admits that there may be several theories satisfying Convention T and that we will need further criteria to choose between them. Cf. p. 80.

³T&M 310.

⁴"In Defense of Convention T" 81.

⁵T&M 314f.

⁶"The Logical Form of Action Sentences" in The Logic of Decision and Action, ed. Nicholas Rescher (Pittsburgh, 1966):81-95; reply to comments 115-120 (LFAS). Davidson also discusses this topic in "Causal Relations" Journal of Philosophy 64 (1967):691-703, esp. 696; "Eternal vs. Ephemeral Events" Noûs 5 (1971):335-348; "Events as Particulars" Noûs 4 (1970):25-32; and "The Individuation of Events" in N. Rescher, ed., Essays in Honor of Carl G. Hempel (Dordrecht, 1969):216-234, esp. 218ff.

⁷Anthony Kenny, Action, Emotion, and Will (London, 1965) Ch. VII.

⁸LFAS 94.

⁹Ibid.

¹⁰See, for example, Davidson's "Events and Propositions", esp. page 30.

¹¹J. A. Fodor, "Troubles About Actions" Synthese 21 (1970):298-319. Actually, Fodor's way of stating the matter is not entirely accurate. In a sentence containing an adverbial modifier, the modifier will never (on pain of infinite regress) "modify the entire sentence". Rather, a modifier may modify a contained sentence. Thus, the adverb in

(27) Clearly, John spoke

does not modify the entire sentence, (27), but rather it modifies the contained sentence 'John spoke'.

¹²Ibid. 309.

¹³Above, p. 39.

¹⁴Fodor, 308.

¹⁵Davidson's canonical notation is in fact a metalanguage for English. Thus, the predicate 'Clearly' in (28) is a metalinguistic predicate, that is, a predicate of the metalanguage.

¹⁶LFAS (reply) 118.

¹⁷The example is Castañeda's. For a list of various uses of the preposition 'to' see his "Comments on D. Davidson's 'The Logical form of Action sentences'" in The Logic of Decision and Action, 104-112, esp. 108.

¹⁸"The ideal implicit in this paper is a theory that spells out every element of logical form in every English

sentence about actions. I dream of a theory that makes the transition from the ordinary idiom to the canonical notation purely mechanical, and a canonical notation rich enough to capture, in its dull and explicit way, every difference and connection legitimately considered to be the business of a theory of meaning." LFAS (reply) 115.

¹⁹Davidson, "On Saying That" in Words and Objections, ed. Davidson and Hintikka (Dordrecht, 1969):158-174.

²⁰James McCawley also rejects attributing to Davidson the thesis that 'clearly' in (27) is a predicate of an event. Cf. "Fodor on Where the Action Is" Monist 57 (1973): 396-407. But McCawley suggests regarding 'clearly' in sentences like (27) as a predicate of propositions. Whatever merit this suggestion might have, it is not one that would be agreeable to Davidson, since he shuns propositions.

²¹I use the expression '(22) under interpretation (23)' as elliptical for '(22) understood in the sense in which it is an answer to 'What did Jones aim his gun at?' and in which sense (22) is said by Fodor to have the structure shown in (23)'. An analogous remark holds for my use of '(22) under interpretation (24)'. I do not want to be committed to holding that (23) and (24) are meaningful or that the two versions of (22) actually have whatever structure (23) and (24) are supposed to reveal.

²²Cf. LFAS (reply) 118.

²³T&M 316.

²⁴Davidson will need additional 'At'-predicates to translate other uses of the preposition 'at', for example, one for 'at' in 'at midnight'.

C H A P T E R I I I
M O R E A B O U T A C T I O N S E N T E N C E S

In this chapter I shall offer some criticisms of Davidson's account of action sentences. I shall first note that there are some inferences not accounted for by Davidson's theory. While this need not be taken as a criticism of Davidson's claims about the logical form of action sentences, it should raise some questions concerning the relation between an account of logical form and a theory of meaning. Next, I shall consider an objection to the effect that Davidson's theory is inadequate for giving the logical form of certain sentences which describe an agent doing two things at once. I shall consider an attempted solution to this objection. Discussion of the attempted solution will yield, in the third section of this chapter, the discovery of a problem of variable polyadicity for prepositions. This in turn might raise some doubts about Davidson's treatment of prepositional phrases. Finally, I shall suggest that the attempted solution is inadequate. I shall thus conclude that Davidson's account of the logical form of action sentences is inadequate.

1. Some Inferences. There are some inferences which are unaccounted for by Davidson's theory. For example, although

(1) I sang the National Anthem
entails

(2) I sang,

Davidson's formulation of these as

(1a) (Ex) (Sang(I, the National Anthem, x))

and

(2a) (Ex) (Sang(I, x))

is of no help in explaining the inference. The difficulty is that Davidson takes transitive verbs to express three-place predicates and intransitive verbs to express two-place predicates. Given this, it is difficult to see how a sentence like (1), containing a transitive verb, could, as a matter of logical form, entail a corresponding sentence like (2), which contains an intransitive verb.

Castaneda's solution¹ is to split transitive verbs into a conjunction of binary predicates, each of which expresses the same relation. This relation holds both between the agent and an event and between the patient or object and event. Thus, to use Castaneda's example,

(3) I flew my spaceship

becomes

(3a) (Ex) (Flew(I, x) & Flew(my spaceship, x)).

Given that

(4) I flew

is represented as

(4a) (Ex) (Flew(I, x)),

Castaneda regards taking (3) as (3a) as advantageous since it makes the entailment of (4) by (3) a matter of form.

However, not all transitive verbs are such that sentences containing them entail a corresponding sentence containing a corresponding intransitive verb. As Davidson notes,

(5) I sank the Bismarck

and

(6) I sank

are of the same logical form as (3) and (4), but (5) does not entail (6). In fact, it is doubtful that (3) entails (4), since

(7) I flew my model airplane

clearly does not. Thus, while adopting Castaneda's revision allows us to account for the inference of (2) from (1), it also justifies many fallacious inferences.

Another inference which Davidson's theory misses is the inference from (5) to

(8) The Bismarck sank.

Again, we might not want to attribute this inference to logical form, since

(9) The Queen dissolved the Parliament

and

(10) The Parliament dissolved

are of the same logical form as (5) and (8), yet (9) does not entail (10). Nevertheless, the inference of (8) from (5), as well as the inference of (2) from (1), depends, at least in part, upon the meanings of the verbs involved. But Davidson's projected theory of meaning will ignore this aspect of the meaning of these sentences. Davidson's

theory of meaning would tell us how to find the truth values of these sentences given assignments to their component parts; it would not tell us that for each pair these truth values are connected.

2. Doing Two Things at Once. A more serious difficulty for Davidson's theory involves cases in which an agent does two things at once. One such problem is attributed to John Wallace.³ Suppose that while playing pool, John, with one stroke of the cue, sends the cue ball into the three and five balls. The three ball then hits the eight ball into the side pocket, and the five ball sends the nine ball into the corner pocket. Then,

- (11) John hit the eight ball into the corner pocket with the three ball and the nine ball into the side pocket with the five ball.

The natural way to translate (11) into Davidson's notation is as

- (11a) (Ex) (Hit(John, the eight ball, x) & Into(the corner pocket, x) & With(the three ball, x) & Hit (John, the nine ball, x) & Into(the side pocket, x) & With(the five ball, x)).

But (11a) entails not only that John hit the eight ball into the corner pocket, as it should, but also that he did it with the three ball, and that he did it with the nine ball, and that he did it into the side pocket. Thus, (11a) is inadequate as a translation of (11).

A revision of Davidson's account which is designed to keep track of what is done to whom with what is to introduce a place in the predicate translating a preposition for the

direct object of the verb. Accordingly, we could translate (11) as

(11b) (Ex) (Hit(John, the eight ball, \underline{x}) & Into(the corner pocket, the eight ball, \underline{x}) & With(the three ball, the eight ball, \underline{x}) & Hit(John, the nine ball, \underline{x}) & Into(the side pocket, the nine ball, \underline{x}) & With(the five ball, the nine ball, \underline{x})).

Now (11b) does not entail that John hit the eight ball into both the corner and side pockets. Nor does (11b) entail that John hit the eight ball with both the three and the five balls. And so sentences like (11) need not be regarded as a serious threat to Davidson's theory, if we revise Davidson's theory along the lines suggested.

3. Variable Polyadicity and Prepositional Predicates.

There is a minor difficulty with the method of introducing a place in the predicates expressed by prepositions to be filled with the direct object of the verb, and that is that prepositions now suffer from variable polyadicity. For the same preposition can occur in sentences with intransitive verbs as well as in sentences with transitive verbs. Thus, consider

(12) Brutus stabbed Caesar with a knife, and

(13) Brutus stabbed with a knife.

The first of these sentences would be formulated according to the revised theory we are now considering as

(12a) (Ex) (Stabbed(Brutus, Caesar, \underline{x}) & With(a knife, Caesar, \underline{x})).

The revised theory does not say what to do with (13). The

natural paraphrase is

(13a) $(\exists x)(\text{Stabbed}(\text{Brutus}, x) \ \& \ \text{With}(\text{a knife}, x))$.

But now 'With' is a three-place predicate in (12a) and a two-place predicate in (13a). Davidson's theory was motivated by a desire to escape the problem of variable polyadacity for verbs; it would not be much of a gain to escape that problem at the expense of accepting a theory that was committed to the variable polyadacity of prepositions.

It might be replied that Davidson has not entirely avoided construing verbs as having variable polyadacity. After all, verbs taking a direct object express a three-place predicate, while verbs without a direct object express a two-place predicate. It would only be fitting, this reply would continue, to take prepositions in sentences with a direct object as expressing a predicate of one more place than they would express in sentences without a direct object.

But even if we agree with Davidson that prepositions are best treated as predicates, there is no intuitive motivation for thinking that our ordinary prepositions vary in any way corresponding to the variance in number of places just described. Furthermore, the analogy between the limited variable polyadacity of verbs and the limited variable polyadacity of prepositions under consideration breaks down when it is realized that the number of places in a predicate expressed by a preposition can be increased indefinitely. Consider,

(14) I sailed with Alice and Betsy and Carol and Donna.
 Given that (14) and its obvious extensions are intended to express a single sailing, their translations must look something like

(14a) $(\exists \underline{x}) (\text{Sailed}(I, \underline{x}) \ \& \ \text{With}(\text{Alice}, \text{Betsy}, \text{Carol}, \text{Donna}, \underline{x}))$.

The predicate 'With' now looks to be fully variably polyadic.

The problem of increasing places in prepositional predicates can be resolved by simply taking one place to be filled by a set which can be of any cardinality.⁴ Thus, (14) would become

(14b) $(\exists \underline{x}) (\text{Sailed}(I, \underline{x}) \ \& \ \text{With}(\{\text{Alice}, \text{Betsy}, \text{Carol}, \text{Donna}\}, \underline{x}))$.

This maneuver suggests a similar device for handling the variable polyadicity of prepositional predicates resulting from the presence or absence of a direct object. We simply stipulate that each predicate expressed by a preposition have a place filled by an expression designating the set containing the direct object, if there is one.⁵ If there is no direct object, the place which in other contexts might be filled by a set containing a direct object is occupied by a symbol designating the null set. Thus, (12) and (13) become

(13b) $(\exists \underline{x}) (\text{Stabbed}(\text{Brutus}, \text{Caesar}, \underline{x}) \ \& \ \text{With}(\{\text{a knife}\}, \{\text{Caesar}\}, \underline{x}))$.

and

(14b) $(\exists \underline{x}) (\text{Stabbed}(\text{Brutus}, \underline{x}) \ \& \ \text{With}(\{\text{a knife}\}, \Lambda, \underline{x}))$.

Prepositional predicates can now each be regarded as having a fixed number of places. Of course, the devices just considered are entirely ad hoc.

However, not only are these devices ad hoc: they are not entirely satisfactory. For

(14) I sailed with Alice and Betsy and Carol and Donna entails

(15) I sailed with Alice.

Treating (14) as

(14b) $(\text{Ex})(\text{Sailed}(\text{I}, \underline{x}) \ \& \ \text{With}(\{\text{Alice}, \text{Betsy}, \text{Carol}, \text{Donna}\}, \wedge, \underline{x}))$

and (15) as

(15b) $(\text{Ex})(\text{Sailed}(\text{I}, \underline{x}) \ \& \ \text{With}(\{\text{Alice}\}, \wedge, \underline{x}))$

obscures this inference.⁶ We could adopt a special rule written schematically as follows

(PS) Where 'Prep' is any prepositional predicate and A and B are sets such that $B \subseteq A$, from $\ulcorner (\text{Ex}) (\text{Prep}(A, \underline{x})) \urcorner$ infer $\ulcorner (\text{Ex}) (\text{Prep}(B, \underline{x})) \urcorner$.

This rule would account for the inference of (15) from (14), but it would sanction illicit inferences, as well. For example,

(16) I chose among Alice, Betsy, etc.

does not entail

(17) I chose among Alice,

but (PS) would justify such an inference.

A natural step to take at this point would be to treat (14) as elliptical for

(14') I sailed with Alice and with Betsy and with Carol

and with Donna.

Then (14) could be represented in Davidson's notation as

(14c) $(\exists x)(\text{Sailed}(I, x) \ \& \ \text{With}(\{\text{Alice}\}, x) \ \& \ \text{With}(\{\text{Betsy}\}, x) \ \& \ \text{With}(\{\text{Carol}\}, x) \ \& \ \text{With}(\{\text{Donna}\}, x))$.⁸

If we accept this formulation, the appropriate entailments will hold. This treatment could not, of course, be extended to (16). But then is there a uniform treatment of prepositions available to Davidson?

Suppose that prepositions divide neatly into those for which inferences like the one from (14) to (15) hold and those for which such inferences fail. For example, 'with' and 'by' might be in the former class, 'among' and 'between' in the latter. Then Davidson could require that all prepositional predicates take a set-expression in their first argument-place, and he could adopt a version of (PS) restricted to just those prepositions for which the relevant inference holds. Or he could require that only those prepositions in the second class always take a set-expression in their first argument-place, but that prepositions in the first class yield to conjunctions, in the manner of (14c), when they appear to take a plurality of objects. But it is not clear that prepositions can be so neatly divided. For example, it seems to me that

(18) John was poisoned with arsenic and milk
does not entail

(19) John was poisoned with milk.

But then 'with' is in both classes of prepositions, since the inference of (15) from (14) does hold. But, finally, if prepositions cannot be divided exclusively into those for which (PS) holds and those for which it does not, I can think of no way in which Davidson's treatment of prepositions can both be applied in cases in which a preposition appears to take more than one object and also yield an account of the correct instances of (PS).

4. Conclusion. In section 2 we considered revising Davidson's theory to accommodate cases in which two things are done at once. That revision consisted in introducing into prepositional predicates a place for an expression designating the set of the direct object(s) of a sentence. Unfortunately, this revision is inadequate to handle all Wallace-type objections. For how can the following sentence be adequately translated?

(20) Brutus stabbed Caesar in the back with a knife
and in the chest with an ice pick.

If we assume that (20) is intended to report a single action, it is not equivalent to the conjunction

(21) Brutus stabbed Caesar in the back with a knife
and Brutus stabbed Caesar in the chest with an
ice pick,

which could be true if Brutus did his back-stabbing on a different occasion than his chest-stabbing. So the only available⁹ way of translating (20) seems to be as

(20a) (Ex) (Stabbed(Brutus, Caesar, x) & In({the back}, {Caesar}, x) & With({a knife}, {Caesar}, x) & In({the chest}, {Caesar}, x) & With({an ice pick}, {Caesar}, x)).

But now (20a), unlike (20), entails that Brutus stabbed Caesar in the back with an ice pick and that Brutus stabbed Caesar in the chest with a knife. So (20a) is not an adequate paraphrase of (20). Thus, apart from the difficulties involving prepositions considered in section 3, I conclude that Davidson's theory, even as revised, is inadequate to give the logical form of all action sentences.

Notes to Chapter III

¹"Comments on D. Davidson's 'The Logical Form of Action Sentences'" in N. Rescher, ed., The Logic of Decision and Action (Pittsburgh, 1966):104-112.

²Cf. Ch. II, Sec. 1, above.

³I do not know if this objection has been published. I am indebted to Greg Fitch for bringing this problem to my attention and for suggesting the attempted solution (11b).

⁴This strategy is inspired by a similar device adopted by Castañeda, p. 107.

⁵Castañeda has suggested that the place for the direct object in the predicate expressed by a transitive verb be filled by an expression designating the set containing the direct object. This will accommodate sentences which have more than one direct object - they can all be put into a set. I do not discuss such cases, but the suggestion in the text is clearly amenable to Castañeda's treatment.

