

ABSTRACT

Thesis title: 'The token-token identity-theory and recent theories of reference.'

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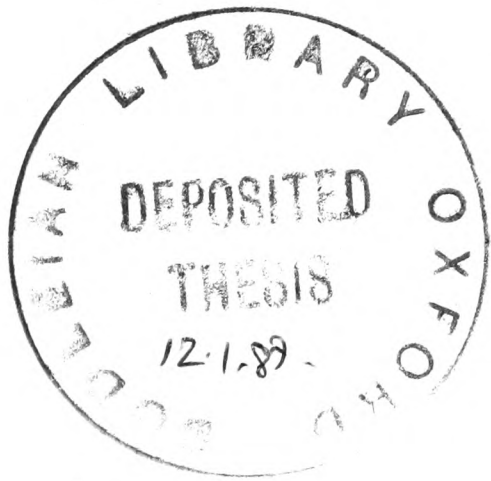
This thesis investigates a specific kind of criticism of the token-token identity-theory. This criticism is based on recent theories of reference. In the Introduction I argue that more than Davidson's three premisses is needed to establish that mental events are identical to physical events. One needs to invoke principles about what constitutes event-identity.

In Part 1 I discuss event-identities. I lay down the constraints an adequate theory of event-identity must satisfy, and criticise the major theories in the literature. I suggest an alternative view, which I defend against some recent proposals. I end Part 1 by exploring a view which takes seriously the possibility of constitution-relations between events.

In Parts 2 and 3 I discuss whether the identity-theory can be defended. Part 2 discusses sensations, and I concentrate on S. Kripke's arguments against the identity-view. I distinguish two versions of Kripke's argument, one epistemic, and one metaphysical. The epistemic version of the argument presupposes Kripke's views on content, but fails by its own standards. The metaphysical version is shown to be weak and implausible.

Part 3 discusses cognitive events, and concentrates on de re beliefs. I produce an argument which apparently defeats the identity-view. I elaborate two main strategies in defence of the identity-theory. I argue that given a theory of de re beliefs or singular thoughts like G. Evans's, the theory of event-identities I have developed, and some plausible further premisses, the identity-theory seems to be defeated. A reasonable interpretation of this result is to view it as an argument for constitution-relations between mental and physical events. I return to the view I introduced in part 1, and conclude that the token-token identity-theory should probably be replaced by this constitution-view if theories of de re beliefs are accepted.

THE TOKEN-TOKEN IDENTITY-THEORY AND RECENT THEORIES OF REFERENCE ✓



by

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PREFACE

Planning and writing a thesis takes time. During the time it has taken me to write this thesis, new literature on my topics has kept appearing. This has several times occasioned me to rewrite chapters, and as some chapters grow larger, other chapters need to be reduced. The structure of the whole thesis thereby changes. Part 2 and especially part 3 are considerably less comprehensive than I originally planned.

I prepared the thesis for submission in Norway during the winter 1985/1986, and when I returned to Oxford, new important works had appeared: Lawrence Brian Lombard's book Events. A Metaphysical Study, and Actions and Events. Perspectives on the Philosophy of Donald Davidson, edited by Ernest LePore and Brian P. McLaughlin. It was impossible for me to integrate a full discussion of these works, since I would have needed to restructure the thesis completely. I have chosen to state some important connections between these works and my results in footnotes.

My research in Oxford has been generously supported, and I owe thanks to the trustees of the Brynie-Jordan Scholarship, the trustees of the Anderson Norwegian Scholarship at Balliol College, the British Council for awarding me a British Council Scholarship, and the Committee of Vice-Chancellors and Principals of the Universities of the United Kingdom for awarding me an Overseas Research Scholarship.

I was first taught philosophy at the University of Oslo by Jon Elster, Dagfinn Foellesdal, and Andrew Jones. Dagfinn Foellesdal introduced me to Davidson and Quine, and Jon Elster, more than anyone, encouraged me to go to Oxford. I thank them for their constant support, interest, and encouragement.

I spent the academic year 1982-83 in Oxford as a visiting student, and was expertly supervised by Kathleen Wilkes and Jennifer Hornsby. They gave me the courage and desire to do a research degree in Oxford.

I owe an overwhelming debt of gratitude to my supervisors. Kathleen Wilkes supervised my first term. The first rough draft of the thesis was written when I was supervised by David Charles. He provided immense stimulus and encouragement, and I will miss our long hours of philosophical discussion. I spent one term with David Pears, and he criticised and discussed large parts of my thesis with me, and helped to improve it greatly. Michael Woods supervised my third year, and his kind but rigorous and penetrating criticism forced me to improve the thesis enormously. From all four I have learnt a lot about philosophy, and I thank them warmly.

Donald Davidson's influence on my thinking will be obvious to any reader. When Davidson was in Oxford the academic year 1984-85 he read and commented generously on what I have written about events. Our discussions stimulated me more than any other discussions in which I have taken part.

Among friends, I have especially benefitted from discussions with John

Campbell and Gabriel Segal.

An early version of part 2 was read to the Ockham Society, and I thank the participants in the discussion for valuable comments and criticism.

There are many I would like to thank just for being friends; too many for me to name them. I thank Anne, Katherine, David, and Benedict for assisting me with the proof reading.

Lastly, I thank my parents in the mountains of Norway for their concern and understanding. Without their unfailing support at all times, it would have been impossible for me to undertake this task. To them I dedicate this thesis.

FOR MY PARENTS

Erling Gjelsvik and Aasta Ribe Gjelsvik

INTRODUCTION

INTRODUCTION

The significance of Donald Davidson's position in 'Mental Events' is manifold.¹ Davidson gives a highly compelling argument for a token-token identity-theory, and is, perhaps, the first to have done so. He places the discussion in the context of several general philosophical problems. Among these is the Kantian problem of how to reconcile the conception we have of our autonomy with the competing conception of ourselves as physical objects in a deterministic world, fully describable by natural laws. Another problem is whether reason-explanation differs significantly from other kinds of causal explanation. I am not going to dwell on these or other general philosophical aspects of the view Davidson defends. An exhaustive general discussion of whether his position is adequate is not possible here. I shall concentrate on one specific kind of counterargument to the identity-theory.

Davidson's argument is well known. Nevertheless I find it important to state it, because this allows me to bring out the background against which the rest of the discussion is undertaken, and provide some understanding of the various ways in which Davidson's views can be challenged.

Davidson's argument has three basic premisses. Each of these consists in a principle which he argues must be true. The first of these is The

¹ In D. Davidson: Essays on Actions and Events, Clarendon Press, Oxford, 1980, pp.207-225.

Principle of Causal Dependency of the Mental, which states that at least some mental events are causes or effects of physical events. A typical example of what this principle states as true, is that a physical event, a burning house, can cause a mental event like my coming to believe that this house is burning. Similarly a mental event, like my intentionally throwing a stone at my neighbour's window, can cause a physical event, the breaking of the window.

The second premiss is The Principle of the Nomological Character of Causality, which states that each true singular causal statement (like the ones above) is backed by a strict law. What this means is that when a singular causal statement is true, then there is some way or other of describing the events, which are cause and effect respectively, which exhibits them as instances of a strict law. We do not have to know the law in question, but if the causal statement is true, then it is in principle possible to describe these events so that they fall under a law which covers the case.

The third principle is The Anomalism of the Mental, which states that we can express no true strict laws in mental vocabulary. Davidson only argues for the view that there can be no true strict psychophysical laws. He thinks that this conclusion implies the anomalism of the mental given some further plausible premisses.

All three of Davidson's principles are of course disputed. I am not going to argue for any of them, and my working hypothesis is that they are true. This does not reflect the attitude that it is easy to argue for them. There are serious challenges: the most serious of them concern, I

think, the second and the third principles. The view of causation upon which Davidson relies is seriously disputed by present writers in philosophy of science. N. Cartwright has argued that strict laws in physics are not true.² On her view, the strict laws in explanatory theories in physics pay a price to be explanatory. The price they pay is that they cannot without qualification be true of things in nature. If the only true laws of nature are statistical laws, then it might become very difficult to argue that there cannot be true psychophysical laws of the same general kind. In that case no significant difference would open up between the true laws of nature and psychophysical laws. The anomalism which premiss three restricts to the mental, would then apply across the board. The view would be that there are no true strict laws expressible in either physical or mental vocabulary.

Further, philosophers sharing Davidson's view and interpretation of premiss two, have challenged his premiss three. His argument has been taken to show at best that there is no way we can come to know true strict psychophysical laws. It can be claimed that this does not in itself show that there are no such laws. A strong realist position on the possible existence of such laws can hold that even if Davidson is correct in claiming that we could not be justified in believing that a strict psychophysical law is true if we were presented with one, this does not establish that no such laws exist. Davidson's claim that we cannot come to know such laws is grounded in his views on our epistemic situation concerning the mental, and his views on this topic can also be challenged in various ways.

² N. Cartwright: How the Laws of Physics Lie, Clarendon Press, Oxford, 1983.

The nomological view on causation is not, I think, defeated by the arguments put forward against it.³ As far as the criticism of premiss three goes, I do think that Davidson must be understood as attempting to establish something stronger than that we can never be in a position to know any true strict psychophysical laws. He consistently relies on a distinction between two types of law-like statements ('law-like' is here used in a weak sense: it means prima facie like a law). These he calls homonomic and heteronomic law-like statements. I shall not go into the problem of making really sharp what the concepts expressed by 'homonomic' and 'heteronomic' are taken to mean and imply. The main point is that one kind of law-like statement, the heteronomic, is phrased in vocabularies which are such that it is impossible to sharpen these statements into true strict laws. This suggests that Davidson holds the stronger position that true law-like statements connecting the mental and the physical can never be sharpened into true strict laws: that there cannot be true strict laws connecting the mental and the physical. The constitutive connections between various physical descriptions on one side and the different constitutive connections between mental descriptions (in terms of rationality) on the other, make true strict laws of this kind impossible.

These difficult and interesting problems will not concern me. I leave them aside to pursue a different line of inquiry. It might be thought that since Davidson's argument seems to be valid, the only fruitful kind

³ An interesting defence of a classical view on causation, discussing the various probabilistic and statistical approaches, is given by David Papineau: 'Probabilities and Causes', Jour. of Phil., vol. 82, 1985, pp.57-74. I find his arguments quite persuasive.

of criticism must be directed against his three premisses. I disagree with such a view, and I claim that it is possible to accept Davidson's three premisses without accepting a token-token identity-theory. My reasons for this claim will be spelled out in the sequel. I shall be concerned to establish whether there are any decisive arguments against the token-token identity-theory, based purely on philosophical views independent of the three premisses. This topic is so complex that I find it impossible to embark on a wider discussion in this thesis.

It is necessary at this stage to be clear about what Davidson's argument establishes. It seems to me that this is not absolutely clear. I shall state what I take the argument to be, and compare my conclusion with some other remarks of Davidson's. Since the scope of the argument is limited to the issue of the true application of its premisses, I shall consider a related argument with a possibly wider scope presented by Christopher Peacocke. I shall attempt to show how Peacocke's argument can be modified and generalised. My concern throughout this discussion will be to show which premisses are really necessary to establish the conclusions that are claimed to be established.

Davidson's argument is straightforward. If we suppose, legitimately, that a mental event 'm' causes a physical event 'p', then, according to premiss two, there must be ways of describing 'm' and 'p' which instantiate a strict law. According to premiss three, such a strict law can only be physical. It follows that there must be a true physical description of 'm'.

The argument is limited to mental events which cause or are caused by

physical events. Davidson argues for the anomalism of the mental by appealing to rationality as a constitutive feature of the mental field. It might be thought that there is a class of non-cognitive mental events to which the argument above does not apply.

Davidson remarks that the argument shows that each 'mental event is a physical event'⁴, and that we can know that a mental event 'm' is a physical event when we know that 'm' is a cause of a physical event 'p', without knowing which physical event 'm' is identical to. He further states: 'Mental events as a class cannot be explained by physical science, particular mental events can when we know particular identities.'⁵

I maintain that it is vital to distinguish between the claim which is clearly valid, given the three premisses, that each mental event to which the argument applies is a physical event, and the further claim that 'm=p' is an identity-statement. I take a token-token identity-theory to involve the claim that there are, or that there can be, true identity-statements of the form m=p, where 'm' is an expression referring to a mental event, and

'p' is an expression referring to a physical event. I interpret Davidson as claiming that we can come to know true identity-statements of this form. I base my insistence on distinguishing these claims from one another on the puzzling features of the word 'is'. It has been argued, convincingly in my opinion, that there are uses of 'is' which appear to occur in identity-statements, but which should not be understood in that

⁴ D. Davidson (1980) p.224.

⁵ D. Davidson (1980) p.225.

way. Before we can understand what it is for an identity-statement to be true, we must be clear about what kind of entity we are talking about. For instance, Hesperus is Phosphorus: two heavenly bodies believed to be different can be discovered to be the same; i.e. Hesperus 'is' Phosphorus. We can say that a statue 'is' the piece of bronze of which it consists, but this statement should not be taken as an identity-statement. D. Wiggins regards this latter use of 'is' as the 'is of constitution'.⁶ He argues that all proper identity-statements explicitly or implicitly presuppose that the entities spoken of belong to a common kind. This is the thesis of sortal dependency, which he defends forcefully. In the case of the statue and the bronze, it becomes clear on reflection that, for instance, the piece of bronze can still exist even if the statue does not exist, and their non-identity follows by Leibniz's Law. When we say that the statue just is the piece of bronze, we are using the 'is' of constitution, since it cannot be the 'is' of identity. The acceptance of Leibniz's Law forces us to recognise a different use of 'is', just as fundamental as ordinary predication.