⁶I am indebted to Gareth B. Matthews for pointing this out.

⁷Note that there is an analogous complication for verbs.

⁸The brackets surrounding each name are optional. For simplicity, I have omitted the place for the null set in each prepositional predicate.

⁹I give the only available way of translating (20) according to the revised version of Davidson's theory. I assume that the problem raised in trying to translate (11)

is sufficient to refute the unmodified theory. Incidentally, (20) raises difficulties for the unmodified theory, as well.

C H A P T E R I V

DAVIDSON'S THEORY OF EVENTS

Davidson accepts a coarse-grained theory of events. Where others see several or many events, Davidson sees only one. Thus, in "Actions, Reasons and Causes" he says

I flip the switch, turn on the light, and illuminate the room. Unbeknownst to me I also alert a prowler to the fact that I am home. Here I do not do four things, but only one, of which four descriptions have been given.¹

It seems clearly to be Davidson's view that in the case described, not merely is there only one thing which I do, but there is only one event. My flipping the switch is the same event as my turning on the light, which is the same event as my illuminating the room, which is the same event as my alerting the prowler. Elsewhere Davidson writes

That the bullet pierced the victim was a consequence of my pointing the gun and pulling the trigger. It is clear that these are two different events, since one began slightly after the other. But what is the relation between my pointing the gun and pulling the trigger, and my shooting the victim? The natural and, I think, correct answer is that the relation is that of identity.²

While Kim would hold that there are at least two events here, my having the property of pointing the gun and pulling the trigger at a particular time, and my having the property of shooting the victim at a particular time, Davidson thinks that there is just one. My pointing the gun and pulling the trigger just is my shooting the victim.

In this chapter I shall present some considerations which

Davidson produces in support of his view, and I shall consider Davidson's condition of event-identity. I shall claim that neither his positive support nor his identity condition requires that events be coarse-grained. Next I shall state three objections to Davidson's theory, two of which I find convincing. In an appendix I shall return to the topic, postponed in earlier chapters, of action "under a description".

1. Support for the Theory. In "The Individuation of Events"³ Davidson offers six considerations which he says are "good reasons for taking events seriously as entities". Since Davidson is concerned in that article to defend a principle of event individuation which he thinks individuates events coarsely, it is tempting to believe that Davidson regards these six considerations not merely as "reasons...for accepting an explicit ontology of events" but as providing support for individuating events coarsely. That temptation is enhanced by the fact that Davidson seems to have given no other reasons for preferring a coarse-grained individuation of events. In this section I shall briefly list these considerations. In the next section I shall try to indicate how they might be supposed to support a coarse-grained approach to event individuation, and I shall claim that they do not in fact support such an approach.

Davidson says first that events are needed for a theory of action. "It is hard to imagine a satisfactory theory of action if we cannot talk literally of the same action under

different descriptions." He goes on to give an example of what he thinks is one action under two descriptions. "Jones managed to apologize by saying, 'I apologize'; but only because under the circumstances, saying 'I apologize' was apologizing."

Davidson also suggests that we need events to give an account of excuses. "Cedric intentionally burned the scrap of paper; this serves to excuse his burning a valuable document only because he did not know the scrap was the document and because his burning the scrap was (identical with) his burning the document." Davidson makes the same point more explicitly elsewhere. To account for Jones' excuse that 'I didn't know the gun was loaded' while admitting pointing the gun and pulling the trigger, but denying culpability for shooting the victim, Davidson thinks we should appeal to the following "logical structure" of excusing: "I admit I did a, which is excusable. My excuse for doing b rests upon my claim that I did not know that a=b"⁴ Thus, Jones admits to pointing the gun and pulling the trigger, but he denies having known that his pointing the gun and pulling the trigger would be the same as his shooting the victim.

Davidson also claims that accounts of explanation and causation require events. First, explanation:

Explanation, as already hinted, also seems to call for events. Last week there was a catastrophe in the village. In the course of explaining why it

happened we need to redescribe it, perhaps as an avalanche. There are rough statistical laws about avalanches....

And in the same passage he mentions causation:

And when we mention, in one way or another, the cause of the avalanche, we apparently claim that though we may not know such a description or such a law, there must be descriptions of cause and avalanche such that these descriptions instantiate a true causal law.

Davidson then adds a point about both explanation and causation. "All this talk of descriptions and redescrptions makes sense, it would seem, only on the assumption that there are bona fide entities to be described and redescrbed."

As a fifth consideration in favor of particular events Davidson suggests that the mere intelligibility of the Identity Theory requires that there be events. He says, "A further need for events springs from the fact that the most perspicuous forms of the identity theory of mind require that we identify mental events with certain physiological events; if such theories or their denials are intelligible, events must be individuals."

Finally, and most importantly, Davidson thinks that without events it does not seem possible to give a natural and acceptable account of the logical form of certain sentences of the most common sort; it does not seem possible, that is, to show how the meanings of such sentences depend upon their composition.

The sorts of sentences Davidson has in mind are action sentences, and the "natural and acceptable" account is the one we considered in Chapters II and III. That is, Davidson

thinks that his account of action sentences requires that there be particular events.

2. Criticism of the Support. Davidson speaks of the six considerations of the last section as grounds for thinking that events are particulars. I am not convinced that they are compelling grounds in favor of particular events, but I shall not discuss that here. The question I am interested in is whether there is any reason for individuating events coarsely, and, in particular, whether any of these considerations provide such a reason. Despite the fact that the topics of action, excuses, explanation, and the Identity Theory are well beyond the scope of this essay, so that we can discuss none of them in detail, I think that we shall be able to agree that none of the considerations Davidson presents supports his view of event individuation.

Consider first what Davidson says about excuses. In Davidson's example Jones admits to pointing the gun and pulling the trigger but denies responsibility for shooting the victim on the grounds that he did not know that the gun was loaded. Davidson thinks that to understand this pattern of excusing we should regard Jones as denying that he knew that his pointing the gun and pulling the trigger would be the same event as his shooting the victim, although in fact they were the same event. We can accept this basic structure, however, without admitting that the relation of identity holds between the event of Jones' pointing the gun and

pulling the trigger and the event of Jones' shooting the victim. We could instead hold that by pointing the gun and pulling the trigger Jones shot the victim. What Jones claims to have been ignorant of, then, is that his shooting the victim would have the by-relation to his pointing the gun and pulling the trigger.⁵ More needs to be said, of course, about the nature of this by-relation, and more will be said, below. For the moment it suffices to note that we often do speak of doing one thing by doing another, for example, opening the window by turning the knob, replenishing the water supply by operating the pump, or turning on the light by flipping the switch, and it seems plausible to suppose that in such cases we assert that events of a certain sort exist and are related by the by-relation.

Consider next Davidson's identification of Jones' saying 'I apologize' with Jones' apologizing. There is some plausibility to this identification. After all, when Jones said, 'I apologize' he did not have to do anything else to apologize. And anyone who heard Jones say 'I apologize' would have heard him apologize. Nevertheless, I do not believe that this identification is forced upon us. If we recognize that there is such a thing as a by-relation, we do not have to identify Jones' apologizing with Jones' saying 'I apologize' in order to understand the claim that Jones apologized by saying 'I apologize'. Rather, we simply say that there is an event of Jones' apologizing and an

event of Jones' saying 'I apologize', and the former bears the by-relation to the latter. Thus, Davidson's first consideration does not seem to require that events be individuated coarsely.

It is less clear to me how Davidson's third and fourth considerations bear on the question of event individuation. If the point simply is that accounts of explanation and causation require description and redescription of events, then it does not count in favor of coarse-grained events. For fine-grained events can be described. And they can be redescribed, as well; for example, 'Brutus and Caesar standing in the relation of stabbing at t' and 'Kim's most-cited event' might be two descriptions of the same fine-grained event.

Perhaps, instead, the point is something like the following. Suppose that an explanation of an event e is a deductive argument such that 1) its premiss set is the union of a set, C, of propositions stating various matters of fact and standing conditions, and a set, L, of propositions stating various causal laws, 2) its conclusion is the proposition that e occurred, and 3) the conclusion is not deducible from C or L alone.⁶ Suppose, then, that we want to explain the catastrophe in the village. What we will have to do is find a set, C, of propositions describing the situation just before the catastrophe. This set will contain, among others, propositions detailing the condition of the

snow on the slope above the village. (The catastrophe, recall, was an avalanche). We will also have to find a set, L , of law-like propositions such that from them and the set C of conditions we can deduce that the catastrophe occurred. But it is unlikely that we can find laws relating snow conditions to the occurrence of a catastrophe. We would be more likely to succeed if we tried to find laws relating snow conditions to the occurrence of an avalanche. Thus, if we want to explain the catastrophe, we should first redescribe it as an avalanche, and then find an explanation for an avalanche occurring. In sum, if we want to explain the catastrophe we must identify it with the occurrence of an avalanche, and this amounts to coarse-grained identification of events.

Perhaps that is how explanation might be supposed to require coarse-grained event individuation. But this line of reasoning is unconvincing. Apart from claiming that the above account of explanation is inadequate (it is), someone who individuated events finely could nevertheless agree that the catastrophe is identical to the occurrence of an avalanche. For example, Kim could consistently hold that the avalanche occurring is the mountain having the property of having an avalanche (at a time t) and that this event is the catastrophe. Of course Kim could not also consistently hold that the catastrophe is identical to the mountain having the property of there being a catastrophe at t , but there is no reason

why he should want to.

Perhaps the claim about explanation can be modified to yield an example of an identification which the fine-grained theorist cannot accept. Suppose we find sets C and L of propositions which explain the avalanche occurring. Presumably the proposition that the avalanche covering the village occurred is not derivable from the union of C and L, for the laws included in L might be supposed to relate snow conditions to avalanches, saying nothing about villages. Now, Davidson might suggest, we can explain the avalanche covering the village occurring only if we identify it with the avalanche occurring, for we can explain the latter. In this case the defender of fine-grained event individuation will surely deny that the avalanche occurring is the same as the avalanche covering the village occurring.

Nevertheless, the defender of fine-grained event individuation need not despair. He can agree that the proposition that the avalanche covering the village occurred is not deducible from the union of C and L, and so the union of C and L is not an explanans for the avalanche covering the village occurring. But he can also claim that there is some other explanans for this event. He can suggest adding to the set C some propositions relating the location of the snow-covered slopes to the location of the village and adding to the set L some law-like proposition to the effect that whenever a (sufficiently large) avalanche falls from a

slope so related to a (sufficiently small) village, the avalanche covers the village. The new explanans does explain the avalanche covering the village occurring, and so that event need not be identified with the avalanche occurring in order to explain it. I am not sure that this is how Davidson's remarks about explanation were intended to bear on the question of event individuation, but I think that we can agree that the argument we just outlined, albeit sketchily, does not support coarse-grained individuation, and I can think of no other way in which an account of explanation might require individuating events coarsely.

Davidson's remarks about causation are also difficult to apply to event individuation. Apparently the view of causation he has in mind is one according to which if an event e causes an event e' then there are descriptions D and D' such that D picks out e , D' picks out e' , and $\ulcorner D$ causes $D' \urcorner$ instantiates a true causal law. Davidson then says that "this talk of descriptions and redescriptions makes sense...only on the assumption that there are bona fide entities to be described and redescribed." We have already noted that fine-grained events can be described and redescribed as well as coarse-grained events. In fact, these remarks do not even seem to support Davidson's claim that events are particulars. For universals can be described and redescribed, for example, by 'The Good' and 'Plato's favorite Form'. I am unable to see how Davidson's remarks

about causation might be construed so as to support coarse-grained event individuation.

Davidson's claim that the intelligibility of the Identity Theory requires events also seems to provide no special reason for preferring coarse-grained events, for the Identity Theory can be intelligibly stated in terms of fine-grained events, as it has been by Kim.⁷ One disadvantage of Kim's version of the Identity Theory is that for it to be true, that is, for mental events to be identical with physical events, mental properties, like being in pain, have to be identical to physical properties, like having C-fiber stimulation. Since it is unlikely that such properties are identical, or even co-extensive, it is unlikely that Kim's version of the Identity Theory is true. But Davidson has in this context made no claims about the truth of the theory, only its intelligibility. On the other hand, Davidson might be able to argue that the truth of the Identity Theory requires coarse-grained events. Since, however, the truth of the Identity Theory is disputed, this would not make a very convincing argument.

Davidson clearly thinks that his account of the logical form of action sentences provides a powerful and important support for his theory of events. Moreover, it is clear that Davidson's account of action sentences is incompatible with an extremely fine-grained approach to event individuation. Consider

(1) Jones shot the victim with a gun.

Davidson's treatment of (1) is as

(1') (Ex) (Shot(Jones, the victim, x) & With(a gun, x)),
 that is, there is an event which is a shooting by Jones of
 the victim and that event is with a gun. Any such event is
 also, of course, a shooting by Jones of the victim. So
 Davidson's account of action sentences requires the identifi-
 cation of Jones' shooting the victim with Jones' shooting the
 victim with a gun. But that is incompatible with Kim's view,
 since according to him no single event is both a shooting by
 Jones of the victim and also a shooting by Jones of the
 victim with a gun, since Jones and the victim exemplifying
 the relation expressed by 'x shoots y' is distinct from Jones
 and the victim exemplifying the relation expressed by 'x
 shoots y with a gun'.

Although Davidson's account of the logical form of
 action sentences provides for the identification of some
 events, it offers no general reason for preferring the ex-
 tremely coarse-grained individuation favored by Davidson.
 In particular, Davidson's translation of

(2) Jones shot the victim

and

(3) Jones pointed the gun and pulled the trigger

as

(2') (Ex) (Shot(Jones, the victim, x))

and

(3') \underline{Ex} (Pointed(Jones, the gun, \underline{x}) & Pulled(Jones, the trigger, \underline{x})),

respectively, provides no logical reason for identifying Jones' shooting the victim with Jones' pointing the gun and pulling the trigger. Yet this identification is, as we have seen, one that Davidson wishes to make.

Finally, if the claims made in Chapter III are correct, Davidson's treatment of action sentences can provide no reason for individuating events coarsely, since I there argued that Davidson's account of action sentences is inadequate. Thus, I conclude that none of the considerations we have examined provides any reason to think that events are coarse-grained rather than fine-grained.

3. Davidson's Condition of Event Identity. In "The Individuation of Events" Davidson considers several conditions of event identity. He suggests some necessary conditions of event identity: where \underline{x} and \underline{y} are events, if $\underline{x}=\underline{y}$ then \underline{x} and \underline{y} occur at the same time; if $\underline{x}=\underline{y}$ then \underline{x} and \underline{y} occur at the same place; if $\underline{x}=\underline{y}$ then any substance in which \underline{x} is a change, \underline{y} is a change, and any substance in which \underline{y} is a change, \underline{x} is a change. He is tempted to regard the first two of these as jointly sufficient conditions of event identity, as well. But he finally settles on the following condition:

(DI) $\underline{x}=\underline{y}$ if and only if $((\underline{z})(\underline{z}$ caused $\underline{x} \rightarrow \underline{z}$ caused $\underline{y})$
and $(\underline{z})(\underline{x}$ caused $\underline{z} \rightarrow \underline{y}$ caused $\underline{z}))$,

where \underline{x} and \underline{y} are events.

Davidson does not say how to interpret the arrow. I suppose that the two conditionals on the right-hand side are material conditionals. One consequence of this interpretation is that if (DI) is correct there is at most one event that is both uncaused and inefficacious. This consequence is certainly unobjectionable to someone who believes that all events are caused. Kim, however, has recently argued⁸ that not all events are caused. Xanthippe's becoming a widow, for example, was, according to Kim, determined by Socrates' dying, but Xanthippe's becoming a widow was not caused by Socrates' dying or by any other event. If those events which, according to Kim are uncaused do not themselves cause any other events, then (DI) is clearly unacceptable for Kim. Although Kim does not say, it seems likely that his uncaused but determined events are themselves causes. For, example, Xanthippe's becoming a widow may have caused her becoming lonely, or it may have caused her putting the house up for sale. If so, then although Kim thinks that there is more than one uncaused event, he need not be understood as holding that there is more than one event which is both uncaused and inefficacious. Thus, he might not find (DI) objectionable on that count.

We should expect Kim to find (DI) unacceptable on other grounds, however. For if (DI) really does individuate events to Davidson's satisfaction, then it individuates them coarsely. But does (DI) individuate events coarsely? We

might first note that having all and only the same causes and effects is surely a necessary condition of event identity--necessary because it is a consequence of the principle of the indiscernibility of identicals. So, of course, identical events have the same causal properties.