There are problems in giving an exact account of what a sortal predicate is, or, more specifically, of what a substance-sortal is, but I accept as uncontroversial the thrust of Wiggins's argument, which is that there are these two different uses of the word 'is'. In this context it is clear that not all of Davidson's various claims have to state the same thing. The statement that 'each mental event is a physical event' can have at least two readings, depending on how we understand the word 'is'. The statement that 'we can know particular identities', must mean that we can

⁶ D. Wiggins: Sameness and Substance, Blackwell, Oxford, 1980, chapter 1.

get to know particular true identity-statements, which say that a mental event *m* is identical to a physical event *p*. This is an expression of the token-token identity-theory proper, as I understand it. There might, then, be a difference between the exact conclusion of Davidson's argument, which says that each mental event is a physical event, and the content of a token-token identity-theory. Whether there is such a difference depends on what constitutes identity in the case of events; that is, on what it is for an identity-statement about events to be true. It is also clear that acceptance of a theory of events which embraces constitution-relations between events, and thereby makes possible the two different readings of Davidson's conclusion, would force one to reformulate the second of Davidson's principles for the sake of clarity. It would most likely imply that when we describe a certain event as falling under a strict law, this might be parallel to describing a statue as being a piece of bronze. The most illuminating and explicit formulation of premiss two would then be that when a singular causal statement is true, there are descriptions of the events in question, or of events which constitute these events, which exhibit a strict law. Another way of putting it is to say that the descriptions exhibiting them as instances of the strict law are true of the events in question (and that is what the principle of the Nomological Character of Causality requires), but that these descriptions are not straightforwardly predicatively true of the events in question, as it is not straightforwardly predicatively true of the statue that it is a piece of bronze.⁷ The consequences of thinking that the distinction between the predicative 'is' and the 'is' of constitution applies to events are largely unexplored.

⁷ For these distinctions, see D. Wiggins (1980) pp.30-31.

The debate concerning Davidson's identity-theory has largely focussed on his three principles; it has only marginally touched on the fact that he makes an identity-claim. I do not doubt that Davidson is justified in making an identity-claim, if one brings in his views on what constitutes identity in the case of events. But if it cannot be ruled out a priori that a distinction between the 'is' of constitution and the predicative 'is' must be drawn in the case of events, then it seems necessary to bring in these views on what constitutes identity in the case of events. This in itself is significant. Partly to show what this significance consists in, I turn to Peacocke's argument for a token-token identity-theory.

Peacocke's argument also appears to be straightforward.⁸ It is less straightforward than Davidson's since it introduces counterfactual considerations, and such considerations raise a number of independent problems. Since I shall discuss such problems at length later, I will now just sketch Peacocke's argument, and raise a difficulty which might arise given a certain way of thinking about cross-world identity-conditions for events. Someone burns his hand, and there is a token pain-event which I call 'm'. The immediate withdrawal of the hand is a bodily movement I call 'e'. We suppose that 'm' causes 'e', and 'e' is a physical event. Simultaneously with 'm' another physical event 'p' occurs in the nervous system, and we also assume that 'p' causes 'e'. Two empirical assumptions are made. The first is that we can give a complete empirical account both of the causal antecedents of 'p' and of how 'p' causes 'e'. The second is

⁸ C. Peacocke: Holistic Explanation, Clarendon Press, Oxford, 1979, p.134.

that 'p' is the only physical event which causes 'e'. Peacocke claims that it can then be argued that 'm'='p'. Suppose that 'm' is not identical to 'p'. Then, it is claimed, either, (1) 'm' and 'p' are jointly sufficient for 'e' but do not overdetermine it, or, (2) 'e' is overdetermined. Peacocke claims that both alternatives are impossible. Alternative (1) is impossible since a complete description of how 'p' causes 'e' is available. Alternative (2) implies that if 'm' did not occur, then 'e' would still occur. Peacocke claims that that is normally taken to be false, and alternative (2) is ruled out.

Peacocke's way of eliminating alternative (2) might be disputed. It might be straightforwardly argued that since 'p' can be described as sufficient for 'e', then there is a possible world where 'p' and 'e' occur but 'm' does not occur, and then it is proved that 'm' is not identical to 'p'. Such an argument is similar in structure to S. Kripke's argument against an identity-theory. I shall discuss Kripke at great length later, and I concentrate here on another kind of counterargument to Peacocke. One can challenge Peacocke's view of the alternatives. How is it shown that these two alternatives are the only possibilities? Peacocke does not justify the restriction of choice in the text. If one held that two distinct events could have exactly the same causes and exactly the same effects, then it is a theoretical possibility that both 'm' and 'p' are sufficient for 'e', even if 'm' is not identical to 'p'. A single description under which they are each sufficient could apply to both 'm' and 'p' even if they were not identical, if that description did not apply in the straightforwardly predicative way to both. We would, if we adopted such a view, need to rethink our conception of the relationship between descriptions showing the necessary and sufficient causal conditions and

the ontology of events, and also to rethink our conception of what it is for an event to be 'overdetermined'. Such rethinking is not ruled out a priori. If two ontologically distinct events could have exactly the same causal properties, and the same causes and the same effects, then it might not, on such a view, be an instance of 'overdetermination' of an effect if this effect has both events as causes.⁹ If their causal properties are the same, and the descriptions showing the causal properties truly apply to both events (but in different ways), then we might consider this to be one set of causal properties which two distinct events have in common. One way to rule out such a view, and to justify Peacocke's restriction of the alternatives, is to embrace Davidson's theory that events are identical when they have exactly the same causal properties, i.e. when they have exactly the same causes and the same effects.

⁹ Peacocke's argument effectively blocks overdetermination of a normal kind. A typical case of normal overdetermination would be this: There are two simultaneous event, 'A' (which is person 'a' pulling a trigger) and 'B' (which is person 'b' pulling a trigger), and 'A' and 'B' cause 'C' (the death of person 'c'). 'C' (the death of person 'c') would have occurred even if either 'A' or 'B' did not occur. 'A' and 'B' are events which are independent of each other: it is possible for one of them to occur even if the other does not occur. That one of the events could have occurred without the other occurring is exactly the claim a dualist would make in the pain case we are considering in the text. My view is that Peacocke's argument is successful against such a dualist. The kind of 'overdetermination' (if it is rightly so called) which Peacocke's argument does not rule out, is the situation where it is impossible for 'A' to occur without 'B' occurring. The antecedent in the counterfactual would then be necessarily false. If we think of 'm' (the pain-event) as being constituted by 'p' (the physical event), and the 'complete' description Peacocke invokes as applying truly to both 'm' and 'p', we would have a situation of this kind. Whether it can rightly be called 'overdetermination' when we see 'm' and 'p' as distinct events, both causing 'e', is an issue I shall not go into. The main point of my argument is that Peacocke seems to need some principle about event-identity which rules out that two events can have exactly the same causal properties and still be distinct events. It should be noted that it is a delicate question, even in the case of normal overdetermination, whether the event 'C', namely that very event, could have occurred if 'A' or 'B' did not occur. Of course, the person 'c' would still have died.

There are several points to be noted here. The first is that Peacocke clearly intends to establish a token-token identity-theory (that there are true identity-statements of the form 'm'='p'). Secondly, the argument presupposes a certain common view on what constitutes event-identities, namely that ontologically distinct events cannot have exactly the same causes and the same effects. (Or, rather, he presupposes that his complete description must be straightforwardly predicatively true of any event of which it is true.) Thirdly, his argument concerns pain-events, which could be seen as falling outside the domain of events to which Davidson's argument applies. Fourthly, it is not clear that Peacocke's argument is significantly different from Davidson's. Peacocke claims that he is not committed to Davidson's view that the events can be described as instantiating strict laws, but it may be thought that such a commitment might be detected when the notion of a complete description at the physical level was spelled out in detail. If the notion of strict law is necessary to make the notion of completeness here sufficiently precise, then Peacocke's argument might be regarded as a version of Davidson's argument. I shall leave this fourth question completely open.

One main difference between Peacocke's and Davidson's arguments is that Peacocke concentrates on pain-events, and Davidson on typical cognitive events. In both cases it may be unclear how the arguments generalise to mental events as such. A third version, which combines features of Davidson's and Peacocke's arguments, might be available. It might go like this: A mental event 'm' causes a physical event 'e'. This is the assumed premiss. There is also a physical event 'p' occurring in the nervous system simultaneously with 'm', and we also believe 'p' caused 'e'. From

our theory of causation we know that a particular cause can be described as both necessary and sufficient for its effect.¹⁰ We now make empirical assumptions similar but stronger than those made by Peacocke in his argument. We suggest that the complete description at the physical level exhibits 'p' as necessary and sufficient for 'e'.¹¹ But we also know that 'm' caused 'e', and there must therefore be a way of describing 'm' similar to the way we described 'p'. It is logically ruled out that there can be two sets of necessary and sufficient conditions.¹² From this it follows that the description of 'm' which is in principle available, must exhibit the same necessary and sufficient conditions for 'e''s occurrence as the complete description of 'p'. It follows that 'm' and 'p' must have the same complete description, and thereby the same causal properties. Given Davidson's view on identity-conditions for events, but only given such a theory, it follows that 'm'='p'.

This argument makes very strong assumptions about causality, and about the theoretical possibility of complete descriptions specifying necessary

¹⁰ This means that we accept the strong and controversial view on causation suggested by Davidson, in D. Davidson (1980) p.158. This view gives a fairly precise sense to the claim that causes are necessary as well as sufficient for their effects. Furthermore it is committed to the view that causes and effects have precise location in time, and that a cause precedes its effect. Because of this view about the temporal relations between causes and effects, it is ruled out that there should be causal relations between the events 'm' and 'p' discussed in the text.

¹¹ This is of course a very strong assumption, considerably more controversial than the assumptions made by Peacocke and Davidson.

¹² The only possibility (pointed out to me by Michael Woods), is that 'm' and 'p' are sufficient for each other while they are both necessary and sufficient for 'e'. But by the assumptions made, there cannot be any causal relations between 'm' and 'p' because they are simultaneous. Because the assumptions made are so clearly controversial, I do not think that this argument carries additional weight against the dualist. It is meant to show that one has to invoke theories about event-identities even if one is making assumptions as strong as these when one is arguing for an identity-theory.

and sufficient conditions, and is therefore most likely less attractive than, for instance, Peacocke's argument (with the caveat that Peacocke then must rely on a weaker notion of completeness in the case of descriptions). But I think it shows quite clearly that we need more than Davidson's three premisses to establish a token-token identity-theory, as I understand such a theory: particular identity-statements like 'm=p' can be true. We need to introduce a notion of what constitutes identity in the case of events.

In all these arguments, causation is the crucial concept. Davidson writes: 'Cause is the cement of the universe; the concept of cause is what holds together our picture of the universe, a picture that would otherwise disintegrate into a diptych of the mental and the physical'.¹³

I claim to have shown that Davidson's causal individuation of events plays a necessary role in the establishing of the token-token identity-theory. It may even be that the concept of cause can hold the mental and the physical together even if one does not accept the token-token identity-theory.

From one perspective we can see some arguments against the token-token identity-theory as challenging the causal individuation of events. We must distinguish such criticism of Davidson's position from the kind of criticism directed at one of the premisses. It may be that some of the arguments against the token-token identity-theory which I shall consider must, if they are accepted, have consequences for at least one of the premisses. Whether they really have such consequences is in fact an open question. It seems to me that the number of possible positions in this

¹³ D. Davidson (1980) p.XI.

area is larger than is often thought. In this thesis I shall be concerned with arguments which can be seen as having a direct bearing on which of these possible positions one should adopt. I find it necessary to discuss first the problem of how to think about event-identities, since this appears to be crucial. I shall develop a theory which I suggest is adequate, at least as a framework for the rest of the discussion. I shall then proceed to arguments against an identity-theory in both the sensation case and in the cognitive case. These two cases are really quite different when they are considered in detail. There is no satisfactory way of treating them together, though it is often done. I proceed to the sensation-case after suggesting a general, if minimal, theory of event-identities, and leave the cognitive case until last. This final discussion also constitutes an evaluation of the grounds for accepting the general theory in the first place.

PART 1. EVENT-IDENTITIES

PART 1. EVENT-IDENTITIES

1.1. PRELIMINARIES

I have demonstrated how influential arguments for a token-token identity-theory depend upon common conceptions of what it is for events to be identical. The point is that if the truth of an identity-theory is to be established by the arguments that are held to establish it, certain theories of identity-conditions for events are ruled out. I shall now concentrate on Davidson's theory of identity-conditions for events, since this theory has won wide acceptance, and would, if true, guarantee the validity of the argument for the token-token identity-theory.

Davidson's theory of event-identities faces a number of different difficulties. There are objections to Davidson's theory from several points of view. Some writers have claimed that there is an objectionable circularity in Davidson's theory. Others have criticised the implications his views have for the relationship between causation and causal explanation. It has also been claimed that his theory has very undesirable consequences for the semantics of adverbs. I shall now explore some of the important difficulties a theory of event-identities faces, and I shall do this from a specific perspective that I shall present and explain. I start with a few general remarks on metaphysics.