Goldman, however, has claimed that events which Davidson identifies differ both with respect to their causes and their effects.⁹ Let us examine how this charge might be supported. Consider first the claim that events which Davidson identifies have different effects. According to a story told by Miss Anscombe, a man (intentionally) operates a pump, replenishes the water supply of a house, and poisons its inhabitants.¹⁰ Now clearly on Davidson's view and given the facts of the story, just one event has been picked out. The man's operating the pump is the same as his replenishing the water supply, which is the same as his poisoning the inhabitants. But if there is just one event here, and if (DI) is correct, then the man's operating the pump has the same effects as the man's replenishing the water supply and the man's poisoning the inhabitants. We may suppose that the man's operating the pump causes a clicking of the valves of the pump. But, according to the objector, it seems false to say that the man's replenishing the water supply or his poisoning the inhabitants causes the clicking of the valves.

Davidson is not without a reply, however. For he can

deny that the man's replenishing the water supply and his poisoning the inhabitants do not cause the clicking of the valves. After all, he can say, if events are seriously taken as coarse-grained, concrete entities, then it is clear that there is just one event variously described as an operating of the pump, a replenishing of the water supply, and a poisoning of the inhabitants; and it is that event which caused the clicking of the valves.

Let us try another example. Suppose that on some particular occasion Jones sings loudly and off-key. Then Davidson would identify the events of Jones' singing, Jones' singing loudly, and Jones' singing off-key. Let us suppose that Jones' singing off-key causes his voice teacher to become angry. The objector will maintain, however, that Jones' singing loudly did not cause his voice teacher to become angry. He might explain that Jones was supposed to sing loudly, and he might cite the voice teacher's remark, "I didn't mind his singing loudly; it was his singing off-key that bothered me."

Again, Davidson can reply. If events are concrete particulars, and the event of Jones' singing just is the event of Jones' singing loudly and the event of Jones' singing off-key; then it is that event which caused the teacher's becoming angry. The relevant aspect of the event of John's singing was that it was off-key. Talk of relevant aspects might be misleading, however. It is not

the aspect of being off-key, nor is it the property of being off-key, that caused the teacher's becoming angry, according to Davidson. For Davidson takes causation to be a relation between events, not between aspects (whatever they are) or properties and events. Similarly, unless Jones' singing's having the property of being off-key is an event, it is not the cause of the teacher's becoming angry. So what, then, does it mean to say that being off-key is the relevant aspect of Jones' singing relative to the teacher's becoming angry? I think that one way in which Davidson might try to answer this question is to note that Jones' singing off-key is relevant to an explanation of the teacher's becoming angry, in a way in which Jones' singing or his singing loudly is not relevant. At the end of his paper "Causal Relations"¹¹ there is a hint as to how Davidson might develop this suggestion. There he says that although the word 'cause' is typically used to express a relation holding between events, in sentences like 'The collapse was caused, not by the fact that the bolt gave way, but by the fact that it gave way so suddenly and unexpectedly', the word 'cause' expresses a relation holding between statements. This latter relation, he says, might be better expressed by the words 'causally explain'. Thus, according to Davidson, we are inclined to treat

- (4) The fact that the bolt gave way suddenly and unexpectedly caused the collapse

as true, and

(5) The fact that the bolt gave way caused the collapse as false, in the case imagined, because (4) and (5) are to be understood, respectively, as

(4') The statement that the bolt gave way suddenly and unexpectedly causally explains the collapse, which is true, and

(5') The statement that the bolt gave way causally explains the collapse, which is false. It is difficult to understand Davidson's claim that explanations relate statements and not events,¹² since in (4') and (5') 'causally explains' seems to relate a statement and an event. Ignoring this point, let us see whether we can construct a rebuttal to the objection of the last paragraph.

We were considering, in effect, a case in which

(6) Jones' singing off-key caused the teacher's becoming angry
was true, and

(7) Jones' singing loudly caused the teacher's becoming angry
was alleged to be false. If 'caused' in (6) and (7) expresses a relation between events and the truth values of (6) and (7) are as claimed, it follows that Jones' singing off-key is distinct from Jones' singing loudly. Now perhaps Davidson would say that someone who believes that (6) is true and (7) is false does so because in them 'caused' expresses a relation between a statement and an event. But what statement does 'caused' take in its first place in (6)?

Surely, not 'Jones' singing off-key', for that is not a statement. Perhaps we are to supply one, although it is not clear how to do so in general. We might try rephrasing (6) and (7) as

(6') The statement that Jones sang off-key causally explains the teacher's becoming angry

and

(7') The statement that Jones sang loudly causally explains the teacher's becoming angry.

Maybe Davidson would say that when someone thinks that (6) is true and (7) is false it is through understanding them as (6') and (7'), respectively. But this does not appear to be right. In the first place, (6') does not seem to be true. The statement that Jones sang off-key would surely play some role in an explanation of what caused the teacher's becoming angry, but it does not by itself explain the teacher's anger. We need in addition to be told, among other things, that Jones is a student of the teacher, that the teacher is a voice teacher, and that the teacher had expected Jones to sing on pitch. Davidson would not be open to this criticism if by 'causally explains' he means 'would enter into a causal explanation of', but then in the previous case (5') would be true, contrary to hypothesis. For the statement that the bolt gave way would surely enter into a causal explanation of the collapse, even though that statement does not by itself explain the collapse. Moreover, we do not seem to mean (6') when we assert (6). It is plausible, for example,

to argue from (6) to its existential generalization
 (6'') $(\exists e)(e \text{ caused the teacher's becoming angry})$,
 where e is an event and 'caused' expresses a relation
 holding only between events.

But Davidson need not insist that there is any confusion
 about (6) in making his rebuttal. He can admit that (6),
 understood in the sense in which it entails (6'') by ex-
 istential generalization, is true. He should also claim
 that (7) is true. He might then add that the objector mis-
 takenly thinks that (7) is false because he confuses it
 with the admittedly false (7'). This line of reasoning does
 not seem to me to be very convincing, however, unless we
 assume that Jones' singing off-key is identical to his sing-
 ing loudly. A more detailed account of the alleged ambiguity
 would certainly improve Davidson's case. Before drawing any
 conclusion, let us briefly consider the claim that events
 which Davidson identifies have different causes.

Consider again Jones' singing loudly and Jones' singing
 off-key. On Davidson's view of action it might be that
 Jones' singing loudly was caused by his desire to please
 his teacher,¹³ but, according to the objector, Jones' singing
 off-key was caused instead by his having a cold, which did
 not cause his singing loudly. Thus, it would appear that
 Jones' singing loudly and his singing off-key have different
 causes. Again, Davidson could reply that one ought to keep
 in mind that events are coarse-grained particulars. Since

Jones' singing loudly just is Jones' singing off-key, whatever caused the one caused the other. Since the event is complex (in some unspecified sense), there must have been a number of factors which contributed to its being the way it was. Jones' cold, for example, contributed to his singing's being off-key.

While I am sympathetic to the claim that events which Davidson identifies differ with respect to their causes and effects, I do not think that the claim is convincing enough to constitute a refutation of Davidson's theory. For Davidson can consistently deny that events, like those cited above, when conceived coarsely differ in their causes or effects. Nevertheless, the following weaker claim seems to me to be correct. Acceptance of Davidson's principle (DI) does not commit one to a coarse-grained view of events. For if one begins with a fine-grained theory of events, then events like Jones' singing loudly and his singing off-key do have different causes and effects.

In Section 2 of this chapter I tried to show that the positive considerations which Davidson urged in support of his theory of events do not in fact establish that events are coarsely individuated. In the present section I have tried to show that Davidson's principle of event identity does not require coarse-grained individuation, either. I turn now to more direct criticisms of Davidson's theory of events.

4. An Objection Involving Time. In this section and the two following I shall consider three objections to Davidson's theory of events. The first objection is put by Goldman as follows:

Suppose that John shoots George at noon but George does not die of his wounds until midnight. It is true that John killed George and that he killed him by shooting him; but is the killing the same as the shooting? Though it is clear that George's death occurs twelve hours after John shoots him, it seems false to say that George's death occurs twelve hours after John kills him. But if the death follows the shooting, but not the killing by twelve hours, the shooting and the killing must be distinct.¹⁴

The difficulty is quite general, although often the time difference is so small as to be unnoticeable. Thus, the cartridge explodes slightly after Jones pulls the trigger. Does the cartridge explode after Jones fires the gun? If not, Jones' pulling the trigger is distinct from his firing the gun. Jones pushes the plunger. Later the dynamite explodes. Does Jones' blasting occur before the dynamite explodes? If not, Jones' blasting is distinct from his pushing the plunger. Jones puts a pan of cake batter in an automatic oven. Is Jones' baking a cake over then? If so, it is done before the cake is.

Davidson accepts the consequence of identifying John's shooting George with John's killing George.¹⁵ If George died twelve hours later, then John killed him twelve hours before he died. Davidson suggests that we reconcile ourselves to this conclusion. Toward that end he distinguishes between describing an event in terms of its terminal state, as 'his

painting the barn red', the referent of which is not over until he has finished painting the barn, and describing an event in terms of one of its effects. Davidson thinks that to describe an event as a killing is to describe it as an event which has a death as an effect, that is, a killing is an event which causes someone's death.

But is there any reason to think that when we call an event a killing we merely mean that it is an event that caused a death? For one thing, not all events which cause deaths are killings. In fact, not even all actions which cause a death are killings, since someone can cause someone's death by having them killed. Moreover, negligent homicide seems to afford examples of someone killing someone without doing anything which causes the death. If I stood idly by while a train slowly approached the victim sleeping on the tracks, I might properly be said to have killed the victim, although no action of mine caused his death. My standing there did not cause his death; rather, the train's running over him did. Finally, it seems clear that 'John killed George' entails 'George is dead',¹⁶ yet on Davidson's view the former could be true while the latter is false, for a while, anyway. Thus, it seems as though Davidson is mistaken in identifying John's shooting George with John's killing George.

I do not think, however, that Goldman's objection is persuasive. For consider the alternatives to holding that John's killing George occurred at the same time as John's

shooting George. It seems to me that there are three alternatives. One is to say that John's killing of George occurred at the same time as George's dying. Another is to say that the time of John's killing George was the entire period commencing at the same time as John's shooting George began and ending at the same time as George's dying ended.¹⁷ Finally, one could say that there is no time at which (or throughout which)¹⁸ John's killing of George occurred, that some events occur but not at any time.

None of these alternatives seems particularly attractive. Perhaps the last one accords best with common sense. If we were asked when John killed George we might reply that it was last year, or last September, or the first week of September. But if we were pressed for more and more precise answers, we would ultimately reject the question and instead explain that John shot George at one time and that George did not die until another time, twelve hours later. This is some evidence that we would ordinarily refrain from assigning a time to John's killing George. But the concept of an event like John's killing George and the task of assigning times to such events are both technical. Our ordinary intuitions ought not be supposed to tell us how to determine the time of John's killing George any more than they ought be supposed to tell us what an event is. The most we can hope for is that our ordinary intuitions motivate and illuminate our philosophical claims. It seems to me to be philosophically neater to think

that for every event (which occurs) there is a time at which it occurs. For this reason the third alternative above ought to be rejected. If we reject it, then our philosophical concept of an event begins to diverge from our preanalytic concept. Moreover, it is not surprising that any attempt to fix the time of John's killing George will conflict with our ordinary intuitions, given that we would ordinarily refrain from assigning a time to it. What I intend to do here is to show that the only alternatives to Davidson's treatment of the time of a killing that seem to me to be at all reasonable also conflict with our intuitions. The conclusion to be drawn, I think, is that Davidson's attempt to fix the time of John's killing George is no more suspect than any other. And thus, Goldman's criticism of Davidson is unconvincing.

Consider the second alternative, that John's killing George occurred throughout the entire period beginning with John's shooting George and ending with George's dying. This suggestion has some plausibility in the analogous case of Jones' baking a cake. If Jones puts a pan of cake batter in an oven, it is somewhat plausible to suppose that Jones' baking a cake takes the entire time that the cake is in the oven, and not just the time that it takes Jones to put the pan in the oven and turn it on. Even if we suppose that the oven is self-timing, so that there is nothing Jones need do to bake the cake beyond putting the batter in the oven

and turning the oven on, it is tempting to say that Jones' baking the cake took the entire time that the cake baked. This brings the analogy closer to John's killing of George. If John's aim was good, there was nothing he had to do except shoot George to ensure that his killing of George would occur. Thomson considers someone (called 'A') who melts some chocolate by flipping the switch of an electric heater.¹⁹ She notes that if the heater took a while to heat up, it would be true right after A flipped the switch to say that A had flipped the switch, but false to say that A had melted the chocolate. She takes this as evidence that at that time A's flipping the switch had occurred and that A's melting the chocolate had not occurred (that is, had at least not finished occurring.)

There seems to me, however, to be an important objection to taking as the time of John's killing George the entire span including the times of his shooting George and George's dying. Moreover, the same objection applies to the first alternative above, that is, taking John's killing George to occur at exactly the same time as George's dying. It seems clear that 'John's killing George is occurring' entails 'John is killing George'. Suppose then, that immediately after shooting George, John turns the gun on himself and dies instantly. As before, we assume that George does not die until twelve hours later. If John's killing George occurs throughout the entire interval beginning with the shooting

and ending with the dying, or if John's killing of George occurs at the same time as the dying, then there will be times after John's death and before George's is over such that at those times 'John's killing of George is occurring' is true and 'John is killing George' is false. But that is impossible, if the entailment noted above holds. So the first two alternatives are unpalatable as well.

I do not pretend to have a solution to the problem of what time John's killing of George occurred. Given that the alternatives to saying that John's killing of George occurred at the same time as John's shooting of George are so unattractive, it is unconvincing to attack Davidson for identifying John's shooting of George with John's killing of George on the grounds that these events occurred at different times. If a successful objection is one that is not only true, but convincing as well, then this objection to Davidson is unsuccessful.

5. An Objection Involving Place. Another objection to Davidson's coarse-grained individuation of events is that events which Davidson identifies seem to occur at different places.²⁰ Before giving the objection in more detail, let us look at how events are located. It is certainly not always easy to locate events. Vaguely, events seem to occur where the objects that figure in them are. Thus, if John kisses Mary, the event of John's kissing Mary is located where John and Mary are at the time of their kissing.

Davidson shares this intuition and suggests the following principle: "the location of [an] event at a moment is the location of the smallest part of the substance a change in which is identical with the event."²¹

This principle is extremely unclear. Suppose that I cut my finger. Then my cutting my finger is a change in me. So the location of my cutting my finger is the location of the smallest part of me. Suppose that the smallest part of me is a particular atom in my pituitary gland. Then according to this principle, the location of my cutting my finger is wherever that atom in my pituitary gland is. But this is absurd. My cutting my finger occurred in at least the space occupied by my finger. Moreover, why suppose that if an event is a change in a substance that there is a unique substance a change in which is identical to the event? But that is what the principle requires. Suppose I cut my finger in the kitchen. In which substance is this event a change? Plausible candidates include my finger, my hand, me, and the kitchen.

Davidson could perhaps avoid the first of these objections by revising the principle so that the location of an event is the location of the smallest part of a substance a change in which part is identical to the event; and he could avoid the second objection by allowing that the location of an event is determined by the location of any substance a change in whose part is identical with the event.

Perhaps, if whenever an event is a change in a part of more than one substance, each such part overlaps all the others, then the revised principle is acceptable. For example, my finger's being cut is a change in a part of my finger, and it is a change in a part of my hand, but the smallest part of my finger in which it is a change occupies exactly the same space as the smallest part of my hand in which it is a change, and it is that space, according to the revised principle, where my finger's being cut is located.

We might note that the principle gives the location of an event at a moment. If an event occurs throughout an interval of time, it might be located in different places at different instants. Thus, if Boris strolls in Bologna some evening, his strolling might be found on Via Rizzoli at eight o'clock and on Via Zamboni at nine o'clock.

I do not know if the revised principle is acceptable. In particular, it is not obvious to me that an event cannot be a change in disjoint smallest parts of distinct substances. In fact, it seems likely that on Davidson's coarse-grained view of events, it will often be the case that an event is a change in parts of more than one thing where the parts occupy different spaces. But let us turn to the objection to Davidson's method of event individuation. Recall that in the passage quoted at the beginning of this chapter Davidson identified the event of my pointing the gun and pulling the trigger with the event of my shooting the

victim. Now the space where the smallest part of those substances a change in whose parts is my pointing the gun and pulling the trigger is clearly at most the space where the gun and I are. But the space where the smallest part of any substance a change in which part is my shooting the victim is at least the space occupied by the victim (or at least that part of him that is struck by the bullet). Given that I am not the victim, the locations of the two events are different, and so they are two events. I have stated the objection in Davidson-like language, but I need not have. My pointing the gun and pulling the trigger occurs in the space where the gun and I are. My shooting the victim occurs in the space where the victim and I are. Since the spaces are different, the events are different. Similar considerations show that my flipping the switch is distinct from my illuminating the room, and both of these are distinct from my alerting the prowler. Thus, I think that we can see that several events which Davidson identifies occur at different places, and so they are in fact distinct.