1.1.1. THE FREGEAN REQUIREMENT

Our concept of identity seems perfectly clear: everything is identical to itself and nothing else. Leibniz's principle of the indiscernibility of identicals seems self-evident. There have recently been philosophers arguing for a relative view of identity, but the strong criticisms of such a position are, in my opinion, decisive against this relative view.¹

Even if our concept of identity seems clear in itself, it is exceedingly hard to give criteria for being the same particular entity in space and time. This question is often conceived of as the task of giving necessary and sufficient conditions for being a specific particular of a given kind. Frege articulated the demand for such criteria, when he wrote: 'If we are to use the symbol 'a' to signify an object, we must have a criterion for deciding in all cases whether 'b' is the same as 'a' even if it is not always in our power to apply this criterion'.²

The question of identities between events is similarly best seen, in my view, as the question when 'a=b' is true, given that 'a' and 'b' are singular terms referring to events. A criterion is meant to tell us what this identity consists in; it is not meant as an epistemological test. It should make it possible to decide all such questions in principle, because it tells us in virtue of what each such true identity statement

¹ I have in mind for instance D. Wiggins (1980), especially chapter 1, and J. Perry: 'The Same F', Phil. Rev., Vol. 80, 1970, pp.181-200.

² G. Frege: The Foundations of Arithmetic, ed. J.L. Austin, Blackwell, Oxford, 1959, p.73.

is true. We do not have to possess the knowledge or evidence required to decide each case, but the criterion must make the question answerable in principle; it must make it well-defined.

It was Frege's discovery that there is not one such identity-criterion, but a variety of different criteria, depending on what kind of object the names in the identity-statement in question refer to. The search for such criteria in the different cases, and the debate over what they are, has been a dominant theme in modern philosophy. An influential philosopher like Quine can, I think, be rewardingly approached from a perspective where he is seen as taking the requirement of decidability in principle from Frege very seriously indeed, and as placing a specific interpretation on what it is for the question whether an identity-statement is true to be well-defined.

Davidson shares this basic attitude with Frege and Quine, and his causal criterion of event-identity must be seen as an attempt to give such criteria for events on a general level, in order to make it in principle decidable whether two events thought to be distinct are in fact the same event. It is very important to be clear on the basic point that the question whether an identity-statement with a singular term referring to a physical event on one side, and a singular term referring to mental event on the other, is true, must be well-defined and in principle decidable, if anything like a token-token identity-theory is to be true. If we do not know exactly what such an identity consists in, then the whole project of a token-token identity-theory must be redefined.

Throughout this thesis I shall be committed to what I have here called

the Fregean requirement. Since such a commitment may take various forms, I shall introduce the concepts of reductivism and essentialism to clarify further how my commitment is to be understood. I shall use 'reductivism' in a slightly technical way. I take it to name the view that necessary and sufficient conditions for being a particular object in space and time can be positively stated in an informative way, and that what can be stated in this way contains all the content there is to 'being the same object'.

1.1.2. REDUCTIVISM AND ESSENTIALISM

1.1.2.1. REDUCTIVISM AND PRIMITIVISM

The way I understand 'reductivism' makes it correspond to the thesis that identity-questions must be grounded, where groundedness is understood to mean that an identity-statement must be true in virtue of facts that can be informatively stated.³ 'Reductivism' is by no means meant to imply 'reductionism', which is the stronger thesis that facts about identity for one kind of object are to be reduced to facts about objects of

³ The thesis that the truth of identity-statements must be grounded is spelled out and defended by G. Forbes: The Metaphysics of Modality, Clarendon Press, Oxford, 1985, pp.126-131.

another kind.⁴ Opposed to the thesis of reductivism stands the attitude of primitivism. We can envisage a situation where we can be convinced by argument that necessary and sufficient conditions for being one particular object, be it an artifact or a particular member of a natural kind, cannot be given informatively. Being a specific person may be an instructive example, since there has recently been so much discussion about whether such conditions can be given for being a particular person. A negative result in this case might be taken to imply that the identity of persons is in some sense primitive and given to us, and that no informative or reductive account of our concept of what it is to be the same person can be given. Such reductive accounts normally base themselves upon specific equivalence-relations, which do not presuppose what it is to be the same person, between persons at various times. If the reaction is that personal identity is clear in itself and primitively given, then the attempts to give necessary and sufficient conditions for what it is to be the same person can at most be seen as attempts at elucidating what we mean by 'being the same person'; these attempts cannot be seen as giving an exhaustive account of the meaning of this primitive concept. This is what I call the primitivist reaction.

It is slightly obscure to me what the positive content of a primitivist position is. The arguments in its support are mainly negative ones, consisting in criticisms of specific reductivist proposals. What is clear is that the primitivist camp can be divided into two, according to whether or not one holds that there is an absolute answer, true or false,

⁴ My distinction between 'reductivism' and 'reductionism' in the case of identity-statements is meant as an instance of M. Dummett's general distinction between 'reductivism' and 'reductionism', made in M. Dummett: 'Common Sense and Physics', in G.F. Macdonald (ed): Perception and Identity, Macmillan, London, 1979, pp.5-6.

to questions about identities. Any attempt to give substantial content to the position seems to turn it into some kind of reductivism. I shall not here comment upon the specific negative arguments primitivists have put forward.

If we consider the example of personal identity, we can distinguish between two main reductivist attitudes. The revisionist would, in the face of the envisaged argument, go on to revise the ordinary language concept in order to make it well-defined. A conservative would claim that the right reductive account of the ordinary language concept has not yet been given, and claim that it can in principle be given, but that it is an extremely complicated task. I shall call the process of laying down new and revisionist criteria a process of legislation. The difference between the revisionist and the conservative is then basically a difference in how well-defined they take ordinary language concepts to be. For both these main categories of reductivists the question whether they think that there is an absolute answer to whether identity-statements are true or false, can again be raised.

These various views connect with attitudes to the general problem of vagueness and the Sorites paradox. It is not my aim to try to settle the disputes between these attitudes either way, but only to distinguish them in order to make explicit my own attitude.

When we consider the case of identity-conditions for events, it becomes clear that if one takes the primitivist attitude, holding that there is no way of giving necessary and sufficient conditions for being the same event in general, then the prospect for drawing a conclusion as strong as

the token-token identity-theory, would be rather dim. It would then be obscure in virtue of what such a conclusion would be true. Our conclusions, if any, would at least have to be weaker. It seems clear that a reductionist view, embracing the Fregean requirement, is needed at the present stage to make the question whether a physical event can be identical to a mental event well-defined and in principle answerable. My attitude in general is reductionist, and I also lean towards the revisionist kind of reductionism.

There are also many different views on how a process of legislation ought to be carried out. Quine is a very radical revisionist, and it might be instructive to take a short look at how he carries out this legislation. Quine defines a physical object only in terms of space-time, which he takes to be well-defined. Each portion of space-time is, in Quine's view, a physical object.⁵ Given only ordinary language, Quine argues, it is indeterminate which of these well-defined physical objects a body-referring or an event-referring expression refers to. Quine holds that it is a purely pragmatic question to which physical object we take a referring expression as referring, and that there are a large number of equally good candidates. In ontology, a pragmatic decision must be taken to satisfy the Fregean requirement. If such a decision is made, we can see the referring expression in ordinary language as standing proxy (Quine's word) for this well-defined physical object. Of course we do not have to make such decisions for most purposes of ordinary communication. This can be seen as a way of approaching Quine's 'double standard' view; there is one standard for ontology and a different standard for most

⁵ W.V. Quine: Theories and Things, Harvard, Cambridge MA, 1981, essay 1, in particular p.10.

practical purposes in language use.

I do not endorse Quine's views here, and to illuminate other possible attitudes, I shall introduce the concepts of essentialism and non-essentialism. The way I understand these concepts links them very closely to the distinction between actualism and non-actualism.

1.1.2.2. ESSENTIALISM AND NON-ESSENTIALISM

The question whether or not one ought to give necessary and sufficient conditions for being a particular object of a given kind in terms of the essential properties this object is taken to have, is also a question on which there are very different basic attitudes. The case is parallel to the case of reductivism and primitivism in that there seems to be no way of settling the dispute by any compelling rational argument.

Davidson's theory of event-identities, that events are identical if and only if they have the same causes and the same effects, is a theory which does not explicitly attempt to draw a distinction between essential and non-essential properties of events. If we tried to draw such a distinction on Davidson's theory, using only what is explicitly stated by Davidson, then it seems that we would have to say that it is essential for a particular event to have all the causes and effects it actually has. This would make impossible cross-world identifications of events

across worlds where things went differently. It is essential for any event to be the event it is that all other events which actually occur do occur. I find this view counter-intuitive, but Davidson's theory is clearly not meant to provide a foundation for cross-world identifications. Quine finds the philosophical justification for a distinction between essential and non-essential properties lacking, and a natural interpretation of Davidson is to see him as siding with Quine on this question. We can also say that Davidson and Quine give identity-criteria for events and objects respectively, in a purely actualist way, by limiting themselves only to properties these events and objects actually have.

Opposed to this view stands the view which wants to say something definite about what kind of changes an object can undergo but still remain the same object. The debate over personal identity is full of ingenious thought-experiments of exactly this kind. Identity-conditions can then be given by exact specification of what kind of changes will turn an object into a different object. A recent influential view, advocated by, for instance, Kripke and Putnam, argues that there are essential properties of natural kinds. Kripke also argues for essential properties of particular objects, for example that for a table to be the table it is, it is essential that it is made of the wood it is made of. There are theorists who hold that it is a necessary condition on an adequate theory of event-identities, that it draws a sharp distinction between essential and non-essential properties.⁶

⁶ M. Brand 'Identity-Conditions for Events', American Philosophical Quarterly, (from now on called 'APQ'), vol. 14, 1977, pp.329-337, and M. Brand: Intending and Acting, Bradford Books, Cambridge MA, 1984, chapter 3.

It has been thought that acceptance of a theory of direct reference in some way or other entails the acceptance of some essentialist theses. N. Salmon has recently demonstrated that this is not so, and that there is no direct implication of any essentialist thesis from a theory of direct reference.⁷ The essentialist claims made by Putnam, Kripke and others must be established independently of the truth of a theory of direct reference.

The intuition that water is essentially H₂O, that anything which is not H₂O is not water even if it looks and tastes like water, and that anything which is H₂O is water regardless of what other properties the substance has, seems to me correct and true. I also accept many of the other essentialist claims made by Kripke. I think we have some parallel intuitions about events, but such a view is highly controversial. Let me just say that I am favourably disposed to a theory which gives a systematic account of essential properties of events. Given my commitment to the Fregean requirement and to reductivism, it is clear that an adequate theory must bring determinacy to these questions, which can be looked upon as cross-world identity-conditions for events. (I do not want to commit myself to realism about possible worlds: for me this is simply a way of speaking which serves as a useful tool for bringing out the questions clearly.) Such a theory, if it is to be acceptable, must give answers in harmony with the intuitions we have about these matters, but I readily admit that these intuitions are often vague, and that they do not constitute easily available data for a theory.

⁷ This is the general argument of N. Salmon: Reference and Essence, Blackwell, Oxford, 1982.

One reason for attempting such a theory is that some of the important criticisms of a token-token identity-theory base themselves precisely on such essentialist intuitions about events. An instructive example is Kripke's criticism. One might, of course, disagree completely with Kripke's framework, and dismiss his argument on the ground that his distinction between essential and non-essential properties is not justified. I am myself deeply puzzled by Kripke's argument, and find that the proper response is to try to establish a way of making systematic sense of Kripke's framework by a theory which can evaluate the tenability of his claims.

The point of identifying these various basic attitudes to reductivism and essentialism is partly to make my own views explicit. This is not the only point, however. It seems to me that disputes about the question I shall now approach, the truth of the token-token identity-theory, can best be understood if the various positions taken are seen as motivated by one or the other of these basic views. Which position one eventually holds on the token-token issue, seems largely determined by which basic views one accepts. Since the disagreement often concerns these basic issues, it is hard to see how progress can be made.

In order to make some progress, it is therefore necessary to make the basic views explicit. This, however, cannot be sufficient. I aim to develop a version of reductivism which will be revisionist, but which can accommodate many non-revisionist intuitions. If it can be shown that a reductivist, revisionist, position can be considerably more flexible than is normally thought, then further progress might be achieved. I now

approach the problem of event-identities from the perspective of a reductivist and essentialist.

1.2. CONSTRAINTS ON A SOLUTION

The internal theoretical critical analysis of each theory of event-identities plays a major role in a comparative evaluation of different plausible theories, but it is unlikely that such theoretical analyses can decide between all competing theories unless less abstract questions are considered. In addition, a good theoretical analysis cannot be given in isolation from the purpose of such a theory. To specify exactly what we need such a theory for, we have to rely on specific analyses of, for instance, the logical form of sentences referring to events, their entailment-relations etc. This analysis of logical form will clearly be theory-laden.

The aim of the metaphysical theory is to explain why the inferences we recognise as correct are valid. But on the other hand there can be no simple listing of what we recognise as correct. This is because different analyses of logical form recognise different inferences as valid, and the preferred metaphysical theory will also play a role in deciding which of the alternative analyses we ought to use as a basis for the choice of a metaphysical theory.

I shall in this section suggest certain conditions that must be satisfied for a theory of event-identities to be adequate. All in all I shall give five conditions. I shall not argue for the first three conditions in this connection since I think they are, relatively speaking, less controversial. The two others are, as far as I can see,

clearly more controversial, and I shall therefore argue for them in some detail.

1.2.1. UNARGUED CONSTRAINTS

1.2.1.1. PARTICULARITY

One basic reason for accepting events into our ontology is that much of ordinary speech directly suggests that there are such particulars as events. Davidson has argued that in the sentence 'Jones did it with a knife', 'it' seems to refer to the thing Jones did, not Jones or the knife, and it is possible to ask the person who told the story to tell some more about it. 'Jones buttered the toast in the bathroom with a knife at midnight', seems to describe the same action in a number of different ways, or to describe different aspects of what Jones did. So what Jones did is redescribable; there are always more aspects to it, just as there always are with particulars in space-time. The grammar of these sentences suggests that 'what Jones did' is referring to a particular.⁸

There is a stock of similar examples, which suggests that we think of

⁸ D. Davidson (1980) pp.105-106.

events as dated particulars in space. Ordinary language supplies the full apparatus of definite and indefinite articles, ways of counting, quantification and identity-statements in connection with events. This constitutes one reason for thinking that there are such particulars, but it does not constitute a decisive reason. There is no direct step from what the superficial features of language suggest to answers to ontological questions. A systematic theory of truth, which gives the conditions under which an arbitrary sentence is true, requires that expressions are interpreted as referring to, or as quantifying over, certain entities. It is in the context of such a systematic account of language that we can tell which terms are referring singular terms. This systematic account will regiment the language, and this regimentation will provide an explication of the validity of the inferences we take to be correct.

It has been forcefully argued by Davidson that such an account of language must commit itself to an ontology of events as particulars in space-time. I shall accept this view without arguing for it, and defer to Davidson's writings for a defence of it. I shall, however, indicate the major point in Davidson's defence of such a position in the next section. If Davidson's view is accepted, then it becomes mandatory to provide identity-criteria for these particulars, in order that we shall be able to quantify over them.

One further point needs to be mentioned, and that is that ordinary language also seems to commit us to events which are not particulars. 'He did it again!', suggests that what 'it' refers to can be repeated. I shall again simply defer to Davidson's arguments concerning such

examples. Davidson argues, in my opinion convincingly, that particulars make up the only kind of events to which we ought to be committed.⁹

1.2.1.2. LOGICAL FORM

The first condition, the particularity-condition, seems quite independent of any detailed semantical analysis of adverbs. These details, on the other hand, seem to be important in determining how the identity-criteria for events ought to be given.

A metaphysical theory of events must be clearly distinguished from a theory of the logical form of action-sentences, but there are important connections between the two. The theory of logical form of event-sentences will show a great deal about events, even if metaphysical problems concerning the nature of events remain even when one has got the logical form right. The theory of logical form can be considered as a first step towards a metaphysical theory, and a metaphysical theory must be able to explain why the inferences which a theory of logical form makes legitimate, are valid.

I shall take a stand on one question concerning the logical form of event-sentences, and take it as established. I think the analysis I

⁹ See, for instance, Davidson's argument against Chisholm, in D. Davidson (1980) pp.181-203.

accept contains an insight no theory of event-identities can violate. It concerns the semantics of adverbs on a general level. Adverbs, and event-sentences, are a difficult topic when approached from the point of view of logical form. The problems in understanding the logical form of such sentences within a traditional way of looking at logical form was first, and I believe forcefully, presented by A.Kenny.¹⁰

We can appreciate the difficulty by observing that if we add adverbial modifiers like 'in the streets of Bologna' or 'at midnight' to a sentence like 'Sebastian strolled', then these new longer sentences clearly entail the sentence 'Sebastian strolled'. If one views each addition of an adverbial modifier as the making of a new, non-compositional, predicate, then these entailment-relations which we all accept, cannot be represented. If, on the other hand, we analyse 'Sebastian strolled' as referring to an event: 'There is an event X such that Sebastian strolled X' (in Davidson's wording),¹¹ or 'There is an event X, which is a strolling, and which is by Sebastian', then we can represent these entailment-relations, because we can now understand adverbial modifiers as modifying this event in a way parallel to that in which adjectival modifiers modify nouns; i.e. we can see adverbial modifiers as describing properties of the event that took place. Because there seems to be no limit to the number of adverbial modifiers we can add, a traditional analysis, which construes action-predicates as n-place predicates, is not economical. And it cannot capture the logical relations we want to capture: the fact that 'Sebastian strolled' is entailed by any sentence

¹⁰ A. Kenny: Action, Emotion and Will, Routledge and Kegan Paul, London, 1963, chapter 7.

¹¹ D. Davidson (1980) p.167.

of the form 'Sebastian strolled + adverbial modifiers (1-n)'. More importantly, Davidson's analysis gives an important insight into the structural composition of predicates of actions which represents the semantics of such predicates as finitely axiomatizable, and thereby represents in a direct way how understanding of such sentences is learnable.

1.2.1.3. CAUSAL STATEMENTS

The third constraint concerns the ontology of the causal relation, the logical form of causal statements, and the relationship between the epistemology and the ontology of causation. I accept that events should be seen as the relata of the causal relation, and that a theory of event-identity should be compatible with a Humean theory of causation, which analyses the relationship between cause and effect as an extensional relation in the world. Causal explanations are intensional, and this intensionality ought to be explicable in terms of relationships between specific descriptions of events. Events are the relata of the causal relation.

There is also a further problem connected with the logical form of causal statements, which is brought to our attention when we consider the problems which arise when we treat 'cause' as a sentential connective. We seem able to substitute salva veritate singular terms in purely causal

contexts. However, if one thinks that 'cause' is a sentential connective, then a difficult dilemma appears to arise. What is underlined in the following sentences is the supposed sentential connective.

'The fact that there was a fire in Jones's house caused it to be the case that the pig was roasted'. If Jones's house is the oldest building on Elm Street, then 'the fact that there was a fire in the oldest building on Elm Street caused it to be the case that the pig was roasted'. We clearly accept these entailment-relations, and an adequate analysis of the logical form of these sentences should preserve them.

There is an influential argument with historical roots in Frege, used in different versions by Church, Quine and Davidson, which attempts to show that if a context is referentially transparent, then it is truth-functional. But causal contexts are clearly not truth-functional. If they were, then 'the fact that the telephone rang caused it to be the case that there was a fire in Jones's house' would be true. This sentence is clearly false, even if the telephone did ring.

The argument used to show that a context is truth-functional if it is referentially transparent, has recently been contested by philosophers who do not accept the traditional notion of logical equivalence.¹² I

¹² The argument is applied to causal contexts in D. Foellessdal: 'Quantification into Causal Contexts', in L. Linsky (ed): Reference and Modality, O.U.P., Oxford 1971, pp.52-62. It has been contested, for instance by R. Cummins and D. Gottlieb: 'On an Argument for Truth-Functionality', APQ, vol. 9, 1972, pp.265-269, and T. Horgan: 'The Case Against Events', Phil. Rev., vol. 87, 1978, pp.28-47. Powerful objections to the argument are found in J. Barwise and J. Perry: 'Semantic Innocence and Uncompromising Situations', Midwest Stud. in Phil., vol 6, 1981, pp.387-404, and J. Barwise and J. Perry: Situations and Attitudes, Bradford Books, Cambridge MA, 1983. See also D. Foellessdal: 'Situation Semantics and the "Slingshot" Argument', Erkenntnis, vol. 19, 1983,

cannot enter that dispute here. Indeed its outcome seems to me to be quite open. However, if we see the expressions in the example as referring to events ('there was a fire...', 'the pig was roasted..'), then we get a smooth and attractive solution to this problem of logical form. We can explain the referential transparency because the expressions refer to the same event. The dangers are then avoided, irrespective of what the right conception of logical equivalence is.

It is a large task to defend a Humean theory of causation, or even to explain its ontological basis, which is required by its demands for spatio-temporal continuity, succession and constant conjunction. In a recent book, Hume and the Problem of Causation,¹³ T. Beauchamp and A. Rosenberg perform this task admirably. I shall commit myself to some of the essentials of their explication of a Humean theory, and accept their defence of it. Their theory is Humean without being Hume's. Hume is often quite imprecise, for instance concerning the ontology of the causal relation. Beauchamp/Rosenberg argue convincingly that the relata must be events on a modern reconstrual of Hume's theory. Causal relations are on this view relationships between particulars in space-time. I will accept this function of events without trying to establish it by argument in this context. I accept that this is the most illuminating way of understanding the relationship between causation and causal explanation.

pp.91-98.

¹³ T. Beauchamp and A. Rosenberg: Hume and the Problem of Causation, O.U.P., Oxford, 1981. This is an important book for my purposes, and I shall make clear what I commit myself to below.

1.2.2. CONTROVERSIAL CONSTRAINTS

1.2.2.1. CIRCULARITY

It has been argued by N. Wilson that a statement properly laying down identity-conditions for 'X's must not contain X-identities, and it must not contain quantification over X's'.¹⁴ If Wilson's principle is correct, then the possible ways of giving identity-criteria for events are considerably restricted. Indeed one of the main theories of event-identity, D. Davidson's, seems to violate this principle.

It is uncontroversial that the first half of Wilson's principle is correct. It rules out direct, overt circularities, and that does not need a justification here. But what is the justification for the second half; i.e. that such a criterion must not contain quantification over X's? Wilson does not give a justification of this. It seems that not all identity-conditions can be given in Wilson's favoured way. We are always entitled to demand identity-criteria for the entities we are in fact quantifying over when we give a definition. And as we go on making this demand, we must sooner or later reach some entities which must be taken

¹⁴ N.L. Wilson: 'Facts, Events, and Their Identity-Conditions', *Phil. Stud.*, vol. 25, 1974 p.304. In the following reasoning I have been much inspired by D. Gottlieb: 'No Entity Without Identity', in R.W. Shahan and C. Swoyer (eds): Essays on the Philosophy of W.V. Quine, Harvester, Brighton, 1979, pp.79-97. The context in which I place the discussion of identity-criteria for events, and the conclusions I finally draw, are quite different from Gottlieb's conclusions.

as primitive, or we must be going around in a big circle in which only each particular statement of identity-conditions for some kind of entity fulfils Wilson's principle. And why is that so much better than direct quantification over X's?

Space and time are seen as well-defined by some philosophers, e.g. Quine, and thereby as possible building-blocks for the identity-criteria for objects and events in space and time.¹⁵ On such a view, which gives identity-criteria in terms of space and time, one cannot hold that the given identity-criterion can be used to explain fully, to someone who starts from scratch, how to individuate and keep track of objects through time. The identity-criterion only serves to regiment and make determinate the identity-conditions, given our rough and ready ways of individuating and keeping track of objects through time. There is therefore an epistemic circularity involved in giving identity-criteria in this way, because our individuation of times and spaces is dependent upon our individuation of bodies and events. It is not normally thought that this epistemic circularity makes it unjustifiable to individuate bodies and events by space-time. It is because the explanatory role of this identity-criterion is quite minimal that one can hold that there is no circularity here. If, on the other hand, the correct view is that an identity-criterion must give something like rules to keep track of the same object of a given kind, rules which can be explanatory in the strong sense of explaining fully to someone unfamiliar with the given kind of object how to keep track of the same object, then this space-time

¹⁵ Quine speaks about space-time as a four-dimensional system, not about space and time. I do not think that it matters for my purposes which way I speak, and I shall not discuss Quine's motivation. See Quine (1981), essay 1.

criterion cannot be satisfactory. It seems unlikely that someone could have a conception of space-time without already having some conception of bodies and events and their individuation.

If there are no strong explanatory aims in giving an identity-criterion, then there is no objectionable circularity in a space and time criterion. Wilson's second requirement is not violated in this case, since there is no quantification over bodies and events in giving the identity-criterion. If one gave identity-criteria for bodies by saying that bodies are identical if and only if they stand in all the same relations to other bodies, then this would be objectionable according to Wilson's principle, since one would then be quantifying over bodies in giving the criterion. Wilson's view can be justified thus: if it is not determinate beforehand what bodies are, and what bodies there are, and the definition is meant to be legislative and to determine answers to these questions, then it is hard to see how this can be achieved by quantifying over entities whose identity-conditions are supposedly being made determinate by the same definition. The quantification presupposes a grasp of identity-conditions for bodies, and there is therefore an objectionable circularity. Such a definition cannot do its job of determining what bodies are, and which bodies there are, if this is not already determinate.

It is important to see that such a circular definition does not have to state something untrue. Of course it may be true that if two bodies have all the same relations to other bodies, then they are the same body. If we were individuating numbers, and defined 'x is the same number as y' as true if and only if 'all numbers smaller than x are smaller than y', then

we would not be saying something untrue. But if we did not know beforehand what numbers are, and which numbers there are, then this definition could not determine what numbers are, because it presupposes that knowledge in the definiens.