6. An Objection Involving the By-Relation. A final objection to Davidson's coarse-grained approach to events is due to Goldman,²² who notes a certain asymmetry between events which Davidson identifies. For it might be true, let us suppose, that

- (8) John shot George by pointing the gun and pulling the trigger,

but it is false that

- (9) John pointed the gun and pulled the trigger by shooting George.

To see how this makes a problem for Davidson, let us first make the simplifying assumption that

- (10) John shot George exactly once and John pointed the gun and pulled the trigger exactly once.

What (8) amounts to, according to a Davidson-like paraphrase, is

- (8') $(\exists x)(\exists y)((x \text{ is a shooting of George by John}) \ \& \ (y \text{ is a pointing the gun and pulling the trigger by John}) \ \& \ (By(x,y)))$.

If we assume, as Davidson does, that

- (11) John's shooting George is identical to John's pointing the gun and pulling the trigger,

then we may conclude from (11) and (10) that

- (12) $(x) (x \text{ is a shooting of George by John if and only if } x \text{ is a pointing the gun and pulling the trigger by John})$.

But now (12) and (8') entail

- (9') $(\exists x)(\exists y)((x \text{ is a pointing the gun and pulling the trigger by John}) \ \& \ (y \text{ is a shooting of George by John}) \ \& \ (By(x,y)))$.

However, (9') is the Davidson-like paraphrase of (9), which is false. So (9') is false. But if (9') is false, then so is (11). Thus, Davidson's identification of John's shooting George with John's pointing the gun and pulling the trigger is mistaken.

One reply to this argument is to question whether (8') is in fact a Davidsonian paraphrase of (8). There is good

evidence, however, to think that it is. In "Causal Relation"²³

Davidson translates

- (13) Jack fell down, which caused it to be the case that Jack broke his crown

as

- (13') There exists event e and e' such that e is a falling down of Jack, e' is a breaking of his crown by Jack, and e caused e'.

Similarly, he treats

- (14) Jack fell down before Jack broke his crown

as

- (14') There exist events e and e' such that e is a falling down of Jack, e' is a breaking of his crown by Jack, and e preceded e'.

It would only be natural to treat (8) similarly, that is, as (8').

Another possible reply is to question whether there is such a thing as a by-relation. After all, we know very little about it except that it holds between events and is alleged to be irreflexive and asymmetric. Is it also transitive? Goldman suggests that it is. Thomson proposes the following definition:²⁴

(TB) $\text{By}(\underline{x}, \underline{y}) =_{df} (\underline{z}) (\underline{x} \text{ causes } \underline{z} \supset \underline{y} \text{ causes } \underline{z})$

One drawback of (TB) is that it allows that the by-relation be reflexive. Perhaps this is unobjectionable, but it can be avoided by adding '& $\underline{x} \neq \underline{y}$ ' to the definiens. Is (TB) acceptable? I am not sure. As Thomson herself notes, in effect, it is not obvious that there are no pairs of distinct

events satisfying ' $(z) (\underline{x} \text{ causes } \underline{z} \supset \underline{y} \text{ causes } \underline{z})$ ' which do not also satisfy

(15) (S) (S does $\underline{y} \supset$ S does \underline{x} by doing \underline{y})

But any pair which satisfies ' $\text{By}(\underline{x}, \underline{y})$ ' must also satisfy (15). Nevertheless, even if (TB) does not define the by-relation, we do have a strong inclination to believe that (8) is true and (9) is false. In lieu of any alternative explanation of these sentences, it seems reasonable to treat them on the model of (8') and (9'), that is, as involving the by-relation, however that relation may finally be analyzed. We are justified in concluding, then, that not only is Davidson's positive support of his theory of events inadequate, but that his theory is beset with serious difficulties.

7. Appendix: "Under a Description". Twice in earlier chapters²⁵ I have postponed discussing Davidson's claims that actions are intentional "under a description" and that actions are explained only "under a description". In "Eternal vs. Ephemeral Events"²⁶ Davidson tries to explain his use of the expression "intentional under a description". He suggests the following:

It was intentional of Oedipus that there was an event that was his striking of the old man at the crossroads. But though that event was identical with his striking his father, it was not intentional of Oedipus that there was an event identical with his striking his father. We may harmlessly compress the point by saying: the striking of the old man was intentional under one description but not under another. This does not mean that the event did and did not have a certain property, but that the event, Oedipus, and a

certain description, have a relation that does not obtain between the same event, Oedipus, and a different description.²⁷

Davidson tries to motivate this manner of speaking in two ways. He notes first that "[p]art of the point...of speaking of an action or event 'under a description' is merely to make explicit the fact that some context is intensional."²⁸

For example, from

(16) It was intentional of Oedipus that there was an event that was his striking the old man

and

(17) the old man = his father

we cannot infer

(18) It was intentional of Oedipus that there was an event that was his striking his father.

Substitutivity of identicals breaks down in (16), and it is this fact to which Davidson wishes to call attention when he says that Oedipus' striking the old man was intentional under the description 'Oedipus' striking the old man' but not under the description 'Oedipus' striking his father'. So far, so good. Substitutivity of identicals does break down in contexts like that of (16), and it is no doubt worthwhile to emphasize this fact.

But Davidson goes on:

The remainder of the point depends on the mixed nature of certain attributions of attitude or intent: examples are knowing, acting intentionally, perceiving that something is the case, remembering, and being pleased that something is the case. At one time Oedipus was pleased to be married to Jocasta. It follows that he was married to Jocasta; and since Jocasta was his mother, that he was married to his mother. But he was

not pleased that he was married to his mother. 'Oedipus was pleased that he was married to Jocasata' thus expresses a relation between Oedipus and Jocasta, but the truth of the sentence depends on Jocasta's being described in one way rather than another. It is natural, therefore, to think of the sentence as expressing a relation between Oedipus, Jocasta, and a certain description of Jocasta. In explaining why Oedipus was pleased, we might want to make explicit reference to the description of Jocasta under which he was pleased to be married to her.²⁹

A couple of things about this passage are puzzling. First, Davidson says that (19) "thus expresses a relation between Oedipus and Jocasta." This remark is puzzling, because in the next sentence Davidson says that (19) also asserts that a certain three-place relation holds. What relation does (19) assert to hold between Oedipus and Jocasta? One possibility is that it is the relation expressed by 'x was pleased that he was married to y' We might be tempted, however, to think that this open sentence expresses no relation.³⁰ Given the truth of (19) and

(21) Jocasta = his mother,

it does not follow that

(22) Oedipus was pleased that he was married to his mother.

But if permitting substitution of co-designative singular terms is a necessary condition of a context's expressing a property, then the above open sentence does not express a property. It would be a mistake to draw this conclusion, though; for 'x was pleased that he was married to y' is ambiguous. On one reading it creates an opaque context on

its right. On another reading it does not. On this second reading it expresses a relation de re between the pleased and the one to whom the pleased is pleased to be married. Normally understood, (22) includes an instantiation of the opaque version of 'x was pleased that he was married to y'. There is another interpretation of (22) that includes an instantiation of the extensional version of the same open sentence; however, this interpretation would normally be expressed by something like the more perspicuous

(22') His mother is such that Oedipus was pleased to be married to her.

So perhaps when Davidson says that (19) expresses a relation between Oedipus and Jocasta, the relation he has in mind is the one expressed by the extensional version of 'x was pleased that he was married to y'. On the other hand, maybe he intends something fancier, like the relation expressed by 'x was pleased that he was married to y under the description 'Jocasta''. While I have an idea of what the extension of this predicate is, I have no idea as to what its intension is. I turn, however, to a matter of more immediate concern.

Davidson's main claim in the above passage is, I take it, that (19) ought to be treated as predicating a three-place relation of Oedipus, Jocasta, and the name 'Jocasta', that is, as

(19') x was pleased that he was married to y under description \propto (Oedipus, Jocasta, 'Jocasta').

Let us abbreviate 'x was pleased that he was married to y

under description α ' as 'Dplease'. Then Davidson's point is that (19) can be represented as

(19'') Dplease(Oedipus, Jocasta, 'Jocasta').

Given the three-place predicate 'Dplease' and the facts of the case, Davidson can note that (19'') in conjunction with (21) entails

(23) Dplease(Oedipus, his mother, 'Jocasta'), which is, therefore, also true. (It is read 'Oedipus was pleased that he was married to his mother under the description 'Jocasta'.) Davidson can also interpret (22) as

(22') Dplease(Oedipus, his mother, 'his mother').

Now (22') is false, but that is all right, since it is not entailed by (19'') and (21).

If we accept this interpretation of (19) and (22), then presumably we will be willing to interpret

(16) It was intentional of Oedipus that there was an event that was his striking of the old man

in an analogous fashion as

(16') It was intentional of x that there was an event identical to y under description α (Oedipus, Oedipus' striking of the old man, 'Oedipus' striking of the old man').

But without taking this additional step, let us ask whether Davidson's treatment of (19) as (19'') is plausible. First, there is one respect in which Davidson's approach is misleading. One might be tempted to think that the relevant description of Jocasta under which Oedipus was pleased to be married to her should be a description that Oedipus had

in mind or might have used. But that is not Davidson's view. Oedipus never had the descriptions 'Jocasta' or 'his mother' in mind, although he may have had in mind their Greek translations. Deciding which descriptions are relevant might be a problem for Davidson, but there is a more serious difficulty with his account, to which I now turn.

There is, it seems to me, a decisive reason for rejecting (19'') as a paraphrase of (19). It is, simply, that since 'Dplease' yields extensional contexts, (19'') entails

(24) There is a description 'Jocasta',
whereas (19) does not. If there were no attractive alternative account, then Davidson might try to argue that we are just ignorant of the linguistic facts entailed by (19). But there are alternatives. Here is one: Distinguish

(25) ($\exists x$) ($\underline{x} = \text{Jocasta} \ \& \ \text{Oedipus was pleased that he married } \underline{x}$)

from

(26) Oedipus was pleased that ($\exists x$) ($\underline{x} = \text{Jocasta} \ \& \ \text{he married } \underline{x}$).

Note that (25) but not (26) in conjunction with (21) entails

(27) ($\exists x$) ($\underline{x} = \text{his mother} \ \& \ \text{Oedipus was pleased that he married } \underline{x}$).

Even given (21) neither (25), (26), nor (27) entails

(28) Oedipus was pleased that ($\exists x$) ($\underline{x} = \text{his mother} \ \& \ \text{he married } \underline{x}$).

Note finally, that under appropriate assumptions (25), (26),

and (27) are true, (28) is false, (26) translates a common reading of (19), and (27) translates a common reading of (22).

There seems to be no reason why this account, familiar from treatments of the propositional attitudes of knowledge and belief cannot be extended to handle the intensional contexts created by 'It is intentional that...'. I conclude that there are problems with talk of action "under a description" and that Davidson has not dissolved these problems.

Notes to Chapter IV

¹"Actions, Reasons and Causes" Journal of Philosophy 60 (1963): 685-700, p. 686.

²"The Logical Form of Action Sentences" in Nicholas Rescher, ed., The Logic of Decision and Action (Pittsburgh, 1966): 81-95, p. 84.

³"The Individuation of Events" in Nicholas Rescher, ed., Essays in Honor of Carl G. Hempel (Dordrecht, 1969): 216-234, The quotations below, unless otherwise noted, are from pp. 217f. of this paper.

⁴"The Logical Form of Action Sentences" 84.

⁵Lawrence Davis makes a similar point, although he substitutes for identity a relation he calls the relation of "amounting-to". "Individuation of Actions" Journal of Philosophy 67 (1970): 520-530, p. 522.

⁶This is a naive account of explanation. For some of the difficulties facing such an account see Kim, "Events and Their Descriptions: Some Considerations" in Essays in Honor of Carl G. Hempel and "Causation, Nomic Subsumption, and the Concept of Event" Journal of Philosophy (1973): 217-236.

⁷Indeed, has been. See Kim's "On the Psycho-Physical Identity Theory" American Philosophical Quarterly 3 (1966): 231-232; and "Phenomenal Properties, Psychophysical Laws, and the Identity Theory" Monist 56 (1972): 177-192.

⁸"Noncausal Connections" Noûs 8 (1974): 41-52.

⁹"The Individuation of Action" Journal of Philosophy 68 (1971): 761-774, esp. pp. 765-767.

¹⁰Intention (Ithaca, 1957): 37-47. Like Davidson, Anscombe thinks that in the case described the man is performing only one action.

¹¹"Causal Relations" Journal of Philosophy 64 (1967): 691-703, esp. pp. 702f.

¹²Ibid. 703.

¹³Together with his belief that his singing loudly will please his teacher. This at any rate would be accepted by Davidson. See his "Actions, Reasons and Causes".

¹⁴Goldman, op. cit., 767. Davidson himself considers a version of this puzzle in "The Individuation of Events" pp. 229f. It is also discussed by Davis, op. cit., and Judith Jarvis Thomson, "The Time of a Killing" Journal of Philosophy 68 (1971): 115-132.

¹⁵"The Individuation of Events" 229f.

¹⁶"Individuation of Actions" 525.

¹⁷This is Thomson's view.

¹⁸In general, I use 'occurs at t' to mean 'occurs at t if t is an instant of time or throughout t if t is an interval of time.

¹⁹"The Time of a Killing" 121. I suspect, although I shall not elaborate, that 'melting' and 'baking' ought to be treated differently from 'killing' and 'blasting'. If so, the baking example might not be analogous to the killing

example.

²⁰I am not sure if this objection has been published. Thomson remarks that if you accept Davidson's account of the logical form of action sentences then "time and place make trouble for" his approach to event individuation. "Individuating Actions" Journal of Philosophy 68 (1971): 774-781, p. 780. She does not explain this remark.

²¹"The Individuation of Events" 228. I think that Davidson wishes to leave open the possibility that not all events are changes in a substance. If so, the principle should be restricted to those events which are changes in a substance, whatever that might mean.

²²"The Individuation of Action" 763. The claim that events which Davidson identifies are related by an asymmetric relation, the by-relation, is made by Goldman. The way in which I present this criticism is inspired by Thomson's discussion of Goldman's article. See her "Individuating Actions".

²³695f.

²⁴"Individuating Actions" 777.

²⁵Above pp. 12, 40.

²⁶Noûs 5 (1971): 335-349, esp. pp. 340f.

²⁷Ibid. 340f.

²⁸Ibid. 340.

²⁹Ibid.

³⁰As I was, until Fred Feldman convinced me otherwise. Incidentally, throughout this discussion I ignore, as does Davidson, the problem of indexical use of the pronoun 'he' in non-extensional contexts. See Hector-Neri Castaneda "Indicators and Quasi-indicators" American Philosophical Quarterly 4 (1967): 85-100.

CHAPTER V

CHISHOLM'S THEORY OF EVENTS AS STATES OF AFFAIRS

In several recent papers¹ Roderick Chisholm has presented and defended a theory of states of affairs. In terms of this theory he has attempted to do at least three things. First, he has tried to give a theory of events and propositions according to which these latter kinds of entities are species of states of affairs. Second, Chisholm has also tried to give a relational theory of time according to which talk of instants of time can be reduced to talk of the occurrence or non-occurrence of states of affairs. Finally, Chisholm has tried to show how talk of particular occurrences of states of affairs can be interpreted in such a way so as not to be committed to particular states of affairs or concrete events, in addition to "generic" states of affairs. In this chapter I shall be concerned with the first and the third of these enterprises. In the first three sections I shall briefly present Chisholm's theory. In the four following sections I shall consider various published criticisms of Chisholm's theory. I shall suggest that although they require modification of some of Chisholm's claims, they are not damaging. In the final three sections I shall present what I think are original criticisms of Chisholm's position. Some of them are perhaps minor. Others of them show, I believe, that Chisholm's theory

stands in need of major revision.

1. States of Affairs, Occurrence, and Recurrence.

Chisholm says that a state of affairs is "anything capable of serving as the object of belief, or of hope, of wonderment, or of any of those other intentional attitudes that take things other than attributes or individuals as their objects."² Thus, a state of affairs is anything which can be the object of a propositional attitude. Furthermore, states of affairs can be individuated by appeal to propositional attitudes. For any states of affairs p and q, p = q if and only if it is necessary that for any person S and propositional attitude A, S has A to p if and only if S has A to q.³

All states of affairs exist, but only some of them occur. For example, there being unicorns exists, and there being unicycles exists, for they both can be the object of a propositional attitude. Only the second, however, occurs. Of special importance for Chisholm's theory is the fact that states of affairs can recur, that is, they can occur more than once. Thus, there being a Republican President occurred for eight years during the 1950's, and it is occurring again now. In the interval between these two occurrences of this state of affairs there occurred its negation, that is, there not being a Republican President. According to Chisholm, every state of affairs has a negation, and whenever a state of affairs p is not occurring, its

negation, not-p, is. The notion of the negation of a state of affairs can be used to elucidate the concept of recurrence. Chisholm says, "an event recurs if and only if the event occurs and then after that the negation of the event occurs and then after that the event occurs."⁴

For any two states of affairs p and q, there is the conjunctive state of affairs, p & q. The state of affairs p & q occurs if and only if p occurs while q occurs.