There is, however, one case where it seems to be quite generally accepted that we can use a definition of identity-conditions which violates Wilson's principle. This case must be considered before one can finally decide in favour of accepting his principle. The example is set-theory, where set-identity is normally defined thus: (x, y, z , range over sets)

$$(S) x=y \text{ iff } (z) (z \in x \leftrightarrow z \in y)$$

This definition violates the second of Wilson's requirements, since there is quantification over sets in the definiens.¹⁶

It is important to note that there can be two uses of such definitions of identity. I shall explain how. Such a definition might be understood as giving determinate identity-conditions for entities in cases where there are no such determinate conditions beforehand, thereby legislating how identity is to be used and understood for entities of this kind. In such cases my justification for the second of Wilson's requirements applies and restricts the kind of identity-conditions that may be given. The other use of identity-conditions consists in giving an analysis, an analytical definition, of identity-conditions in cases where these are already understood and are determinate beforehand. In these cases my

¹⁶ Given this particular way of defining set-identity.

justification for Wilson's requirement does not apply because it is known independently what the entities quantified over in the definiens are. If this is thought to be the case for sets, (and so that we can know what determines set-identity independently of this definition,) then it is legitimate to violate Wilson's requirement in this case. And that is exactly what is normally thought to be the case, because it is generally held that we can individuate the members of sets independently, and make determinate the identity of sets on this basis, or that it can be made determinate by building from the empty set. If that is so, then this definition of set-identity has a use of the second kind, and Wilson's principle does not apply to it.

If the case of events is clearly different from this case of sets, because there is no such independently and antecedently understood determinate conception of events, then Wilson's principle will apply. And it should be clear that there is no such antecedent determinacy in the case of events, since there are widely conflicting opinions about what events there are and what events are. A criterion of event-identity must be meant as legislative of how event-identity is to be understood. It therefore seems correct to fully accept Wilson's principle as being applicable to this case. To accept it fully means that we cannot just quantify over events when we give identity-criteria for events. Wilson's view thus seems to imply that we must quantify over other entities, for which we have a prior individuation available. In my terminology, this might be interpreted as advocating a reductionist account. On a reductive account, we need not be committed to such reductionism, but we do need to give a satisfactory account of how the determinateness required for quantification over events is achieved. In my opinion a reductionist

account is preferable if achievable, but a reductive account, which shows in an informative way how identity-conditions for events are grounded, can be satisfactory even in the absence of a reductionist account. The distinction between a reductive and a reductionist account is necessary to deal adequately with the problems Wilson's requirement is designed to deal with. Later I will suggest a reductive account and argue that the circularity it involves is not objectionable given the reasons which justify Wilson's second requirement.¹⁷

1.2.2.2. ESSENTIALISM

It seems to be beyond doubt that we assert counterfactual claims about events, and that we believe that some of them are true and others false. We can assert for instance that if the ambulance had not been held up by the collision, then the explosion designed to kill her would not have killed her. This means that if the ambulance-team had arrived earlier, then the effects of an event would really have been different from its actual effects. Still, the cause would have been the same event, and therefore a particular event would have had different effects from its actual effects, had things gone differently (i.e. if other events had not taken place). Intuitively, the collision which delayed the ambulance-team seems absolutely irrelevant for the identity and individuation of

¹⁷ See my distinction between 'reductive' and 'reductionist', based on Dummett's, given on above, with references to Dummett in note 4) in this part (part 1).

the explosion which actually caused the death of this person; it would have been that very explosion irrespective what other events occurred at other places.

S. Kripke bases his argument, which he takes to refute the token-token identity-theory, on purely modal intuitions of this type. This raises two questions. One is whether we should accept Kripke's argument. The second is whether a theory of event-identity should critically accommodate in a theoretically systematic way the kind of intuition upon which Kripke relies, (i.e. whether it should provide a framework for assessing the possible truth of such modal intuitions). If the answer to the second question is yes, we seem to be driven towards some kind of essentialism, and it is difficult to give an argument which rationally compels someone to accept the essentialist position. If, on the other hand, one finds Kripke's general method legitimate, but regards his argument as a deep puzzle, and wants to discuss in detail whether his conclusion should be regarded as correct or not given such a framework, then there seems to be a need for a theory of essential properties of events which could, in some way, bring determinacy to answers to questions based on modal intuitions, and enable us to assess the intuitions we have concerning these modal questions in a larger theoretical framework.

There are, of course, a large number of ways to approach modal or counterfactual questions. Many standard approaches do this without raising questions about the metaphysics of modality. It is not, as I have stated earlier, my aim even to try to settle the debate between the various approaches. If one thinks that our modal intuitions can be regimented in quantified modal logic, and holds that a theory of

individual essences of particulars is needed to give a foundation to such quantification, and that such theories can be given in a satisfactory manner, then one might think that there are such strong parallels between the cases of bodies and events that a similar theory of individual essences is to be expected in the case of events. But even that is far from obvious. There are strong a priori arguments in the case of objects - for instance concerning the necessity of origin - which have no clear application in the case of events.

It has been established in the literature that one can be a modal realist without being a realist about possible worlds.¹⁸ This is partly a technical result, which depends on how modal statements regimented by quantification over possible worlds can be translated into a regimented modal language where there is no quantification over possible worlds. Still the intelligibility of quantification into modal contexts is based on the theory of the individual essences of the objects that make up the domain over which one is quantifying. The question is whether a theory of the individual essences of events can be given in a satisfactory manner.

Even the intuitions I stated in the beginning of this discussion may not be universally shared. In the literature D. Lewis, for instance, has given clear support to the view that we have such modal intuitions about events, or, in my way of putting it, that we have intuitions about cross-world identifications of events. He considers the death of Socrates.¹⁹ We call this event 'e'. Suppose, Lewis suggests, that Socrates had been

¹⁸ See G. Forbes (1985) pp.89-95.

¹⁹ D. Lewis: 'Causation', in E. Sosa (ed): Causation and Conditionals, O.U.P., Oxford, 1975, p.186, footnote 9.

resurrected after e occurred, and 'killed again, resurrected again, and finally became immortal'. Lewis holds that e would clearly have occurred, even if it could not satisfy the description 'the death of Socrates'. Lewis is relying on an intuitive conception of the event itself. He says nothing about criteria by which we can judge that it really is e which occurs in the worlds we are considering. Lewis himself does not want to provide cross-world identity criteria, but argues for a strong realism about possible worlds populated by counterparts. I find Lewis's intuition in the case of Socrates in harmony with mine. There are well-known counterarguments to Lewis's own system which I shall not go into, but which I accept.

In his recent carefully argued book on the metaphysics of modality, G. Forbes considers essentialism and events.²⁰ Forbes's book contains convincing arguments for a theory of individual essences of particulars, and also arguments against counterpart-theories, and a general justification for modal concepts. On these general issues I am indebted to Forbes, and I will refer to his treatment of these issues which I cannot discuss. Forbes expresses a scepticism concerning essentialism about events. He holds that such theories can be seen as a philosopher's fabrication. I agree that the specific theory he is considering might be seen this way. I will now look briefly at the explicit source of Forbes's scepticism towards quantifying over events into modal contexts. This source is the fact that it seems to be the case that each single sentence which is naturally seen as referring to events, can be reformulated as a sentence with more or less the same meaning which does not refer to events. His example is that instead of 'the assassination of Kennedy was

²⁰ G. Forbes (1985).

the work of a conspiracy, we can say that there was a conspiracy to assassinate Kennedy'.²¹

Forbes's sceptical attitude can be summed up by saying that if we avoid an ontology of events, then we can avoid giving a theory of their individual essences. This is obvious, and Forbes's example is all right as far as it goes. But it is much harder than Forbes's seems to acknowledge to do away with events as particulars. I stated earlier that Davidson has argued that such an event-ontology is needed by the most satisfactory compositional semantics of adverbial constructions, and also seems to be deeply reflected in the way we think about and describe changes. Forbes does not engage in a discussion of arguments of that Davidsonian kind, and to my knowledge there are no better accounts available than Davidson's, or modifications of it.

Forbes's attitude seems by implication to be that if an ontology of events as particulars is necessary, then one needs a theory of their individual essences. Of course it might be held that a theory of individual essences of events is not necessary, even if one accepts both a general essentialist attitude, and an ontology of events as particulars. And a theory of events must not be just a philosopher's fabrication. But if a theory of individual essences of events can be shown to connect closely with the semantical purposes for which we need an event-ontology, and if it also seems to be in harmony with a great many of the intuitions we have about modal properties of events, what objection can there be to it from Forbes's perspective? Or, in other words, if a theory satisfies the three unargued constraints given

²¹ G. Forbes (1985) p.212.

earlier, satisfies the Circularity-constraint, is reductive in the sense that identity-questions are clearly grounded, and is supported by our intuitive judgements about cross-world identities of events, can it then be correct to regard this theory as a philosopher's construct in any other sense than the sense in which all substantial philosophical theories are a philosopher's construct?

Forbes also argues for the thesis that identity must be intrinsically grounded.²² This thesis imposes constraints on how a reductive account of identity for entities of a particular kind may be carried out, or how identity is seen as grounded. It says that the question whether or not an identity-relation holds across worlds between x and y must be settled by intrinsic features of x and y, and facts about which other objects exist in the relevant worlds are irrelevant for the settling of the identity-question. Such a thesis can only be established by careful consideration of our intuitions concerning relevant examples, and Forbes makes a strong case for this thesis as applied to identity-conditions for substances. I shall not rely on this in the case of events, since intuitions seem to be less clear in this case. But such a thesis seems to conflict with the view that it is necessary for an event to have exactly the causes and effects it actually has. I find that Forbes's thesis has application to events, and that my intuitions in this case are parallel to my intuitions in the other cases.

I know that I have not given anything like a decisive argument in support of the essentialist view, but I have indicated the general perspective and motivation behind this commitment by these short comments

²² G. Forbes (1985) pp.140-145.

on Forbes's work. I shall now, on the basis of the outlined constraints to an adequate solution to the problem of event-identity, go on to discuss some of the main theories in the literature.

1.3. DAVIDSON'S THEORY

1.3.1. CIRCULARITY

D. Davidson's theory of event-identity has perhaps been the most influential theory in this area. The theory is that events are identical if and only if they have the same causes and the same effects, or to put it formally: (x, y, z, range over events)

$$x=y \text{ iff } (z) (z \text{ caused } x \leftrightarrow z \text{ caused } y)$$

$$(z) (x \text{ caused } z \leftrightarrow y \text{ caused } z)$$

Davidson points out that the theory has an 'air of circularity about it', but that the circularity is certainly not formal. It is not formal since there is no identity-sign on the right side of the biconditional. This does not violate the first and uncontroversial of Wilson's two requirements. But does it violate the second?

Before I examine that question, which concerns one of my controversial constraints on a theory of event-identity, I will note how Davidson's theory fares in respect to the unargued constraints. Here it seems quite obvious that his theory fulfils both the Particularity-constraint, the Logical Form-constraint, and the Causal Statement-constraint as I have formulated them. In fact it is of course very much due to Davidson's work

that these constraints can be seen so clearly, and also due to his work that they can, at least in this context, be assumed as true without further argument. These facts are important, and their importance must not be underrated when we evaluate Davidson's theory as a whole.

I shall now turn to the circularity-problem. In my argument to justify the second controversial requirement, I admitted that there were cases where Wilson's second requirement did not apply directly. These are cases where we have an independent determinate grasp of how the X's are to be individuated, as for example is the case in set-theory. It therefore seems necessary, if Davidson's view is to be defended, that we have an independent determinate grasp of what events are, independent of the definition he gives. If this were so, then Davidson's definition would have a purely analytical use, as in the parallel case in set-theory.

If one argues just intuitively, it will be noted that there is wide disagreement about what events are and what events there are, among philosophers theorizing about events. Even if the individuation of events in ordinary language serves our day-to-day purposes, this does not seem to supply the determinateness which is needed if the definition is to be used analytically. What may be more important is this: Davidson's definition is clearly intended to determine what events there are. Its point is to supply identity-criteria which individuate events determinately. If this is so, then there is an objection to quantifying over other events in order to define identity-conditions for an event. To individuate determinately the events we should then be quantifying over, we would need to have individuated their causes and their effects determinately according to the same definition. But if so, we need to

have individuated determinately the events for which we are now laying down determinate identity-conditions. The theory therefore seems circular.²³ But is this argument convincing?

When one is arguing about this issue, there are several problems which must be distinguished. One of these is the question whether Davidson's theory should be believed to be true. This is an issue which must be separated from the question of circularity. A theory may be true, but circular. In fact we have reasons for believing that his theory is true, because it meets successfully the unargued constraints above. It might be parallel to the cases I referred to above in discussing the Circularity-constraint. One example was the case of saying that bodies are identical if and only if they have the same relations to all other bodies, and a second example was that a natural number is identical with another if and only if all the same numbers are smaller than each one of them. Another related point is that if Davidson's criterion is true, even if it is found to be circular, then it might still be adequate to determine

²³ Quine has just published a criticism of Davidson's view along similar lines in 'Events and Reification', in E. LePore and B. McLaughlin (eds): Actions and Events. Perspectives on the Philosophy of Donald Davidson, Blackwell, Oxford, 1986, pp.162-172. Quine makes the point that impredicativity might do for definition (in for instance the case of sets), but not for individuation, and that individuation of events is what is needed. See Quine (1986). Davidson accepts Quine's criticism, and seems to accept Quine's space-time criterion, which I discuss and criticise in the next section (see D. Davidson: 'Reply to Quine on Events', in the same volume, pp.172-176). These new contributions appeared too late for me to be able to integrate a discussion of them in the text, but I am glad that my reasoning here is supported by Quine's clear argument, even if the conclusions for theories of event-identity I draw are different from Quine's. D. Davidson informed me that Quine had a similar argument when we discussed this point, and that he, in the discussion with Quine, had given up his causal criterion. Davidson expressed the view that Quine's theory might have more serious implications for the semantics of adverbs than he had believed at the time, and that the intuition that causality must play a crucial role in the individuation of events might be right after all.

specific identity-questions if we have a sufficient grasp of the individuation of the events involved, or if we are confident that two events have the same causes and the same effects. It might be fair to say that philosophers have not distinguished these questions clearly.