Chisholm contrasts the occurrence of states of affairs and their negations and conjunctions with the truth of propositions and their negations and conjunctions.⁵ First, some truth involving negation.

(1) p is true or the negation of p is true,

(2) p is true if and only if the negation of the negation, of p is true

(3) If the negation of p is true, then p is not true.

Of these, the first two, but not the third, remain true if we replace the words 'is true' by 'occurs'. The third becomes false because it is possible that a state of affairs and its negation both occur. For example, suppose that there not being rain occurs at noon. It would be a mistake to conclude that there being rain does not occur, for it might occur at two o'clock.⁶ The following are truths about conjunctive propositions:

(4) If p & q is true, then p is true and q is true,

(5) p & q is true if and only if q & p is true,

- (6) $\underline{p} \ \& \ (\underline{q} \ \& \ \underline{r})$ is true if and only if $\underline{q} \ \& \ (\underline{p} \ \& \ \underline{r})$ is true,
- (7) If \underline{p} is true and $\underline{p} \ \& \ \underline{q}$ is not true, then $\underline{p} \ \& \ \underline{q}$ is true.
- (8) If \underline{p} is true and \underline{q} is true, then $\underline{p} \ \& \ \underline{q}$ is true,
- (9) If $\underline{p} \ \& \ \underline{q}$ is true, and $\underline{q} \ \& \ \underline{r}$ is true, then $\underline{p} \ \& \ \underline{r}$ is true,
- (10) If $\underline{p} \ \& \ \underline{q}$ is true, then $\underline{p} \ \& \ \underline{q}$ is not true.

Of these, the first four, but not the last three, remain true if we replace the words 'is true' by 'occurs'. The last three turn out false because a conjunctive event occurs only if its conjuncts overlap in time. Chisholm gives the following counter-examples to (8)-(10). Lincoln being President has occurred and Agnew being Vice President has occurred, but Lincoln being President and Agnew being Vice President has not occurred. Franklin Roosevelt being President and Truman being Senator has occurred and Roosevelt being President and Truman being Vice President has occurred, but Truman being Senator and Truman being Vice President has not occurred. Finally, Roosevelt being President and Truman being Vice President has occurred and so has Roosevelt being President and Truman not being Vice President.⁷

2. p Occurs Before q Begins. Chisholm introduces the locution 'p occurs before q begins', which he abbreviates 'pBq', and gives the following axioms governing its interpretation.⁸

$$A1 \ \underline{pBq} \supset \sim \underline{qBq}$$

$\Lambda 2$ \underline{p} occurs and \underline{q} occurs = (\underline{pBq} or \underline{qBp} or \underline{p} & \underline{q} occurs)

$\Lambda 3$ [\underline{pBq} and \underline{qBr} and $\sim(\underline{qBp})$] \supset \underline{pBr}

$\Lambda 4$ $\underline{pBp} \supset \underline{pB}\sim\underline{p}$

$A 5$ $\sim(p) (pB\sim p)$

The relation expressed by ' \underline{pBq} ' is not asymmetrical. Suppose that \underline{pBq} and that \underline{p} recurs. Then it might be that \underline{qBp} . So it does not follow from \underline{pBq} that $\sim(\underline{pBq})$. The relation expressed by ' \underline{pBq} ' is not transitive, either. Suppose that \underline{q} occurs, then \underline{r} , which occurs only once, then not- \underline{q} , then \underline{p} , which occurs only once, and then \underline{r} again. In this case, \underline{pBq} is true, since \underline{p} occurs before the second occurrence of \underline{q} , \underline{qBr} is true, since the first occurrence of \underline{q} occurs before \underline{r} begins, but \underline{pBr} is false. Also, it follows from A2 that \underline{pBq} entails that \underline{p} occurs and \underline{q} occurs.

In terms of his primitive locution, Chisholm goes on to give the following definitions:⁹

(D1) \underline{p} recurs (or \underline{p} occurs at least twice) =_{df} \underline{pBp} ,

(D2) \underline{p} always occurs =_{df} not- \underline{p} does not occur,

(D3) \underline{p} occurs exactly once =_{df} \underline{p} occurs and $\sim(\underline{pBp})$,

(D4) \underline{s} occurs during \underline{p} 's first occurrence =_{df} there is a \underline{q} such that \underline{q} occurs exactly once, \underline{q} & \underline{s} occurs, \underline{q} & \underline{p} does not occur, and $\sim(\underline{pBq})$,

(D5) There is something that occurs during what is at least \underline{p} 's n^{th} occurrence =_{df} there is an \underline{s} such that \underline{s} occurs exactly once, and there is a \underline{q} and an \underline{r} such that: \underline{q} occurs exactly once, \underline{q} occurs

during \underline{p} 's occurrence $\underline{n-1}$, \underline{qBr} , \underline{rBs} , \underline{p} & \underline{s} occurs, and \underline{p} & \underline{r} does not occur.

- (D6) \underline{p} occurs exactly \underline{n} times =_{df} there is something that occurs during what is at least \underline{p} 's $\underline{n}^{\text{th}}$ occurrence and nothing that occurs during what is at least \underline{p} 's occurrence $\underline{n+1}$.

These definitions define expressions purporting to denote particular occurrences of a state of affairs \underline{p} without using any term that refers to particular occurrences of a state of affairs. Thus, by means of these definitions, Chisholm hopes to show how we can reduce talk of particular occurrences of states of affairs to talk just about states of affairs. Since, as we shall see in the next section, Chisholm regards events as a certain subclass of states of affairs, he thinks that these definitions provide a method of eliminating talk of particular or concrete events in favor of his "generic" events.

3. Events, Propositions, and Truth. Propositions, in the sense of those entities "such that the laws of propositional logic may be interpreted as being applicable to them," may be defined according to Chisholm by the following definition.

- (D7) \underline{p} is a proposition =_{df} \underline{p} is a state of affairs & it is necessary that either \underline{p} or not- \underline{p} does not occur.

It follows, according to (D2), Chisholm notes, that a

proposition is any state of affairs which is necessarily such that either it or its negation always occurs.¹⁰

And an event may be defined according to the following definition:

(D8) p is an event =df (i) p is a contingent state of affairs, (ii) p is not a proposition, and (iii) p implies change.

A state of affairs implies change, according to Chisholm, if and only if it implies that there is some state of affairs p such that p occurs and not- p occurs.

Some states of affairs, then, are propositions, some are events, and some are neither.

Thus that state of affairs which is John walking at 3 P.M., E.S.T., on February 5, 1970, will be a proposition, for it is necessarily such that either it or its negation does not occur. But that state of affairs which is John walking will be an event; for it is contingent, it is possibly such that both it and its negation occur, and it implies change. And that state of affairs which is John sitting will be neither a proposition nor an event.¹¹

Finally, Chisholm proposes a theory of truth in terms of the occurrence of states of affairs. A proposition p is true if and only if p occurs, and p is false if and only if p does not occur. Moreover, if facts are states of affairs that occur, then true propositions bear the relation of identity to the facts they "correspond to".

4. Existence and Occurrence. A possible objection to Chisholm's view might be thought to lurk in the following passage from a paper by Gertrude Ezorsky.¹²

Professor Chisholm does not argue that any alternative to this view is necessarily false, only that the metaphysical view [that there are states of affairs] can clarify some issues in the analysis of language. Since the metaphysical view is not necessarily true, then its denial, "There are no states of affairs," must be significant. But according to the metaphysical view, [there] is a state of affairs corresponding to every significant sentence. In that case, there must be a state of affairs corresponding to the significant sentence, "There are no states of affairs," namely, the state of affairs, such that there are no states of affairs. But surely that state of affairs is paradoxical.¹³

There are, of course, several lacunae in the above argument. It does not follow from the fact that Chisholm did not argue that alternatives to his view are necessarily false, that his view is not necessarily true. Nor need it be shown that a sentence is not necessarily false in order to show that it is significant, in the sense that it is meaningful. But, more to the point, what is paradoxical about the state of affairs, there being no states of affairs? Well, suppose that it occurs. Then it follows both that there are no states of affairs and that there are states of affairs (since it is one). This proves, of course, that it does not occur. But this is harmless enough, for Chisholm is not committed to the occurrence of every state of affairs, only the existence. And no contradiction follows from supposing that the above state of affairs exists.

5. The Problem of Adverbial Modification. An objection, made repeatedly, by Davidson goes as follows:

An adequate theory [of events] must give an account of adverbial modification; for example, the conditions under which [11] 'Sebastian strolled through

the streets of Bologna at 2 A.M.' is said to be true must make clear why it entails [12] 'Sebastian strolled through the streets of Bologna.'¹⁴

Davidson's own theory treats (11) and (12) as

(11') (Ex) (Strolled(Sebastian, x) & Through(the streets of Bologna, x) & At(2 A.M., x)), and

(12') (Ex) (Strolled(Sebastian, x) & Through(the streets of Bologna, x))

The desired inference, on this account, goes through as a matter of logical form. But how can Chisholm explain this inference? If he renders (11) and (12) as

(11'') (Ex) (x is the strolling of Sebastian through the streets of Bologna at 2 A.M. & x occurred), and

(12'') (Ex) (x is the strolling of Sebastian through the streets of Bologna & x occurred)

then it is not obvious why the inference holds.¹⁵

We might note that if the claims made in Chapter III are correct, then Davidson's account of the logical form of action sentences is defective, and thus he has not given a satisfactory explanation of the above inference, either. Moreover, there is a reason, it seems to me, to think that particular events are not needed to account for the entailment of (12) by (11). For consider

(13) The White House is white on Thursday, and

(14) The White House is white.

Clearly, (13) entails (14), but if we are to account for this inference in an analogous fashion, we must suppose that there

is a state of being white in which the White House is and in which it is on Thursday. That is perhaps not so far-fetched, but the extra entity required is not an event. The difficulty is that as we multiply examples we seem to have to multiply entities which by quantifying over we account for certain inferences. Thus Romane Clark¹⁶ suggests that

(15) Jones was staggering drunk, from wine, in his room,
at 10:00 A.M.

entails

(16) Jones was drunk at 10:00 A.M.,

and that

(17) Smith is an alumni trustee, of Duke, in Durham, for
an unexpired term of two years, starting in '66

entails

(18) Smith is a trustee of Duke.

To account for the former inference in Davidson-like fashion, we need to quantify over a state; to do the same for the latter, we need to quantify over an office. There is no reason why we cannot introduce an appropriate entity to quantify over in each case, but a more general treatment of the type of inference in question would certainly be more elegant.

Such a more general treatment is suggested by Terence Parsons¹⁷ and Romane Clark¹⁸. On their approach a predicate modifier like 'from wine' is an operator which maps the

property expressed by 'is drunk' onto a new property (expressed by 'is drunk from wine'). Clark suggests that for standard modifiers (like 'in Bologna', 'at 2 A.M.', 'from wine', but excluding what Chisholm¹⁹ calls "pseudo-adverbial expressions" like 'apparently', 'in the imagination', and 'nearly') a principle of predicate detachment holds, and it is this principle which licenses the above inferences. Surely this theory needs to be worked out in greater detail. But we have seen enough, I think, to see that the proper response to Davidson's objection is to deny that an adequate theory of events need account for inferences like the one from (11) to (12).

6. Two Schemata. In order to account for the mutual entailment of

(19) There occurs that event which is the strolling of Sebastian in Bologna at 2 A.M., and

(20) Sebastian strolls in Bologna at 2 A.M.

Chisholm introduces the following two schemata, where 'p' may be replaced by any well-formed sentence and 'not-p' by its negation:

(A) $(\text{Ex}) [(\underline{x} \text{ consists in the fact that } \underline{p}) \ \& \ (\underline{x} \text{ occurs})] \equiv \underline{p}$,

(B) $(\text{Ex}) [(\underline{x} \text{ consists in the fact that } \underline{p}) \ \& \ (\underline{x} \text{ occurs})] \equiv \text{not-}\underline{p}$.²⁰

These principles, Chisholm says, "could be said to reflect, in part, our commitment to states of affairs." Given that statement (19) is an "informal rendering" of

- (21) (Ex) (x consists in the fact that Sebastian strolls in Bologna at 2 A.M. and x occurs),

principle (A) accounts for the fact that (19) and (20) entail each other.

Principles (A) and (B) are puzzling, however. As we saw in Section 3, Chisholm defines a fact as a state of affairs which occurs. Thus, for any state of affairs p, 'the fact that p' is a proper description just in case p occurs. Since if p does not occur, not-p occurs, it follows from (B) that if p does not occur there is something which consists in the fact that p and which does not occur. But what can that be, especially if there is no such thing as the fact that p? Perhaps Chisholm means to be using 'the fact that p' in this context as a synonym for 'the state of affairs that p'. But again suppose that p does not occur. What is it that (B) says exists, consists in the state of affairs that p, and does not occur? The simplest answer would be p, itself, although I do not know if this is what Chisholm intends.

Chisholm gets more use out of his locution 'consists in p' in replying to an objection of Davidson's. Davidson had noted that if Sebastian strolled in the streets of Innsbruck, then he took a stroll that was not in the streets of Bologna.²¹ Davidson then asked how Chisholm would analyse

- (22) Sebastian took a stroll that was not in the streets of Bologna,

noting that

- (23) (Ex) (x is the strolling of Sebastian & x was not in the streets of Bologna & x occurred)

would not suffice. For if (23) is an adequate rendering of (22), then

(24) (Ex) (x is the strolling of Sebastian & x was in the streets of Bologna & x occurred)

should translate

(25) Sebastian took a stroll in the streets of Bologna. But, given that there is only one state of affairs that is the strolling of Sebastian, (23) and (24) contradict each other, although the unanalyzed (22) and (25) do not.

In response to this objection, Chisholm admits that (23) is not an adequate rendering of (22), and suggests instead

(26) (Ex) (x consists in the fact that Sebastian strolled & x occurred in a place wholly other than Bologna).²²

Now (26) is informative only if we understand what it is to consist in a fact. Are there many things that consist in the fact that Sebastian strolled? Or is there just one? The following is a slight reason for believing that Chisholm thinks that there is just one. He was careful to put the clause that Sebastian's strolling did not occur in Bologna in a positive way, that is, as in (26) and not as in

(26') (Ex) (x consists in the fact that Sebastian strolled & x did not occur in the streets of Bologna).

This suggests that Chisholm wanted to allow for the possibility that (25) is also true and analyzed as

(27) (Ex) (x consists in the fact that Sebastian strolled & x occurred in Bologna),

without contradiction. But, of course, (26') and (27)

contradict each other only if there is just one thing that consists in the fact that Sebastian strolled. A better reason is provided by Chisholm's claim, noted above, that

- (19) There occurs that event which is the strolling of Sebastian in Bologna at 2 A.M.

is an "informal rendering" of

- (21) (Ex) (x consists in the fact that Sebastian strolls in Bologna at 2 A.M. and x occurs).

Certainly (19) implies the uniqueness of the event in question. If it is that event which is what consists in the fact that Sebastian strolls in Bologna at 2 A.M. and occurs, then (21), and also (26) should be taken as asserting uniqueness.

Davidson replies to Chisholm's acceptance of (26) as the translation of (22) as follows:

This solution leaves us with two problems. First, we do not know what the following well-formed sentence means: 'There is an x such that x is the strolling of Sebastian and x is not in the streets of Bologna' (since Chisholm agrees that this doesn't mean that Sebastian took a stroll that was not in Bologna). And second, the solution works only on an ad hoc basis, by finding some positive characteristic to replace a negative.²³

Davidson's first problem can be easily answered, I think.

The sentence in question means that Sebastian never strolled in Bologna. The second problem might be more serious. I think that it might be related to the following difficulty.

Suppose

- (28) Sebastian took a stroll that was pleasant.

Does (28) go over into

- (29) (Ex) (x consists in the fact that Sebastian strolled & x occurred and x was pleasant)?

If it does, then

(30) Sebastian took a stroll that was unpleasant
presumably gets treated as

(31) (\underline{Ex}) (\underline{x} consists in the fact that Sebastian strolled
& \underline{x} occurred & \underline{x} was unpleasant).

On the assumption that there is just one thing that consists in the fact that Sebastian strolled, (29) and (31) are contradictory, although (28) and (30) can both be true if Sebastian took at least two strolls. Can (30) be analyzed in a way that avoids this difficulty?

A feature common to both (22) and (25), and (28) and (30) is that there are truths about some occurrences of an event that are not truths about other occurrences of that event. Since Chisholm does not want to speak of particular occurrences of an event, he must engage in some circumlocution to accommodate such cases as we have been considering. Thus, suppose that Sebastian strolled just twice and that his first stroll was pleasant and his second unpleasant. Since (28) reports Sebastian's first stroll, perhaps Chisholm could treat it as

(32) (\underline{Ex}) (\underline{x} consists in the fact that Sebastian strolled & \underline{x} occurred & (\underline{Ey}) (\underline{y} consists in the fact that Sebastian's stroll was pleasant & \underline{y} occurs during \underline{x} 's first occurrence)).

(Recall that ' \underline{s} occurs during \underline{p} 's first occurrence' is defined by D4, above.) Better yet, (32) could be simplified and the expression 'consisting in the fact' dropped:

(33) Sebastian's stroll being pleasant occurs during Sebastian's strolling's first occurrence.

Perhaps, in a similar manner, other claims about particular occurrences of an event can be stated.

We are still left with (A) and (B), and there is a further difficulty with them. Consider some state of affairs that recurs, say, there being rain. If this state of affairs recurs, then there being rain occurs and there not being rain occurs. Thus,

(34) $(\exists x)(\underline{x} \text{ consists in the fact that it is raining \& } \underline{x} \text{ occurs}),$

and

(35) $(\exists x)(\underline{x} \text{ consists in the fact that it is not raining \& } \underline{x} \text{ occurs}).$

By principle (A) and (34) we can infer

(36) It is raining.

By principle (A) and (35) we can infer

(37) It is not raining.

Now (36) and (37) need not be contradictory; since the fair weather and foul weather they report either occurred at different times or at different places, they do not affirm and deny the same proposition. However, (37) and principle (B) yield

(38) $(\exists x)(\underline{x} \text{ consists in the fact that it is raining \& } \underline{x} \text{ does not occur}).$

But the conjunction of (34) and (38) is inconsistent with there being just one thing that consists in the fact that p. I suggested above that the expression '($\exists x$) (x consists in the fact that p)' would be intelligible if for each sentence

'p' there was just one entity consisting in the fact that p, namely, the state of affairs that p. If this suggestion is adopted, then (A) and (B) are incompatible with there being any recurrent events. Since there being recurrent events is an important feature of Chisholm's theory. (A) and (B) are inconsistent with Chisholm's theory.

On the other hand, there might be more than one thing which consists in the fact that it is raining.²⁴ If so, (34) and (38) are not inconsistent. However, if this option is taken, if in general for any sentence 'p' there can be more than one entity which consists in the fact that p, then I have no idea what it is for something to consist in the fact that p. I think that Chisholm would be better off without (A) and (B). That would leave the mutual entailment of

(19) There occurs that event which is the strolling of Sebastian in Bologna at 2 A.M., and

(20) Sebastian strolls in Bologna at 2 A.M.

unaccounted for,²⁵ but since (19) is in the technical language of Chisholm's theory, he can simply tell us what it means, that it is, in fact, a fancy way of expressing (20).

7. Another Objection. Chisholm considers a number of objections to his theory, among them, the following:

"Your view requires us to say that that state of affairs which is Nixon's being in Washington is not the same state of affairs which is Johnson's successor being in Washington. But that event which is Nixon's being in Washington is the same event which is Johnson's successor being in Washington. Therefore your view is not adequate to the concept of an event."²⁶

Chisholm replies to this objection as follows:

But is Nixon's being in Washington the same event as Johnson's successor being in Washington. Or, more precisely, if N is there being one and only one man who is identical with Nixon and is in Washington, and if J is there being one and only one man who is identical with Johnson's successor and is in Washington, is N identical with J? Surely not, for we can say of N, but not of J, that had Humphrey won, it would not have occurred.²⁷

We might note that if John's sitting is not an event (because it does not imply change), then Nixon's being in Washington is not an event either. Rather, it should be a state of affairs that is neither an event or a proposition. I shall claim below that this distinction has not been clearly drawn, and so we may safely ignore this point. Aside from this minor flaw, then, what Chisholm says seems to be right. Davidson, however, does not agree. He says,

If this were a good argument, we could unhinge other true identity-statements: compare 'We can say of Nixon, but not of Johnson's successor, that had Humphrey won, he would not have been president. Therefore Nixon is not Johnson's successor.'²⁸

Davidson seems to be suggesting that Chisholm's argument is invalid, that there are instances of it with true premisses and a false conclusion. If this is Davidson's claim, he has not put it convincingly, for, as Chisholm notes, the premisses Davidson offers are not both true. Davidson's argument may be written like this:

- (39) Nixon is such that he would not have been president had Humphrey won.
- (40) Johnson's successor is such that he would have been president had Humphrey won.

∴ (41) Nixon ≠ Johnson's successor.

This is indeed an argument with a false conclusion, and it does have the same form as Chisholm's argument. But it does not show Chisholm's argument to be invalid, since the second premiss is false. We might put Chisholm's argument like this:

(42) N is such that it would not have occurred had Humphrey won.

(43) J is such that it would have occurred had Humphrey won.

∴ (44) N ≠ J.

We may assume that we are given (42). Is (43) also true? If the expression 'J' abbreviates denotes a state of affairs, then presumably it is. If, however, the expression 'J' abbreviates denotes a particular event of the sort favored by Davidson, then perhaps it is not.³⁰ At any rate, it is not clear that Chisholm has committed a fallacy. And while his argument may not be sufficient to convince someone who does not accept states of affairs, it is at least a consistent reply to the objection against which it was intended. And so that objection, anyway, is not damaging.

8. Chisholm's Definition of 'Event'. I turn now to what I think are more important difficulties with Chisholm's theory of events. The first has to do with certain puzzles about his definition of 'event'. Recall that the definition is

(D8) p is an event =_{df} (i) p is a contingent state of affairs, (ii) p is not a proposition, and (iii) p implies change.

I wonder first whether anything is added to the definition by requiring that events be contingent. Suppose that 'p' is restricted to states of affairs. Does clause (i) add anything not contained in clause (ii)? I suspect that it does not. Suppose that some state of affairs p is not contingent. Then either it is necessary that p always occurs or it is necessary that p never occurs. Consider the first case. If it is necessary that p always occurs, then by (D2), it is necessary that not-p does not occur. But if it is necessary that not-p does not occur, then p is such that necessarily either it or its negation does not occur. But that is just to say, in virtue of (D7), that p is a proposition. Consider the second case, that it is necessary that p never occurs. Then p is such that necessarily either it or its negation does not occur. But again, by (D7), it follows that p is a proposition. Thus, if a state of affairs p is not contingent, then it is a proposition. Conversely, if p is not a proposition, then it is contingent. So clause (ii) or (D8) entails clause (i). I have two reservations about this argument. First, (D2) was used, and it might not be adequate. Second, I have had to supply a definition of a state of affairs being contingent, and Chisholm may have intended some other definition. We are surely justified in asking, however, what Chisholm intends to add to (D8) by including clause (i).

Secondly, I wonder whether clause (iii) adds anything to the definition of 'event', or more exactly, I wonder what

clause (iii) amount to. Chisholm says that a state of affairs p implies change just in case p implies that there is some state of affairs q such that q occurs and not- q occurs. But what is this relation of implication holding between states of affairs? Well, one possibility is that it is the relation of material implication, about which there are many truths of logic. But as we have seen, Chisholm interprets the laws of logic as being about propositions, and not events. Thus, material implication has not been defined for events, or for states of affairs generally. We might try

(D9) p (materially) implies $q =_{df}$ If p occurs then q occurs, where p and q are states of affairs and the conditional on the right-hand side is understood as a material conditional. But given that there are events that recur, for example, there being rain, it follows trivially that every state of affairs p is such that if p occurs then there is a q such that q occurs and not- q occurs. So if (D9) is taken as defining the sense of implication Chisholm has in mind, no state of affairs fails to imply change. But Chisholm insists that states of affairs like John's sitting³¹ or Jones' automobile being in his garage³² are neither events nor propositions. So perhaps the following definition is more appropriate:

(D10) p implies $q =_{df}$ It is necessary that if p occurs then q occurs,

where p and q are states of affairs. According to (D10) John's sitting implies change only if in every possible world

in which John's sitting occurs there is some state of affairs q such that q occurs and not- q occurs. Is it true that in every possible world in which John's sitting occurs there is a q such that q occurs and not- q occurs? I suspect that it is, although I am not sure how to answer the question. One somehow feels that John could not exist if he did not at least do a little thinking, and if he did, there would be some state of affairs such that both it and its negation occur. Regardless of how we answer the question, I think it is clear that Chisholm is committed to an affirmative answer. Consider the following passage:

I shall make three metaphysical assumptions: (1) that no event is followed by its negation unless some individual thing alters or comes into being or ceases to be; (2) that every individual thing is such that, for any two moments of its existence, it has some properties at the one moment it does not have at the other; and (3) that nothing is capable of "two beginnings of existence" i.e., if a thing ceases to be then it itself does not come into being again. These assumptions guarantee that, as long as there are individual things, ...for any interval of time something is occurring throughout that interval that does not occur at any other interval.³³

I think that by calling these assumptions "metaphysical", Chisholm means to suggest that they are necessarily true. Moreover, he adds in a footnote that "given a proper conception of time, the statement expressing the second of these assumptions can be shown to be analytic."³⁴ Thus, I think that Chisholm is committed to holding that in every possible world every individual thing is such that, for any

two moments of its existence, it has some properties at the one moment it does not have at the other.³⁵ So consider those worlds in which John's sitting occurs and pick any two moments at which John exists in any such world. At the one moment John has a property which he lacks at the other. Pick any such property and call it 'F'. Then John's being F occurs at the one moment and John's not being F occurs at the other. Thus, in any world in which John's sitting occurs, there is some state of affairs q such that both q and $\text{not-}q$ occur. But then, by (D10), John's sitting implies change. So John's sitting is an event, after all. This argument shows that any state of affairs which implies (in the sense of (D10)) that there is some individual thing, implies (in the sense of (D10)) that there is change. And so any such state of affairs will be an event, if it is not a proposition.

Are there any states of affairs that are neither events nor propositions? On the assumption that (D10) gives the sense of 'implies' which Chisholm intended, I have not been able to think of any state of affairs which is neither an event nor a proposition. Of course, it does not follow that there are none. On the other hand, maybe Chisholm would reject (D10).

A final suggestion comes from Chisholm, himself. In a footnote he says that "we may define a sense of entailment that is stronger than logical implication: 'p entails q

provided only it is necessary that (i) p implies q and (ii) anyone who accepts p also accepts q .'"³⁶ Let us call the relation Chisholm here defines 'C-implication'. Then we can state the following definition:

(D11) p implies q =_{df} p C-implies q

Is (D11) of any help in making sense of (D8)? I think not. According to (D8), if a state of affairs, say, John's walking, is an event, then John's walking implies that there is some state of affairs q such that q occurs and not- q occurs. And according to (D11), this latter holds only if it is necessary that anyone who accepts John's walking accepts there being some q such that q occurs and not- q occurs. But, of course, this is not necessary. Suppose that someone who does not think that states of affairs have negations accept John's walking. Then that person, if consistent, will not also accept there being some state of affairs q such that q occurs and not- q occurs. But then if (D11) is right, John's walking does not imply change, and so it is not an event. Chisholm, of course, would think that John's walking is an event, so (D11) must not capture his intention in clause (iii) of (D8). The difficulty with (D9) and (D10) was that they allowed more states of affairs to be events than Chisholm wants. The difficulty with (D11) is that it does not allow as many as Chisholm wants.

We might wonder why Chisholm would want to make the distinction between events and states of affairs which are

neither events nor propositions. If there is no compelling need to make the distinction, then it is no loss if it has not been made clearly. Since Chisholm has not told us why he wants to make the distinction, we can only speculate as to how serious the objection that I have been making is.

9. Counting. Chisholm's theory, like any fine-grained theory of events, immediately faces some difficulties due simply to the plethora of entities it posits. One such difficulty is to make sense of our ordinary concept of an event in terms of the myriad of events presupposed by the theory. For example, suppose that Sir Walter Scott was knighted at night with honor. We might ordinarily say, in this case, that one knighting occurred. But on Chisholm's theory, when Scott was knighted, at least the following events occurred: Sir Walter Scott's being knighted; Sir Walter Scott's being knighted at night; Sir Walter Scott's being knighted with honor; Sir Walter Scott's being knighted at night with honor; the author of Waverley's being knighted; etc. Clearly these are all distinct, on Chisholm's view, since for any pair of these states of affairs someone could believe one and not believe the other, or expect the one and not expect the other, or hope for the one and not hope for the other, and so on for the other attitudes.

It is instructive to see that two maneuvers open to Kim are not available to Chisholm. Consider first the two events, Scott's being knighted and Scott's being knighted at

night. Assuming they both occurred³⁷ and that no one else was knighted then, just one knighting occurred. According to Kim the first of these is Scott's having the property of being knighted (at a time t), and the second is Scott's having the property of being knighted at night (at t). Kim can go on to say that since only the constitutive property of the former is being knighted, only the former is a knighting; to count knightings you count instances of the property being knighted.³⁸ This move is not open to Chisholm, however, since his theory has no room for constitutive properties.

Or consider Scott's being knighted and the author of Waverley's being knighted. According to Kim, these two descriptions each describe the same individual having the same property and so, assuming they occurred at the same time, describe just one event. On the other hand, Chisholm is committed to holding that Scott's being knighted is distinct from the author of Waverley's being knighted, since someone ignorant of the identity of Scott and the author of Waverley could believe the one and not believe the other.

The events of our intuitions are, if not coarse-grained, at least medium-grained, and Chisholm has not shown how they might be reconstructed out of his fine-grained ones. Nor is there any obvious way of doing so. But until this is done, Chisholm's theory would seem to be unable to make clear sense of our preanalytic intuitions about events.

10. Same Time, Different Place. Chisholm's theory is designed to accommodate states of affairs which occur at some time and whose negations occur at other times. But his theory also allows the possibility that an event might occur in a certain place while its negation occurs in another place at the same time. But this possibility makes trouble for some of Chisholm's definitions. Consider first Chisholm's definition of recurrence:

(D1) \underline{p} recurs (or \underline{p} occurs at least twice) =_{df} $\underline{p}\underline{B}\underline{p}$.

Informally, Chisholm explains recurrence as "if an event \underline{p} recurs, that is, if \underline{p} occurs at least twice, then \underline{p} occurs, \underline{p} is followed by its negation, and \underline{p} follows its negation."³⁹ But this formal definition does not require that an event occur followed by its negation and then occur again. It merely requires that for an event to recur, some occurrence of it must occur before another occurrence. Suppose that it only rains twice, and that both occurrences of there being rain occur on the same day. Suppose, furthermore, that on that day it rains in Chicago from 8:00 A.M. to 9:00 A.M., and it rains in Grand Rapids from 8:30 A.M. to 9:30 A.M. It seems clear that there being rain has occurred twice. It also seems to be the case that there being rain has occurred before there being rain begins. But it is not the case that there being rain occurs, followed by there not being rain, followed by there being rain. So Chisholm's formal definition of recurrence does not capture his informal

explanation.

A reply to this objection might be as follows: Axiom

(A4) $\underline{pBp} \supset \underline{pB} \sim \underline{p}$

requires, it might be claimed, that ' \underline{pBp} ' should be understood as saying that an occurrence of \underline{p} finishes occurring before an occurrence of \underline{p} begins to occur, rather than as saying that an occurrence of \underline{p} begins before another occurrence of \underline{p} begins. Again suppose that it only rains twice, but this time suppose that it begins to rain at 8:00 A.M. in Chicago and continues forever, and it begins to rain at 8:30 A.M. in Grand Rapids and continues forever. In this case it is inconsistent with (A4) to assert that there being rain occurs before there being rain, for there is no occurrence of there not being rain which begins after either of the occurrences of there being rain.

In the case as originally described, that is, when it rained only from 8:00 A.M. to 9:00 A.M. in Chicago and from 8:30 A.M. to 9:30 A.M. in Grand Rapids, there is an occurrence of there not being rain which begins after an occurrence of there being rain. So this case does not violate (A4). What I think that this points out, however, is that Chisholm's axioms (A1)-(A5) do not specify a unique relation. On the one hand they seem to be consistent with ' \underline{pBq} ' being interpreted as 'there is an occurrence of \underline{p} which finishes before some occurrence of \underline{q} begins'. On the other hand, they seem to be consistent with ' \underline{pBq} ' being

interpreted as 'there is an occurrence of p that begins before some occurrence of q begins, unless $p=q$ and there is no occurrence of not- p beginning after an occurrence of p , in which case there is an occurrence of p that finishes before an occurrence of q begins'.