What must a defence of Davidson's definition establish? It must demonstrate that we can get a determinate grasp of what events there are independently of the definition, so that the definition can be regarded as having an analytical use. This is made difficult, however, by the fact that there are very different intuitions about event-individuation. It is likely that there will be parallel conflicting intuitions both about event-individuation and about which events cause which events. If these different intuitions result in two completely parallel but different sets of events, then each of these sets could be held compatible with Davidson's definition. But if there is to be determinateness to what events are and which events there are, only one of these sets can give a correct individuation of events.

The natural response from a Davidsonian quarter must be that Davidson's causal theory provides further guidelines which enable one to achieve a determinate individuation of events. The additional resource one would invoke is, I think, a specific theory of what causal relations are. Among the problematic cases that will have to be settled is the appropriate fine-grainedness in the individuation of actions and mental events. To create determinateness in such cases, one would need first to assign a specific determinate location to these events in space-time. If location is not sufficient, as I shall later argue it is not, then it will also be necessary to assign to the particular events a certain set of

constitutive properties which are being exemplified at that location. One might in that way secure the degree of determinateness required to settle the issue between the two incompatible sets of intuitions about what events there are. Through the additional resources given in such a theory of causal relations, one might achieve the determinateness required to defend Davidson's use of his criterion as an analytical one (in the sense defined).

The basic problem with such a defence of Davidson's theory is that the determinateness of event-individuation is now actually based on assigning locations and properties to events while taking these entities (viz. locations and properties) as individuated and given. This raises several questions. One question is whether Davidson's theory would come out as true if such a way of making event-identities determinate were accepted. Further questions will arise concerning the individuation of the entities that are then treated as primitives.

One cannot rule out a priori that a defence of Davidson along these lines might succeed. If it did, one might then be justified in regarding Davidson's definition as true and as having an analytical use. But it is crucial for present purposes to distinguish between the arguments purporting to show that a certain definition is true, and the form a theory of event-identities must take if it is to determine the individuation of these entities. Even if the defence of Davidson's theory referred to above succeeds, it is an argument of the former kind, because within it the determinate individuation of events was in fact achieved by the introduction of additional primitives which again had their origin and justification in a certain view on causation, and what causal

relations are. But in an area like that of events, where there are strongly conflicting views and intuitions concerning the correct method of individuation, this dependence must be made explicit in the process of giving a theory of identity-criteria. Since there is a legislative process going on, this legislative process must be open to view. This is necessary to assess exactly what the theory is. One is only justified in stating the theory in the form Davidson states it if the legislative process makes this particular definition true, and it is absolutely clear how the legislative process makes it true.

In Davidson's own case, I doubt whether his writings on causality, which mainly consist in giving the logical form of causal statements, can suffice to bring determinacy to event-individuation. A more substantial theory of causation, for instance a Humean theory, is necessary. The more important point is that one cannot be satisfied with Davidson's definition alone. It must be supplemented with what I call a legislative process. One way of doing this is to commit oneself to a more substantial theory of causation than Davidson does, and explain how this theory of causation and causal relations brings determinacy to event-individuation, and thus how it makes an analytical use of Davidson's theory possible.

This is one of my ambitions in this thesis. Thus, while I am not arguing against the truth of Davidson's definition, I claim that Davidson's definition is not justified by the resources available from what is explicitly stated in his own writings.

1.3.2. ESSENTIALISM

Davidson's theory is clearly what I have called actualist: it gives identity-criteria for an event in terms of its actual causes and actual effects. This of course conflicts with the essentialist requirement on a theory of event-identities, which requires that the theory can supply a grounding for cross-world identifications of events across worlds where things went differently. This requirement is, of course, controversial. Further, since this requirement has not been established by compelling argument, it may be thought to be only a weak objection to Davidson's criterion that it does not satisfy this requirement. However, I think that it should be considered, both because of essentialist intuitions embedded in ordinary usage, and because I regard it as important to discuss in its own terms a certain kind of criticism of the token-token identity-theory.

This point about essentialism is, I will argue later, interestingly related to the circularity point, and also to the thesis that identity-questions must be intrinsically grounded. When one takes the Circularity-requirement seriously, and gives a criterion fulfilling it, then one will, I shall argue, have available the resources to approach the essentialist questions in an interesting way. That of course does not mean that one has to address the question of essential properties that way, or at all; that will depend among other things on whether one wants to regard Davidson's criterion as true for the actual world, or as a conceptual (necessary) truth. For the present I note only that

Davidson's theory does not meet this second of my controversial constraints either, and I turn to alternatives in the literature.

1.4. A SPACE-TIME CRITERION

I shall now briefly consider the suggestion that the same location in space and time is sufficient for event-identity. My reasons for considering this suggestion are twofold. I think that this criterion might naturally suggest itself to someone who believes that space and time can serve to give identity-criteria for substances, and at the same time is concerned to avoid the circularity manifest in Davidson's criterion. Secondly Davidson, for instance, seems to adopt the space-time criterion in the face of the criticism directed against his causal view.²⁴ In his original discussion of event-identities, he suggests that a space-time criterion might give the same individuation as his causal view.²⁵ In some sense the latter claim is true. But the important issue is to clarify in what sense it is true. The investigation of this will also contribute to showing why Davidson's causal theory can not individuate events determinately except by adding some further primitives.

It is clear, I hope, that such a space-time criterion can not provide a theory of cross-world individuation of events. From my viewpoint this is a powerful argument against such a criterion. Furthermore, the space-time criterion seems to have very strongly revisionist, and quite implausible, consequences, given the theory of logical form of event- and action-sentences that constrains a theory of event-identities. Since this is so,

²⁴ D. Davidson (1986), pp.175-176.

²⁵ D. Davidson (1980) p.179.

the space-time criterion can only be accepted at very great cost, and this constitutes a strong argument against this criterion.

The space-time criterion is suggested by E.J. Lemmon,²⁶ and later used by Quine. Quine accepts an ontology of events on the ground that it seems to be demanded by the best and most economical way of giving the semantics of adverbs, as argued by D. Davidson. Quine writes: 'An action or transaction can be identified with the physical objects consisting of the temporal segments of the agent or agents for the duration'.²⁷ This criterion is to be understood as saying that if we think of an object as a path through space-time, and this object undergoes a change at time t , then this change (event) is to be identified with the segment of the path having the same duration in time as the event.

One main problem with this criterion is that it is very natural to hold that a substance may undergo two different changes at the same time. This casts doubt on whether this criterion actually suffices for the individuation of events. If for example a metal ball is heated at time t , and slowly rotated at the same time, do we have one or two events? Is there a rotation and a separate heating, or just one event, a rotation-heating? It seems quite clear to me that we would say that there are two events in our ordinary way of individuating events, but that, as indicated by Davidson, it might be thought that there is only one event, because both the heating and the rotation could be said to be identical with the sum of the motion of the particles that make up the ball. The

²⁶ E.J. Lemmon: 'Comments', in N. Rescher (ed): The Logic of Decision and Action, Pittsburgh U.P., Pittsburgh, 1967, pp.96-103.

²⁷ W.V. Quine (1981) p.11 and W.V. Quine (1986) p.167.

Quine/Lemmon criterion is committed to saying that there is only one event here, and so would make the identification just mentioned. In that sense it is revisionary, but how bad is that?

If we accept that there are two different events here, then it seems impossible to identify any macro-event with the sum of all the micro-events. If the heating is distinct from the rotation, neither of them can be identical to everything happening at the micro-level. Each molecule has one specific movement during time t , not two. If we try to 'build' some composite event from all these micro-events, then we can not succeed in building both a distinct event which is the heating, and a distinct event which is the rotation. The actual movement of each molecule is a resultant of all the forces working upon it. (The molecular level seems to be the natural level for such a potential reduction, since the sub-atomic level would present a number of additional problems.)

Against the Quine/Lemmon view, it seems possible to represent what is happening here in a perfectly legitimate scientific way even if one sees it as two distinct events. The heating of the ball is identified with the rise in mean kinetic energy of its molecules. A rotation, or any directional movement, must be identified within some three (or four) dimensional framework, (for instance in describing it in relation to some axis, identifying speed, acceleration and so on.) This seems to be what science actually does. If so, there is nothing in scientific practice to dictate to us that we must identify each singular macro-event, or ordinary-language event, with the sum of all the micro-events occurring at the space-time location in question. Science looks for micro-explanations, but that is irrelevant. Even if we think the truths at the

micro-level determine the truths at the macro-level, this does not need to imply that descriptions on the macro-level are reducible to descriptions on the micro-level.

Another line of argument arises from the semantical analysis of the common sense sentences which we take to be true in this case. When we reflect on the example, it seems clearly plausible to trace what we take to be the causal history of the heating independently of the causal history of the rotation. My skin gets burned when I touch the ball, but this has nothing to do with the rotation; the rotation (it is slow) causes a quite different sensation. In the same way the cause of the heating may be someone burning a gas fire, the cause of the rotation may be someone pulling a string, each ignorant of the other. If we say that 'the burning of the fire caused the heating', then it does not seem plausible to substitute 'the rotation' for the 'heating' in this statement. We are inclined to say that that is simply false. The same works the other way around. We would say that the cause of the rotation is simply not the cause of the heating. The defender of the space-time criterion would, in the revisionary spirit, point out that 'causes' must not be understood, as it often is, as 'causally explains'; when we understand it as the extensional 'causes', then we will, on reflection, regard these substitutions as truth-preserving.

The point can be appreciated when we look at the different adverbial modifiers that can modify the heating and the rotation respectively: one may be 'from the left to the right', the other not; one 'done with a fire', the other not. The revisionist space-time theorist will hasten to point out that there are other similar problems in the semantics of

adverbs, viz. an event may be a slow crossing and a fast swimming. This latter case has been defended as an example of attributive adverbs, which can be true of an event under one description, but not under another. The case is then seen as parallel to that of attributive adjectives. The space-time theorist could argue that this is a pervasive feature in the semantics of adverbs.²⁸ Such a theorist would not only introduce the event the 'heating-rotation', he would also have to introduce hybrid events much more complex than that. The event which is the 'cause of the heating-rotation' would be very complex, not directly recognisable in our ordinary way of individuating events. We would pick out parts of it which are relevant for causal explanations.

The fact that we normally individuate events in a way which makes it possible for more than one 'event' to occur in a space-time zone, makes the space-time criterion extremely revisionary in comparison with our ordinary way of individuating events. The revisionary ontology would make legitimate many inferences and substitutions we do not normally recognise as acceptable. It is, however, the aim of the metaphysical theory of event-identity to explain why the inferences we make and rely on are in fact correct. If such a metaphysical theory makes correct a large number of inferences we intuitively think are incorrect, then it needs to be

²⁸ In a recently published article, published too late for me to be able to integrate a discussion of it, J. Bennett explores the consequences of accepting the Quine/Lemmon criterion for the Davidsonian semantics of adverbs. Bennett argues that if Davidson adopts the space-time criterion, then 'he ought not to account for any adverbs in terms of predications on events; and so he will be committed to relinquishing one of his two main arguments for having an ontology of events'. (J. Bennett: 'Adverb-Dropping Inferences and the Lemmon Criterion' in LePore and McLaughlin (1986), p.206) I have not had time to study Bennett's argument in detail, but if his conclusion is correct, as it seems to me it is, then this will be a strong reason for not adopting the space-time criterion, if something better can be given. (This is not the moral Bennett draws.)

supported by very strong arguments in order to be acceptable. It would first of all need to have extreme clarity and simplicity. Secondly there would need to be no rival metaphysical theories which support all or most of the inferences we actually make. While I am not in principle opposed to revisionism, I find the revisionism so extreme in this case that it is impossible to accept, at least not without careful consideration of alternatives. A last point worth noting is that this space-time criterion can be seen as compatible with Davidson's theory of event-identity. Within the revisionary ontological framework it requires, Davidson's criterion would come out as true. This demonstrates the validity of my point that Davidson's theory by itself can not guarantee determinateness of event-individuation: it is compatible with different systems. I turn now to another suggested theory.

1.5. KIM'S THEORY AND SOME MODIFICATIONS

J. Kim has in a number of papers presented a different theory of event-identity which looks promising and is in the spirit of a theory of the kind I aim to develop.²⁹ The crucial desideratum is to work out a satisfying theory of event-identity on the basis of which we can determine answers to essentialist questions concerning the modal properties of events.

Kim views events as structured complexes. On his theory an event is seen as an exemplification of a property by a substance at a time. Events are identical if these constituent substances, properties and times are identical. I shall interpret Kim as viewing events as particulars, not as sets or abstract entities, although he invites such an interpretation in places. I shall not consider this alternative interpretation since I find it implausible on its own, and since it also violates my Particularity-constraint.³⁰

²⁹ The most important papers are J. Kim: 'Events and Their Descriptions', in N. Rescher (ed): Essays in Honor of Carl G. Hempel, D. Reidel, Dordrecht, 1969, pp.197-215, J. Kim: 'Causation, Nomic Subsumption, and the Concept of Event', Jour. of Phil, vol. 72, 1973, pp.217-236, and J. Kim: 'Events as Property-Exemplifications', in M. Brand and D. Walton (eds): Action Theory, D. Reidel, Dordrecht, 1976, pp.159-177.