The original objection could have been stated in a way which avoids the controversy over the interpretation of ' pBq '. Again suppose that it never rains except that there is a time t_1 , such that it begins to rain at t_1 in Chicago, and there is a later time t_2 such that it rains in Chicago at every time after t_1 up to, but not including, t_2 . Also, it begins to rain in Grand Rapids at t_2 . Clearly it is the case that there is an occurrence of there being rain which finishes occurring before another occurrence of there being rain begins, thus satisfying the definiens of (D1). But again, it is not the case that the event of there being rain is such that "the event occurs and then after that the negation of the event occurs and then after that the event occurs."⁴⁰ So Chisholm's informal explanation of recurrence does not match his formal definition.

A way of avoiding this difficulty would be to revise (D1) as follows:

(D1') p recurs in $L =_{df}$ (p 's occurring in L) B (p 's occurring in L),

where ' L ' is to be replaced by the name of a place. This would leave ' p recurs (simpliciter)' undefined. However,

part of the point of talking about recurrence is to make sense of sentences like, 'Something happened last week in Los Angeles, and the same thing happened this week in New York', and (D1') is of no help for that.

Another, and perhaps more serious, difficulty due to the fact that an event may occur at one place while its negation occurs at another, is with (D4).

(D4) \underline{s} occurs during \underline{p} 's first occurrence =_{df} there is a \underline{q} such that \underline{q} occurs exactly once, \underline{q} & \underline{s} occurs, \underline{q} & $\sim \underline{p}$ does not occur, and $\sim(\underline{p}\underline{B}\underline{q})$.

Suppose that it never rains in Tempe, Arizona. So there not being rain always occurs in Tempe. Suppose also that the first occurrence of there being rain is in Seattle. It is likely that there were a number of things which occurred during the first occurrence of there being rain. Perhaps the inhabitants were greatly amazed. Certainly the ground's getting wet occurred then. If so, there must be some state of affairs \underline{q} satisfying the conditions set by the definiens of (D4). But one of these conditions is that \underline{q} & there not being rain does not occur. But, since there not being rain always occurs (in Tempe, at least), there is no \underline{q} such that \underline{q} occurs and \underline{q} & there not being rain fails to occur. So nothing occurs during the first occurrence of there being rain. In particular, there being rain does not occur during the first occurrence of there being rain. So obviously, (D4) is defective. Since (D4) is the base case for the induction in (D5), and since (D6) relies on (D4) and (D5), (D5) and

(D6) are defective, as well. Thus Chisholm has not defined 'p occurs exactly n times', and thus it is not clear that his generic events can do the work of particular events.

Chisholm could avoid this objection by adopting a suggestion he makes in another context.⁴¹ Conjunctive states of affairs could be restricted in the following way. Where p and q are any states of affairs,⁴² the conjunctive state of affairs p & q occurs if and only if p occurs while q occurs, and p occurs where q occurs. In the case above, if it rains in Seattle, then any event q occurring only during the raining and occurring only in Seattle is such that q & there not being rain does not occur. The fact that there not being rain occurs in Tempe is irrelevant, because that is not where q occurs. And so the above counter-example no longer applies. The trouble is that the notion of the location of an event is unclear. While some events, like Socrates' drinking hemlock, are easily locatable (where Socrates was), others are not. Where does there being no unicorns occur? Or where does my not being at home occur? Here? At my home? I do not know. There not being rain can occur, presumably, wherever it is not raining. But where does there not being rain in Tempe occur? Just in Tempe? Or everywhere? I would be tempted to think that such "place-indexed" events occur everywhere if they occur anywhere. But then we must countenance the following anomaly. If Jones and Smith never sleep in the same place, then it might be that the

conjunctive event Jones' sleeping in Chicago and Smith's sleeping in St. Louis occurs, if they sleep, respectively, in Chicago and St. Louis. But the conjunctive event Jones' sleeping and Smith's sleeping will not occur. Another difficulty is that even if we were able to decide where events occur, how close together must p and q occur for p to occur where q occurs? Since my body occupies a different space than your body, does it follow that the event my talking and your talking never occurs, even if we hold a lengthy conversation.

These considerations do not show that it would be impossible to state Chisholm's theory in a way that is both clear and immune to objections. But based on the remarks of the last three sections, I think that we can agree that that has not yet been done. I think, furthermore, that a full evaluation of Chisholm's theory cannot be attempted until we see how successfully it can cope with these difficulties.

Notes to Chapter V

¹"Events and Propositions" (EP) Noûs 4 (1970): 15-24, "States of Affairs Again" (SA) Noûs 5 (1971): 179-189, "Problems of Identity" (PI) in Milton K. Munitz, ed., Identity and Individuation (New York, 1971): 3-30. An early version of the view propounded in these papers may be found in "Language, Logic, and States of Affairs" (LL) in Sidney Hook, ed., Language and Philosophy (New York, 1969): 241-248.

²EP 19.

³Ibid. Chisholm does not quantify over propositional attitudes as I just have.

⁴SA 15.

⁵PI 20f.

⁶Or it might also occur at noon, but in a different place.

⁷PI 21.

⁸EP 17, PI 22.

⁹EP 18f., PI 22f.

¹⁰EP 20, PI 25.

¹¹EP 20.

¹²"A Note on Metaphysics and Language" in Language and Philosophy, pp. 291f. It would be unfair today to attribute the view expressed in the quoted passage to Ms. Ezorsky, since her paper was written in response to LL, before the other articles cited in note 1 were published.

¹³Ibid.

¹⁴"Events as Particulars" (EA) Noûs 4 (1970): 25-32, p. 30. Also, "Eternal vs. Ephemeral Events" (EE) Noûs 5 (1971): 335-349.

¹⁵Chisholm has tried to account for this inference. See EP note 7, p. 23 for one such attempt, and EA 30 for Davidson's refutation. See SA 181 for another attempt.

¹⁶"Concerning the Logic of Predicate Modifiers" Noûs 4 (1970): 311-335, p. 317.

¹⁷"Some Problems Concerning the Logic of Grammatical Modifiers" in Davidson and Harman, eds., Semantics for Natural Languages (Dordrecht, 1972): 127-141.

¹⁸op. cit.

¹⁹He makes a similar suggestion, SA 181.

²⁰SA 181.

²¹EA 31.

²²SA 185.

²³EE 344.

²⁴Davidson gives a version of the above argument, but he does not consider this possibility. In fact, he obscures the fact that there is such a possibility by reading the left-hand side of (A) as 'the fact that p occurs'. EE 344.

²⁵Perhaps the following could replace (A) and (B): for and sentence 'p', the state of affairs that p occurs if and only if p.

²⁶EP 21, PI 27.

²⁷Ibid.

²⁸EA 29.

²⁹SA 186.

³⁰This point is made by Chisholm, SA 187.

³¹EP 20, PI 26.

³²SA 180.

³³EP 17.

³⁴Ibid. note 2; Cf. PI 22, where the footnote is elevated to the text.

³⁵I assume that Chisholm's use of the word 'analytic' is such that if a statement is analytic, it is necessarily true. I also assume that there is no possible world such that, if it is actual, it is actual for only one instant.

³⁶EP 19.

³⁷I am not so sure about the second.

³⁸I am not convinced that this can be made to work, since a person can be simultaneously knighted by sovereigns of different states. This difficulty could be avoided by counting instead instances of the relation 'x knights y'.

³⁹PI 22.

⁴⁰EP 15.

⁴¹EP 16, note 1.

⁴²We should add 'states of affairs that are not propositions' in order to avoid talking about the location of a proposition or limiting the number of conjunctive propositions.

CHAPTER VI

Conclusion

In this chapter I shall first review some motivations for thinking that there are such things as events, and I shall be interested in determining how compelling each of these motivations is, and how well the three theories we have examined accommodate themselves to these motivations. Secondly, I shall list some difficulties to which any adequate theory of events ought to provide solutions, and I shall try to measure how well the theories of Kim, Davidson, and Chisholm cope with these difficulties.

1. Motivation. There are a cluster of reasons in favor of an ontology of events which might be called "linguistic" reasons, for they all appeal to some feature of our language. First, we often assert true sentences, such as

(1) John's kicking the door startled me.

A natural way of understanding this sentence is as asserting that there occurred a certain event - denoted by 'John's kicking the door' - which startled me.¹ While the three philosophers we have considered do not make this claim explicitly, it is clear that they agree with it. Of course there are other expressions in our language which purport

to refer to events. Definite descriptions like, 'the first performance of Beethoven's Ninth', provide a notable example. Davidson adds the following caveat, however: "If the only pressure for adopting an ontology of events comes from such phrases as 'Sally's third birthday party', we would probably do better to try and [sic] paraphrase these away in context than meddle with the logical form of sentences like 'Brutus killed Caesar' or 'Bread nourishes' so as to show singular terms referring to events or variables ranging over them."² Davidson offers other linguistic reasons for the existence of events. One, as we have already seen, is that he thinks that there must be events to account for the inference of

(2) Boris strolled

from

(3) Boris strolled in Bologna.

I argued in Chapter III that Davidson's treatment of the logical form of action sentences - which does provide on account of the entailment of (2) by (3) - is defective, because it cannot handle cases in which two things are done at once. I also suggested in Section 5 of Chapter IV that a more general account of adverbial modification would be more promising. Because of these considerations I do not think that this is a good reason for accepting events.

There is a further linguistic reason, also due to Davidson, that is worth mentioning. Davidson considers

some parallels between

(4) The explorer was in the cellar

and

(5) The explosion was in the cellar,

and then remarks

With respect to relevant grammatical and logical matters, the parallel between talk of explorers and talk of explosions is just about complete. As we have seen, explorers and explosions alike invite the definite and indefinite article; they also invite plural forms, universal quantification, counting and identity statements. There is no more reason to think that we can give a satisfactory account of the truth conditions of sentences about explosions without invoking particular, dated events, than there is to think that we can give a satisfactory account of the truth conditions of sentences about explorers without invoking particular, mortal bodies.³

We might note that this consideration is not a compelling reason to accept events. Nouns like 'gap' and 'hole' meet the conditions Davidson lists, yet we would not want to suppose that we must be committed to particular gaps and particular holes in order to give an account of the truth conditions of sentences like, 'There was a gap between her front teeth'. Nevertheless, Davidson's remarks indicate at least a prima facie reason for thinking that there are events. Coupled with other considerations it may well be persuasive.

Another kind of reason which various philosophers have given in favor of events is that they are needed for the theory of explanation. Kim says that he is "interested in events qua objects of explanation."⁴ As we noted in Sections 1 and 2 of Chapter IV, Davidson also holds that

"explanation...seems to call for events."⁵ And, although I do not know whether Chisholm has said so in print, he also believes that events are needed for explanation.⁶ There is an interesting conflict, however, between what Kim and Davidson have said about needing events for explanation and what they have said about events.⁷

In "Events and their Descriptions: Some Considerations" Kim considers various ways of defining a deductive explanans for a statement E, and he is concerned to make precise the way event-describing statements are related to events. By combining these two enterprises he hopes to make intelligible the notion of an explanans for an event. In this connection he accepts "the unexceptionable principle that if event e is identical with event e', any explanans for e is an explanans for e'..."⁸ However, when Kim gets around to spelling out some details of his theory of events,⁹ he says some things incompatible with this principle. As we saw in Section 2 of Chapter I, according to Kim's theory there is just one event described by

(6) Wilbur married Edith

and

(7) Edith married Wilbur,

yet Kim thinks that what explains (6) might not explain (7).¹⁰

Kim is aware of the conflict between what he said in one paper about explanation and what he said in another paper about identity conditions for events. He now holds both

that (6) and (7) describe the same event and that what explains (6) might not explain (7). He also says that "[t]his means that I have to loosen up the fairly tight connection I presuppose between events and explanations in the Hempel volume paper."¹¹ This last concession is interesting because it means that the relation between explanation and events is left unexplained. If explanation is only of statements, then there is no need to posit events to account for explanation. If, on the other hand, someone says that events are needed for explanation, but does not show how they are connected, then it is difficult to assess the claim.

Davidson seems to be in even worse trouble in this connection. For he says that events are needed to give an account of explanation, but then also says that "[e]xplanations typically relate statements, not events."¹² Elsewhere he says that "explanation, like giving reasons, is geared to sentences or propositions rather than directly to what sentences are about: thus an explanation of why Scott died is not necessarily an explanation of why the author of Waverley died."¹³ But if explanation is "geared to sentences or propositions", then explanation provides no motivation for accepting events beyond the fact that some of the sentences with which explanation is concerned are true and involve commitment to events. But then explanation provides no special motivation for ac-

cepting events.

Since I am unfamiliar with Chisholm's views on explanation, I do not know if he is faced with similar difficulties. However, since events for him are proposition-like, it is likely that he is not subject to the same sort of criticism.

Another kind of motivation for events is that there must be events in order to give an account of causation. Kim says, as we saw in Chapter I, that events are the relata of the relation of causation.¹⁴ And in "Causal Relations" Davidson tries hard to show that causation is a relation holding between events. Chisholm, too, believes that some events cause others.¹⁵ One might wonder whether the same sort of objection that was made against Kim and Davidson's appeal to explanation as a motivation for accepting events can be made against their appeal to causation. After all, we saw in Section 3 of Chapter IV that Davidson thinks that 'caused' sometimes functions as an sentential connective or as an operator on statements, perhaps better expressed by the words 'causally explains'.¹⁶ If causation turns out to be a relation between statements, then it would seem to provide little support for thinking that there are events. But, of course, Davidson does not think that causation is a relation between statements - it is an relation between events. Rather, Davidson thinks that in some sentences the word 'cause' does not express this relation, but instead expresses a relation which holds

between statements.

Another sort of motivation for thinking that there are events, urged by both Kim and Davidson, is that events are needed to state the mind-brain Identity Theory. Kim says that "the Identity Theory asserts that pain is identical with brain state B."¹⁷ A few sentences later he says that "to claim that pain is identical with brain state B is to claim, among other things, that the two statements 'Plato is in pain (at time t)' and 'Plato is in brain state B (at time t)' describe or refer to the same event or state."¹⁸ If this is what the Identity Theory says, then, of course, it is true, there are events. The Identity Theory is a matter of dispute, however, and so any appeal to it to establish that there are events would seem to be weak. The fact that the theory is disputed might, nevertheless, be of interest. For most of the disputants do not challenge the meaningfulness of the theory, and even those who deny the truth of the theory do not do so on the ground that there are no events. This suggests that those philosophers who discuss the Identity Theory uniformly agree that there are events. This fact might provide some evidence for thinking that there are events, but it is surely only meager evidence.

Davidson makes a different, but related, claim. He says that not merely the truth, but the intelligibility of the Identity Theory requires that there be events.¹⁹

But this does not seem to be right. Suppose that the central claim of the Identity Theory can be put as 'All mental events are identical with physical events'. Surely this claim would be intelligible even if there were no events. We could imagine two misguided biologists disagreeing over whether all yellow alligators are 20-chromosomed alligators. Even though there are no yellow alligators nor 20-chromosomed ones, let us suppose, the disputed claim is still intelligible. Perhaps, however, Davidson meant to assert instead that the central claim of the Identity Theory is non-vacuous. If the Identity Theory is non-vacuous or non-trivial, then whether it is true or false, it would seem to follow that there are events. This consideration would have to be worked out in greater detail to be really convincing, but it is, I believe, a promising line of argument.

A final consideration in favor of an ontology of events is suggested by Davidson's remark that "it is hard to imagine a satisfactory theory of action if we cannot talk literally of the same action under different descriptions."²⁰ And he adds that "this talk of descriptions and redescriptions makes sense, it would seem, only on the assumption that there are bona fide entities to be described and redescribed."²¹ Davidson's claim gets its force, presumably, on the assumption that if there are actions, they are events, and so if there are actions, there are events. I think that this latter claim is

correct, although I am not sure how convincing Davidson's claim is, that a satisfactory theory of actions requires that we be able to describe and redescribe the same action. But the question of what is to count as a satisfactory theory of action is a question that is beyond the scope of this work.