³⁰ J. Kim (1969) and (1973) explicitly defines events as sets. These sets are 'made up' of the substances, the times, and the properties being exemplified by the substances at these times. J. Hornsby has criticised a view like Kim's, arguing that sets are abstract entities, and that events are particulars in space and time which we can always learn more about. (J. Hornsby: Actions, Routledge and Kegan Paul, London, 1980 p.136). I find Hornsby's criticism correct. I want to give a charitable interpretation of Kim's theory, as not violating the Particularity-requirement, and I will understand his use of sets as a way of

Kim's criterion has the virtue of giving identity-criteria for events solely in terms of entities other than events, and it therefore seems to meet my Circularity-requirement. If we look at how it meets my Logical Form and Causal Statements requirements, it is quite clear that Kim's theory does not violate any of these requirements. If we are concerned with substitutions of co-referring singular terms in purely causal contexts, then this seems to be handled smoothly by Kim; the theory makes legitimate substitutions of co-referring singular terms referring to the constituent substance. In fact it explains this kind of referential transparency.

The logical form requirement will be satisfied within Kim's theory if the addition of new adverbial modifiers does not describe new constitutive properties. On such a charitable interpretation of Kim, the theory seems to ground and explain the inferences we recognise as valid, from 'Sebastian strolled in Bologna' to 'Sebastian strolled' and so forth. On a very charitable interpretation of Kim's view, it may even have some attractive features as far as the semantics of adverbs is concerned. There is a class of adverbs that is quite troublesome on, for instance, Davidson's view. These are 'attributive' adverbs like slow, fast, big, and small. Such adverbs can only be true of events 'under a description' according to Davidson's view. If we grant Kim that being a 'swimming' and a 'crossing' are different constitutive properties, then a 'fast swimming' and a 'slow crossing' will be different events, and these

characterizing particulars; I will not take the claim that events are sets literally. Even if this is not Kim's actual view, I still want to discuss it. (Davidson pointed out to me that this is probably a too charitable interpretation of Kim; it is nevertheless the view I will discuss.)

descriptions will need no special analysis; the adverbs 'fast' and 'slow' will be true of the events simpliciter, to be analysed as other adverbs or event-modifiers. Kim's metaphysical theory therefore seems to ground a smooth semantics of adverbs, and that is a prime motivation for accepting such a theory.

Kim's theory depends on giving identity-criteria for substances and properties independently of events. The case of substances cannot be discussed here, but the difficulties in giving identity-criteria are considerable. Now one might want, or Kim may want, to treat substances as individuated, perhaps in a Quinian way, or to treat them as primitives. In that case there is nevertheless a further problem not discussed by Kim. If there is a heating of a metal ball, there is also a heating of the piece of bronze it is made of. But is there one or two heatings here? Given the way Kim's theory is formulated, it implies that there are two heatings, since there are two constitutive substances; but that is extremely unnatural and revisionary towards the way we ordinarily individuate events. Kim simply does not note that there may be more than one substance at a region in space at a time. One obvious move is to say that the constituent object is not the ball or the piece of metal, but the physical object (in Quine's sense) which a certain region in space-time makes up. This object may be looked upon as an equivalent-class of slices of the substances which we recognise to occupy that spatial region during that time. Such a space-time identification of the constitutive object may not only give the natural individuation of events in this case, but also be capable of being generalised easily to cases where there is no specific substance which is constituent of an event (as for example with an explosion). Furthermore, there are events such as an

object coming into existence or going out of existence, which do not seem to have the same subject during the time they occur. I think these arguments against taking substances as constituents of events are sufficiently strong to conclude that it should not be done. It is a welcome further fact that one then does not have to rely on a theory of substance-identities, or on a substantial theory of what can be an object which is a constituent of an event. I have accepted space-time regions as well-defined. Another point is that Kim's original theory seems to require the conceptual priority of substances to events, and that is a hard task to defend such a view. I suggest this space-time version of what the constituent object is as a modification of Kim's theory.

One hard problem for Kim is the individuation of the constitutive properties. Their individuation is a very difficult and controversial matter, and Kim urgently needs a way of individuating them that can ground the attractive features of his theory. Quine has argued forcefully against accepting properties into our ontology. One attraction of regimented first-order theories is that if such a regimentation is possible, as Quine argues it is, then we can manage with an ontology of only particulars and perhaps well defined entities such as sets.

Kim must face this problem of property-individuation. There is also a further problem clearly seen by Kim: he must be able to draw a distinction between those properties which are constitutive of events, and those which are not. If such a distinction is not made, one might be committed to the existence of so-called Cambridge-events, having as their constitutive property to take place at such and such a distance from Cambridge. This is clearly unacceptable for a number of reasons. If such

properties are accepted as constitutive properties of events, then this will cause problems for the theory of the logical form of causal statements, because such properties are irrelevant for the causal properties of events. It will make illegitimate many substitutions which we think are correct. One example might be 'the fire in Jones's house caused the pig to be roasted'. If Jones's house was the oldest house on Elm Street, we want to allow that 'the fire in the oldest house on Elm Street' can be substituted for 'the fire in Jones's house', since these descriptions are taken to refer to the same event. The same goes for any other description of this fire like 'the fire close to St.Martin's church'. Intuitively we can, in a purely causal context, substitute expressions which refer to this fire without changing the truth-value of the whole expression. If Kim's theory can not draw a distinction between the constitutive properties of this event and other properties it has, then Kim is committed to regarding each new way of identifying the fire as presenting a new constitutive property, and thereby as a way of identifying an ontologically distinct event. If these events are ontologically distinct, then there is no justification available for the substitution we judged to be valid, and it seems as if a large number of acceptable substitutions must be judged to be invalid on Kim's theory. This might, perhaps, be thought of as a minor problem. But it also seems to be straight-forwardly wrong to suppose that we describe different events each time we describe a certain event's distance in space from some place or other, or distance in time from some other event. All natural event-individuation will break down if the required distinction is not drawn.

Kim is, of course, not unaware of this problem, but he only hints at

solutions. He states several things about property-identities, but he does not provide anything like an identity-criterion. He states that being blue is the same property as having the colour of the sky, which indicates that he does not want to 'read' properties directly off from natural language predicates as is traditionally done. Kim also indicates that properties which are constitutive of events can be found in scientific theories,³¹ but he explicitly rejects giving some kind of causal individuation of properties, since he thinks that this is question-begging when he is aiming to provide the ontology of the causal relation. But if no criterion of property-identity is forthcoming, then he either has to take properties as primitives, or to abandon his theory of event-identities. The first horn of this dilemma is extremely unsatisfactory in the face of the Quinian challenge. In my eyes it is not a position which can be justified. The question then seems to be: can a criterion of property-identities be supplied?

Before I say more about that, I will briefly consider a further modification of Kim's theory which naturally suggests itself. The question is whether we ought to accept several constitutive substances when events grow complex, where, for example, many people are involved. Typical examples are parties, football matches, or battles. On my space-time version this is of course smoothly handled. In these cases I also find it quite obvious, at least given our intuitive way of looking at properties, that the events can be exemplifications of several different constitutive properties by the constitutive objects or space-time region during the time in question. Consider a wedding. Here there are

³¹ J. Kim (1976) p.162.

obviously several persons involved; the bride and the bridegroom perform certain actions, the minister different actions, and so forth. On an intuitive understanding of 'properties', it seems to be the various properties these people exemplify which makes it into a wedding. This also seems close to how Kim wants to view things. There is nothing essential to Kim's theory which prohibits such an expansion; many natural language events seem simply to be many objects exemplifying different properties. Kim's theory must handle these cases. Another modified criterion suggests itself for Kim: events are identical when their constitutive substances, properties and times are identical. In my formulation: events are identical if their space-time region and constitutive properties are identical.

The problem of individuation of properties has still not been faced, and no demarcation of properties which are constitutive of events has been produced. The classical problems of action theory, (whether 'I flip the switch', 'I turn on the light', and 'I alert a prowler' can be referring to one and the same event or must be referring to different events), are left undecided. Similarly, in the metal ball example, it is unclear whether 'heating' and 'rotating' are constitutive properties of different events, or whether they are properties of the same event.

Does the criticism of Kim's theory only amount to pointing out these problems about property-individuation? There is an argument in the literature purporting to show that Kim's theory as it stands is incompatible with a Humean theory of causation. Since I have laid down the requirement that the theory of event-identity is to be compatible with a Humean theory of causation, it would settle the issue if this

argument is sound. The argument gets quite complex, but it is interesting and illuminates difficulties. It is given by T. Beauchamp and A. Rosenberg, and consists mainly in a theoretical discussion of one example.³²

The example is Oedipus's marriage to Jocasta. Beauchamp/Rosenberg think that Kim is committed to thinking that there are two events here, characterized thus:

(1) (<Oedipus> <marrying Jocasta> at t)

(2) (<Oedipus> <incestuously marrying Jocasta> at t)

Their argument against Kim goes like this: Kim is committed to thinking that <marrying> and <incestuously marrying> are different constitutive properties, and that event (1) is distinct from (2). Secondly they find it undeniable, and something Kim cannot deny, that both (1) and (2) cause event (3):

(3) (<Oedipus> <having mental anguish> at t+T)

This second premiss is as crucial as the first, and based on common-sense intuition.

Beauchamp/Rosenberg require, as Kim has done,³³ that the constant

³² T. Beauchamp and A. Rosenberg (1981) pp. 252-255.

³³ J. Kim (1973).

conjunction requirement within the Humean theory should be exhibited by the constitutive property. Now it might be claimed that there is such a regularity between <incestuously marrying> and <having mental anguish>, but (hopefully) this is less likely between <marrying> and <having mental anguish>. If the first two premisses are accepted together with the third (the constant conjunction requirement), we are caught in a dilemma. Beauchamp/Rosenberg think the second premiss is undeniable, (both (1) and (2) cause (3)), so the choice is between denying the first premiss about distinctness, or the third premiss, that the constitutive property must exhibit the regularity. They assume, without further argument, that the third premiss is undeniable, (Kim committed himself to it in Kim (1973)), and opt for denying the first premiss, the distinctness-claim concerning (1) and (2).

There are several reasons for going slowly here. Kim (1976) has two lines on event-individuation: the unofficial line, which is less fine-grained, and the official line, which is more fine-grained.³⁴ On the unofficial line, constitutive properties seem to be given by nominalisations of natural language verbs, like 'strolling' and 'marrying', while adverbs, like 'incestuously', are treated as event-modifiers. On this account (1) and (2) will be identical. It should be noted that Kim also rejects the desideratum that the constitutive property (in this case <marrying>) must exhibit the constant conjunction of the causal relation. This line is immune to the particular criticism offered by Beauchamp/Rosenberg, but is not likely to be accepted by them since they assume that the constitutive property must exhibit the constant conjunction. I shall not here discuss

³⁴ J. Kim (1976) pp.169-170. Kim himself gives the name 'the official line' to the fine-grained version.

the tenability of this assumption, but just note that if Kim's nominalisations can be taken as standing for the properties which are constitutive (and are to be seen as clearly individuated or as primitives), then Beauchamp/Rosenberg are wrong in the claim that Kim must accept the distinctness of (1) and (2).

On Kim's official line (1) is not identical with (2), and the criticism seems valid if it is accepted that both (1) and (2) cause (3). On common-sense grounds I think (1) and (2) clearly cause (3), but it is not clear to me that Kim is committed to saying that (1) causes (3). Kim's theory is to some extent revisionary towards common sense ways of thinking, in claiming that (1) and (2) are distinct events. On Kim's view there may be theoretical grounds for also being revisionary on the question of whether (1) causes (3). One reason for Kim to deny that (1) = (2), is that (1) might well be explained differently from (2), and on Kim's theory, if events are identical, then an explanation for one is an explanation for the other.³⁵ Kim has his own view of the relationship between 'causes', 'causally explains', and 'explains', and tends to understand 'causes' in a way quite close to that in which Davidson understands 'causally explains'. When this view is held in combination with the intensional explanation-individuation of events, then it might become plausible to say that (1) does not cause (3) even if there is a close causal connection between them.

My intention here is not to defend Kim's view, but only to make the dialectical situation clearer. It seems clear that Beauchamp/Rosenberg's 'refutation' of Kim from the point of view of a Humean theory of

³⁵ J. Kim (1969) p.201.

causation is not watertight. On Kim's unofficial line, their argument gets no real grip, (even if this line has to face other problems). On Kim's official line, there might be a way out of the dilemma, because Kim's theory might motivate one to be more revisionary towards ordinary causal claims than Beauchamp/Rosenberg think one can be. Another question is the tenability of Kim's view. In fact Beauchamp/Rosenberg's criticism may face further problems; for instance they implicitly assume that distinct events can not have the same causes and the same effects. If that were given up, then one would immediately give up the constant conjunction requirement, and one could then accept that (1) and (2) both cause (3) but are nevertheless distinct.