We have listed eight reasons for thinking that there are events. One I found weak, namely, that events are needed to account for adverbial modification. Another, that events are needed for explanation, is puzzling; Kim and Davidson, who make the claim, turn out to hold views about explanation and events that make it difficult to see how events are related to explanation. Four reasons, (i) that we have definite descriptions purporting to denote events, more generally, (ii) that we have singular terms which purport to refer to events and which come equipped with what looks like the whole apparatus of reference, (iii) that we need events to give a theory of action, and (iv) that the non-triviality of the Identity Theory shows that there are events, seem to be right, but by themselves they are likely to be unconvincing. Two reasons seem to me to be promising. First, events are needed to give the semantics of sentences like

(1) John's kicking the door startled me.

Second, events are needed to give an account of causation, since the relation of causation holds between events.²²

Although none of the philosophers we considered advanced the first of these as a reason in favor of events, it is clear that they would all be sympathetic to it. For, Kim, Davidson, and Chisholm all regard phrases like 'John's kicking the door' as referring to events. It is also clear that they all regard the second reason as persuasive. Kim and Davidson have even attempted to state causal theories in terms of their theories of events.²³ Showing exactly how these considerations establish that there are events, if indeed they do, would presumably require having an acceptable theory of causation and an acceptable semantics for English in hand. Of course, investigating these areas is beyond the scope of this work. I turn instead to a consideration of problems which any adequate theory of events ought to provide answers to.

2. Problems. An adequate theory of events ought to answer, I think, the question of whether there are both particular and generic events. Why is this question important? I think it is important because an adequate theory of events should be useful in stating a theory of causation. But, as Kim has emphasized,²⁴ causation, construed on a Humean model, seems to require both generic and particular events. Central to a Humean account of causation are the requirements that causes and effects be constantly conjoined and that they be spatially and temporally contiguous. If particular events occur only

once, it makes no non-trivial sense to say that they are constantly conjoined. So the requirement of constant conjunction seems to require generic events: every instance of generic event A is followed by an instance of generic event B. On the other hand, spatial-temporal contiguity seems better explained in terms of particular events, since they seem more readily locatable. So it seems as though a theory of events ought to embrace both generic and particular events, or otherwise explain how a theory of causation can be stated with only one or the other.

As a matter of fact, the three theories we have examined each have an answer to this question. Kim is the most straight-forward. For Kim, events are particulars. But those properties the exemplifying of which by a thing at a time is an event are generic events. Thus, according to Kim, each particular event has a generic event built in.

For Davidson events are particular. While he does not deny that there are in addition generic events, he apparently does not feel a need for them.²⁵ How can Davidson state the principle of constant conjunction? I think he would do so as follows: if an event e causes an event f then there is a predicate 'F' true of e and a predicate 'G' true of f such that all F-events are followed by G-events and all G-events are preceded by F-events.²⁶ There may be a difficulty in deciding exactly which predicates non-trivially support causal generalizations, but

there seems to be no reason in principle that would prevent the condition of constant conjunction from being stated in some such way as the above.

On Chisholm's view events are generic. And while he does not deny that there are particular events, he thinks that we can do without them, in the sense that we can reduce talk which seems to be about particular events to talk just of the occurrence and non-occurrence of generic events. How then can Chisholm explain the spatial-temporal contiguity of causes and effects? Well, (generic) events may occur at different times and at different places, and it is particular occurrences of events which cause particular occurrences of other events. If a particular occurrence of an event p causes a particular occurrence of an event q , then those occurrences of p and q are spatially and temporally contiguous. Of course, on Chisholm's theory, there are strictly no such things as particular occurrences of events. But if he can successfully eliminate talk of particular occurrences of events in terms of the occurrence or non-occurrence of events, then the way I just stated the principle of spatial-temporal contiguity can be purged of any references to particular occurrences. I am not sure that Chisholm can carry out this enterprise, but if he can, he would not be barred on this account from giving a theory of causation.²⁷

A second problem which any theory of events ought to

solve is whether there is recurrence, and if there is not, what we mean when we say that a certain event occurred yesterday and the same event occurred again today. Chisholm's theory is designed to accommodate recurrence. Kim and Davidson must say that, literally, there is no such thing. Kim can give a round-about account of some kinds of recurrence. For example, if someone were to suggest that John's sleeping recurred, Kim could say that there are times t_1 , t_2 , and t_3 such that t_1 is earlier than t_2 and t_2 is earlier than t_3 and that [(John, t_1), sleeps] exists, [(John, t_3), sleeps] exists, but [(John, t_2), sleeps] does not exist. What literally recurs on this account is John's sleeping sometime, but that, for Kim, is not an event. And if someone were to suggest that there being a Republican President recurs, Kim can say that there exist distinct people x and y and times t_1 and t_2 such that [(x , t_1), is a Republican President] and [(y , t_2), is a Republican President] both exist. In this case what literally recurs is someone's being a Republican President, and again, that is not, on Kim's view, an event.

Davidson considers the following example of recurrence: "last night I dropped a saucer of mud, and tonight I did it again (exactly the same thing happened)."²⁸ He tries to account for two occurrences of his dropping a saucer of mud solely in terms of particular events. He suggests that "the sum of all my droppings of saucers of mud is a par-

ticular event, one of whose parts (which was a dropping of a saucer of mud by me) occurred last night; another such part occurred tonight. We need three events to carry this off, but they have the same ontological status."²⁹ Suppose that Davidson only dropped a saucer of mud twice. It is not clear how his suggestion can make literal sense of the claim that there is one event, namely, Davidson's dropping a saucer of mud, and it occurred exactly twice. It will not do to say that there are exactly two events which are Davidson's dropping a saucer of mud, for that does not say that there is an event that occurred twice. Nor will it do to say that there is an event, namely, the sum of Davidson's droppings of a saucer of mud, that has exactly two parts. For in the first place, it is not clear that anything has exactly two parts. If Davidson's individual droppings of a saucer of mud had parts, are not those parts also parts of the sum-event consisting of the two droppings? Perhaps there is something involved in the process of forming sum-events which ensures that the only parts sum-events have are the particular events in which they consist, but Davidson has said nothing to suggest this. But even if clear sense could be made of the suggestion that there are exactly two parts to the sum of Davidson's droppings of a saucer of mud, this would not treat literally that his dropping a saucer of mud occurred twice. But if this claim is not to be taken literally,

then Davidson might just as easily say that he dropped a saucer of mud twice. This latter statement does not require any events other than particular events for its analysis. This is in fact a line that Davidson takes, or comes close to taking, in a later paper.³⁰ Thus, if Davidson accepts as literal claims that there are events that recur, then he seems to be unable to explain recurrence. If, however, he could show that such claims need not be taken literally, then he need not be troubled to try to explain recurrence.

A third problem for any adequate theory of events is that it ought to make sense of our ordinary intuitions about how events are individuated. It would be unreasonable, of course, to think that a philosophical theory ought to mesh perfectly with our pre-analytic intuitions. For one thing, our intuitions are not always that clear. But it is certain that we do not ordinarily conceive of events as so fine-grained as Kim and Chisholm do. I also think, though perhaps this is not as clear, that we do not ordinarily conceive of events as so coarse-grained as Davidson does.

First, let us consider the fine-grained approach. Consider some event, say, Washington's crossing the Delaware.³¹ None of Kim's events is identical with that event, since it seems to be the case that none of Kim's events could have occurred at any time other than the

time at which they did occur. But, of course, Washington's crossing the Delaware could have taken a little longer. Also, intuitively, Washington's crossing the Delaware was the same event as the man who would become the first President crossing the Delaware. And it was the same event as Washington's crossing the Delaware on Christmas night. But according to Chisholm, those events which are Washington's crossing the Delaware, the man who would become the first President crossing the Delaware, and Washington crossing the Delaware on Christmas night, are all distinct. So none of them is that event which we would ordinarily have in mind when we speak of Washington's crossing the Delaware.

It seems as though the theories of events given by Kim and Chisholm do not have to do with the things we ordinarily think of as events, things like examinations, battles, weddings, football games, and births, or blessed events. Perhaps this is of no consequence. But if they do really mean to give a theory of events, then if the entities they describe are not what we ordinarily think of as events, then they at least owe us an explanation of how our ordinary events are related to their preferred entities. One possibility is that our ordinary events might somehow be constructed out of the preferred entities of Kim's or Chisholm's theory.³² But as of now we have no idea how that might be done.

While Kim and Chisholm present theories with an abundance of events, Davidson's theory seems not to have enough. Judith Thomson notes that there is a moderate view between Davidson's view on the one hand and views like Kim's and Chisholm's on the other.³³

But there is, between them, a "middle ground", according to which we may not identify a replenishing with a pumping, but may, and indeed should, identify a replenishing with a replenishing by pumping, and that with a replenishing with a pump; according to which we may not identify a killing with a shooting with a pressing of a trigger, but may, and indeed should, identify a killing with a killing by shooting, and that with a killing with a gun; and so on.³⁴

If the view sketched by Thomson reflects our preanalytic view of events, and I suspect that it does, then Davidson, too, has to explain how the entities he prefers are related to our ordinary events. Where Kim and Chisholm face the task of event construction, Davidson seems faced with the task of event dismantling. I would guess that the latter enterprise is at least as formidable as the former.

A final problem for any theory of events is to explain how sentences that are somehow about events are in fact related to events. Let us call sentences like

(8) John sang at 3:00 P.M.

which "report" an event, 'event sentences'. A point made convincingly by Davidson³⁵ is that event sentences usually contain no singular term referring to an event. Yet (8) is somehow intimately connected to an event, namely, an (the) event of John's singing at 3:00 P.M. A central

problem for a theory of events would seem to be to spell out exactly how event sentences are related to the events they report. It will be a useful review of the three theories we have considered if we briefly consider the solutions they suggest to this problem.

For Kim an event is a structure consisting in the having of a property (or relation)³⁶ by an object (or sequence of objects) at a time. Kim would understand (8) as attributing a property to an object at a time, and he would therefore take it as describing the event which is the having of that property by that object at that time. That is, according to Kim, (8) describes that event denoted by the following technical expression:

(8k) [(John, 3:00 P.M.), Sings].

What (8k) denotes is the having of the property singing by John at 3:00 P.M. And, in general, a sentence describes an event just in case it attributes a property to a thing, or a relation to a sequence of things, at a time.

According to Davidson an event is a concrete particular. Although (8), if understood to mean a particular 3:00 P.M., could not report more than one event, a sentence like 'John sang yesterday' could be true even though John sang many times yesterday. For this reason Davidson takes event sentences to be existential generalizations over events. Thus, he would analyse (8) as

(8d) (Ex) (Sang(John, x) & At(3:00 P.M., x)).

Adverbial expressions (or at least some of them) are treated as predicates of events. For Davidson, then, an event sentence asserts the existence of at least one event of a certain sort, the sort to be determined by the conditions of the sentence.

According to Chisholm, an event is a state of affairs which can occur, can not occur, and can recur, that is, occur again after not occurring. I am not sure that Chisholm's theory yields an unambiguous way of understanding (8). Certain remarks of his³⁷ suggest that he would understand (8) as

(8c) That event which is John's singing occurred at 3:00 P.M.

Alternatively, Chisholm's theory may be taken to treat (8) as

(8c') That event which is John's singing at 3:00 P.M. occurred.

I am not sure whether (8c) or (8c') has advantages the other lacks.³⁸ We might note that (8c) and (8c') entail each other; so whenever one is true, the other is, as well. We should also note that they say different things. What (8c) says is that John's singing occurred at 3:00 P.M.; while (8c') says of John's singing at 3:00 P.M. that it occurred. If John's singing is distinct from John's singing at 3:00 P.M., then (8c) and (8c') predicate distinct properties of distinct entities. But on Chisholm's view, John's singing is distinct from John's singing at

3:00 P.M. For, the latter can occur whenever John sings, but the former can occur only when John sings at 3:00 P.M.

Despite the uncertainty over whether Chisholm takes (8) as (8c) or as (8c'), we can state a general claim of his theory: an event sentence expresses a certain state of affairs, and the sentence is true just in case the state of affairs occurs. Our question over (8c) and (8c') is not a question about this general claim. Rather, it is a question as to what state of affairs (8) expresses.

What I have tried to do in this chapter is, first, to cull from the writings of Kim, Davidson, and Chisholm, some reasons for taking events seriously. And while not all of their reasons were convincing, I think that at least some are credible. Thus, there is, it seems to me, good reason for trying to give a philosophical theory of events.

Secondly, I have listed four problems which a theory of events ought to solve. The three theories we considered are sophisticated enough to have readily available answers for three of these problems.³⁸ The fourth, that of relating a philosophical theory of events to our ordinary intuitions about events, seems to be less amenable to straightforward treatment on any of the three theories considered. Thus, in addition to the particular criticisms of the three theories made in previous chapters, the lack of a solution to this problem is a further criticism.

I think that it is clear that none of the theories we

considered is at present acceptable. Whether any of them can be revised or elaborated so as to meet these criticisms remains to be seen. I have tried to evaluate these theories largely on the basis of clarity, internal consistency, and correspondence with intuition. It may yet turn out, however, that the final test for a theory of events is fruitfulness, that is, usefulness in stating other philosophical theories, most notably, theories of causation or of the semantics of English sentences. But that is another topic.

Notes to Chapter VI

¹The example is due to Terence Parsons, A Semantics for English, Ch. 10 (unpublished). He claims that the phrase consisting of the first four words of (1) is naturally taken to refer to an action. It appears to be his view that actions are similar to, but not a species of, events.

²"The Individuation of Events" in N. Rescher, ed., Essays in Honor of Carl G. Hempel (Dordrecht, 1969): 216-234, p. 217.

³"Eternal vs. Ephemeral Events" Noûs 5 (1971): 335-349, p. 336.

⁴"Events and Their Descriptions: Some Considerations" in Essays in Honor of Carl G. Hempel, 198-215, p. 204.

⁵"The Individuation of Events" 218.

⁶letter to Fred Feldman, June 14, 1973; also, seminar at the University of Massachusetts at Amherst, spring, 1973.

⁷For helping me to appreciate the importance of this point I am indebted to Terence Parsons.

⁸op. cit.

⁹"Causation, Nomic Subsumption, and the Concept of Event" Journal of Philosophy 70 (1973): 217-236.

¹⁰"Events and their Descriptions" 210.

¹¹letter to the author, February 22, 1974.

¹²"Causal Relations" Journal of Philosophy 63 (1967): 691-703, p. 703.

¹³"The Individuation of Events" 223.

¹⁴Cf. "Events and Their Descriptions" 204.

¹⁵loc. cit.

¹⁶See his "Causal Relations" 702.

¹⁷"On the Psycho-Physical Identity Theory" American Philosophical Quarterly 3 (1966): 227-235, p. 231.

¹⁸Ibid.

¹⁹"The Individuation of Events" 218.

²⁰Ibid. 217.

²¹Ibid. 218.

²²This remark should not be taken as implying that the relation of causation holds only between events. It might, for example, hold between agents and events.

²³For Kim see "Causation, Nomic Subsumption, and the Concept of Event"; for Davidson see "Causal Relations".

²⁴"Causation, Nomic Subsumption, and the Concept of Event" 217.

²⁵"Eternal vs. Ephemeral Events" 335.

²⁶Cf. "Causal Relations" 699f.

²⁷Attempts to state clearly the difference between particular and generic events have convinced me that the distinction is not as easily drawn as one might initially suppose. I have been led to speak of events as either particular or generic because the philosophers we have considered have used these terms. It might turn out, however, that no clear sense can be given to the distinction. Should that happen, the first problem for any theory of events should be replaced by the following

related claim: an adequate theory of events ought to be a theory of those entities between which the relation of causation typically obtains.

²⁸"Events and Propositions" Noûs 4 (1970): 25-32, p. 27.

²⁹Ibid. 28.

³⁰"Eternal vs. Ephemeral Events" 338f.

³¹Let us suppose, despite history, that Washington's crossing the Delaware on the night of December 25, 1776, was his only crossing.

³²This possibility is suggested by Kim, "On the Psycho-Physical Identity Theory" 232, note 8.

³³Thomson is actually concerned to trace a view between Davidson's view and Goldman's view. Goldman's theory is quite close to Kim's, and it is similar to Chisholm's theory in the respect that is relevant here, that is, it sees events as fine-grained.

³⁴"Individuating Actions" Journal of Philosophy 68 (1971): 774-781, p. 780.

³⁵See, for example, "Causal Relations"; also "The Logical Form of Action Sentences" in N. Rescher, ed., The Logic of Decision and Action (Pittsburgh, 1966): 81-95.

³⁶I shall not here review the restrictions Kim places on the sorts of properties and relations the having of which by a thing or sequence of things is an event. See Chapter I, Sections 1 and 3.

³⁷"States of Affairs Again" 185.

³⁸Although, what I said in the last two paragraphs of Chapter V, Section 6, suggests that taking (8) as (8c') would be preferable to taking it as (8c).

³⁹This is not to suggest that their answers are all acceptable. I am merely suggesting that the theories each have the resources to try to state answers to these problems.

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