I conclude that no particular disasters arise for Kim's theory specifically because of his commitment to a Humean theory of causation. The problems for Kim are the problems stated earlier. I shall now turn to Beauchamp/Rosenberg's solution to the supposed dilemma, because this solution has independent interest. Their first move is to say that events may have more than one constitutive property, so that (1) and (2) may be the same event with two constitutive properties, <marrying> and <incestuously marrying>. They further note that there may be more than one constitutive object, and suggest the same criterion as I suggested for independent reasons some pages ago: events are identical if and only if their constitutive properties, objects and times are identical. They realize that this is not the final word on this case, but I do not think they see how devoid of content the theory actually is. The theory stands in need of an independent criterion of identity-conditions for the constitutive properties to gain content, since it is far from sufficient just to commit oneself to an ontology of properties. Secondly, if such

an individuation of properties were given, Beauchamp/Rosenberg would again, I think, face the problem of giving a criterion for which properties are constitutive of events. As their theory stands, it is almost a reformulation of Leibniz's Law, and unable to bring determinacy to what events are and what events there are (Leibniz's Law is not a biconditional as their criterion is). Of course any criterion of event-identity which determined these crucial questions, would have to be compatible with Leibniz's Law.

Beauchamp/Rosenberg's reaction to the problems they see is to resort to D. Davidson's criterion, which I have analysed earlier. It then appears that what I have called the legislative process, the process which makes it determinate what events are and what events there are, must be carried out by Davidson's criterion. But as I have argued, Davidson's criterion can not do that by itself.

It is important to go very slowly here. The matters are very complex, and I suspect the right way of thinking about event-identities may be present in embryonic form in Beauchamp/Rosenberg's text. I shall later explain how. They think they can provide a kind of compromise between Davidson's criterion and their own modified Kimian criterion, because each in combination with a Humean theory of causation entails the other. I shall quote their argument fully:

"If two events possess the same constitutive objects, times, and properties, then we can infer that the constitutive properties of each event will appear in the same set of laws no matter what causal laws associating properties apply. Consequently, the particular events in

question will have precisely the same particular causes and effects. Conversely, since the causes and effects are determined by their constitutive properties, two events having the same particular causes and effects will also have the same constitutive objects, times and properties."³⁶

The first part of this argument does not say anything more than Leibniz's Law would tell us on a broad construal of properties. If it is a genuine property to have particular causes and particular effects, then, of course, two identical events will have the same causes and the same effects. One does not have to appeal to a theory of causation for this result.

The second part of the argument is more interesting, since it can be taken as a justification for an analytical use of Davidson's criterion. That is not the way Beauchamp/Rosenberg see it, since they do not think that Davidson's criterion needs such a justification. The argument seems to establish that if two events have the same causes and the same effects, then they will have the same constitutive objects, times, and properties.

I shall later comment on what I think is right in Beauchamp/Rosenberg's theory. But I shall now briefly explain why I think it is not sufficient or satisfying as a theory of event-identities in its present form. I shall give two reasons I consider to be of special importance, and not examine it further.

³⁶ T. Beauchamp and A. Rosenberg (1981) p.256.

The first important point relates to the point I made in connection with the Quine/Lemmon criterion: namely, that Davidson's criterion could be construed as being compatible with the revisionist space-time individuation. The very same reasoning applies if Beauchamp/Rosenberg's position is taken; they have not done anything to prevent that specific outcome of the process of individuation of events, and something needs to be said about how that is to be avoided.

A second point concerns essentialism. Beauchamp/Rosenberg do not face that issue at all, and have not provided any guidelines to enable us to understand cross-world identifications of events. If we take their theory as it stands, and make the assumption that Cambridge had been situated slightly further to the north than it is in the actual world, then in that possible world an event 'B' could share all properties with an event 'A' in the actual world, except for taking place at such and such a distance from Cambridge. Since no criterion for saying which properties are constitutive of events has been provided, Beauchamp/Rosenberg seem forced to accept that 'A' and 'B' are different events. On their criterion, as it stands, no cross-world identification of events can be made between events in the actual world and events in possible worlds where things go differently or are different, since these events will always necessarily be different given Beauchamp/Rosenberg's criterion. This is a consequence I cannot accept, but it stems from taking their theory as giving answers to questions it is not designed to answer, questions they do not face. In my view this gap needs to be filled. It can be seen as arising because they have not provided a distinction between properties of events and properties which are constitutive of events.

These points have been strongly negative, perhaps unfairly so. As I said, Beauchamp/Rosenberg come close to thinking about events in the way I am going to suggest, and I am indebted to their discussion. They make a number of interesting remarks, and perhaps the most interesting comes immediately after they have embraced Davidson's criterion. Referring to it, they say: 'its effect is to make Hume's causal laws the determinants of identity among events'.³⁷ I claim to have established that Davidson's criterion by itself cannot have such a result. But Beauchamp/Rosenberg are supplying a substantial theory of causation. I think that the resources in a theory of causation like Hume's may be put to use here: there may be a way from Hume's theory of causation to a justification of Davidson's criterion. Still it is absolutely necessary to get the order of justification correct. Davidson's criterion must be justified as having a proper analytical use before it can be taken as true unless some other justification for it can be given. Beauchamp/Rosenberg just assume its truth, and by combining it with a Humean theory of causation they get this result, which is of considerable interest.

In broad outline my strategy will be the reverse of theirs. I shall come back to that later and so clarify the way I am indebted to Beauchamp/Rosenberg. I shall now turn to a discussion of property-identities. This is necessary for several reasons; I have based my criticism of both Kim's theory and of modifications of it partly on their lack of attention to the problems of property-individuation, and I need to substantiate this. A discussion of property-identities also seems necessary if one aims to say something about the modal properties of

³⁷ T. Beauchamp and A. Rosenberg (1981) p.255.

events. A minimal requirement on such a theory will be the individuation of essential properties of events. A further point concerns circularity: Kim rejected a causal individuation of properties because he found it viciously circular to base an individuation of the relata of the causal relation on causally individuated properties. Is Kim right in that claim?

1.6. PROPERTY-IDENTITIES

1.6.1. INTRODUCTION: CAUSAL INDIVIDUATION

The problem of individuation of properties is a difficult and crucial problem for a number of philosophical theories, and one which needs to be taken sufficiently seriously. For instance Beauchamp/Rosenberg, in a crucial passage in their criticism of David Lewis's theory of causation, base their argument upon the claim that even if the meaning of predicates may be vague, properties are not.³⁸ But when they go on to quantify over properties, they give no clue as to how they want to individuate them. This leaves room for doubt about the success of their whole enterprise. The Fregean requirement, which is crucial for the enterprise, requires that this problem be taken very seriously. In this case it requires that if we use an expression 'a' to signify a property, then we must have a criterion for deciding in all cases whether 'b' is the same property as 'a', even if it is not always in our power to apply this criterion.

Properties are always taken as primitives. Something has to be primitive, but properties do not seem to be a good candidate for that, since there are very different theories concerning property-identities. If any criterion is given, it is often non-actualist: properties are identical when they are necessarily co-instantiated. I do not object to

³⁸ T. Beauchamp and A. Rosenberg (1981) p.161.

non-essentialism, but I still want an elaboration of what 'necessarily' means here. For instance, does it mean 'nomic dependence'? One might take it as a true law-like generalization that if a creature has a heart, then it has kidneys; but can 'having a heart' and 'having kidneys' be the same property?

There is at present a general trend in the literature on property-identities to regard causality as the crucial notion for the individuation of properties. Arguments in support of that line may be of several kinds. A general strategy may be first to show that other alternatives will not be able to provide a substantive account. Of course such an argument cannot be sufficient; one will have to show that a causal individuation will do so. P. Achinstein and E. Sober attempt to show that causality may be used to make the individuations we want to make.³⁹ A second group of arguments is of a conceptual kind. Such arguments are forcefully presented by S. Shoemaker. Shoemaker's thesis is that 'what makes a property into the property it is, what constitutes its identity is its potential for contributing to the causal powers of things that have it'.⁴⁰

A general argument may start from the 'contrary to fact' supposition that the identities of properties are somehow independent of the properties' causal potentialities. Thinking through the consequences of this possibility makes us realise that it can not be a real possibility. At

³⁹ P. Achinstein: 'The Identity of Properties', *APQ*, vol. 11, 1974, pp.257-275, and E. Sober: 'Why Logically Equivalent Predicates Might Pick Out Different Properties', *APQ*, vol. 19, 1982, pp.183-189.

⁴⁰ S. Shoemaker: 'Causality and Properties', in P. van Inwagen (ed): Time and Cause, D. Reidel, Dordrecht, 1980 p.114.

any rate, such an independence would have drastic epistemological consequences and implications.

It would mean that there might be properties without a causal potential, so that under no circumstances would a thing's possession of them make any difference to the network of causal order into which the thing enters. It would also mean that two different properties could have exactly the same causal potential, so that there would be no way of finding out or getting to know which of these two properties a thing possessed. And if properties are completely independent of causal potential, then it should be possible for things to undergo changes as far as their properties are concerned which do not affect their causal powers. Such a situation would have disastrous consequences for similarity; two things having very much the same causal powers may be less similar than things having quite different causal powers. In fact our ordinary way of picking out properties and naming them, which is based on observations, behaviour of things and so on, would be quite unjustified; there would be no way we would be justified in applying names to the imagined properties, because the thing could cease to have the property without any detectable changes.

There are several problems with this kind of reasoning; one such problem is that it bases itself upon a verificationist argument, and such arguments are generally thought to be problematical. A more important problem is that it is far from clear that this causal principle, advocated by Shoemaker, is sufficiently strong and precise to individuate the properties there are. In addition, the question of whether there are criteria for an individuation of the entities of a certain kind is

independent of the question of whether we ought to be ontologically committed to these entities. It is unclear to me what Shoemaker thinks about the latter question. His criterion is not stated in a context where it is made clear what the conditions for ontological commitment are. The whole argument can be rephrased so as to say nothing about an ontological category of properties, but rather be about ascriptions of predicates in natural language, and as purporting to show that the truth-conditions for the ascriptions of different predicates can be elucidated by regarding satisfaction of a predicate as meeting a condition which has something to do with 'the potential for contributing to the causal powers of things'. It would mean that when it is correct to ascribe a predicate to a thing, it would be because the thing that has this predicate ascribed to it possesses actual or potential causal powers; that is why it is correct to ascribe the predicate. One can accept such a thesis without having to accept the necessity of an ontology of properties as the referents of predicates.

My relatively strict conditions upon circularity also seem to create problems for such a causal individuation of properties, if these properties are going to be applied to individuate events. Shoemaker seems to take the notion of causation as in some sense primitive; at the end of the day, he claims, there will be intimate connections between the concepts of causation, properties and events. The ontology of events (the relata of the causal relation) is going to be determined by properties, which in turn are causally individuated, and causation itself is going to be analysed in terms of events and properties. This may certainly be considered an improvement when compared with a view which directly defines event-identity in terms of the events there are. There are still

strong reasons for being hesitant; even if a large circle is preferable to a small circle, the large circle may still be vicious. It is still the case, on a view like Shoemaker's, that one would indirectly have to quantify over events to give identity-criteria for events, because one would have to quantify over events to get a grasp of the causal relations that are going to individuate the properties. On the other hand it might be correct to hold, as Shoemaker does, that events, properties and causation are intimately related, and that no adequate account can be given which defines properties, or events, by quantification over other entities, primitives or not, outside this circle. Even so, there might still be a reductive account available, which is not reductionist, but which provides a grounding for the identity-conditions of the entities within this circle. I shall go on to explore this possibility, but first I turn to the really radical challenge to all attempts at an individuation of properties: Quine's challenge.

1.6.2. QUINE'S CHALLENGE

Quine is the arch-revisionist in the case of properties: he wants to do without an ontology of properties altogether. Quine holds that properties are not clearly individuated because their individuation must invoke essentialist or modal principles; properties can only be identical if they are necessarily co-instantiated, and Quine thinks that we do not have a clear conception of this necessity. Further, Quine claims, there

can be no explanatory value in acknowledging an ontology of properties if we do not need to quantify over properties in our best explanatory theories about the world. This, according to Quine, we need not do. To be is to be a value of a bound variable in the best and simplest theories, the theories we believe to be true. It is important to see that the former question about clarity is independent of the latter question about what the explanatory value of the inclusion of properties in our ontology is. Quine may be right in the second claim, even if he is wrong in the claim that there are no clear principles for the individuation of properties.⁴¹

H. Putnam is one of the few philosophers who has attempted fully to meet Quine's claims.⁴² Putnam is deliberately avoiding all the notions Quine objects to, among them also notions like cause, effect, or even nomologicality. He tries to give a criterion of property-identity which does not presuppose any prior understanding of such notions. It should be clear that if such a project succeeded, then there would be no objection from reasons of circularity to putting these properties to use in giving identity-criteria for events. Another question is, of course, whether such properties could do the job we want them to do.

H. Feigl has made a useful distinction between physical₁ and physical₂

⁴¹ See W.V. Quine: From a Logical Point of View, Harvard U.P., Cambridge MA, 1953, and W.V. Quine: Ontological Relativity, Columbia U.P., New York, 1969, in particular essays 1, 4, and 5, and W.V. Quine (1981), essay 12.

⁴² H. Putnam: 'On Properties', in H. Putnam: Mathematics, Matter and Method, C.U.P., Cambridge, 1969, pp.305-322.

terms.⁴³ 'Physical₁' is defined as a term entering essentially into an adequate account (descriptive or explanatory) of the spatio-temporal world (which includes human beings). 'Physical₂' is strictly reserved for the vocabulary of the science of physics.

Putnam makes essential use of this distinction. His basic building-blocks are the fundamental magnitudes in physics (not at the sub-atomic level). The conditions for being such a magnitude can be given empirically, in a way precise enough for all scientific purposes. We can then say, restricting ourselves to this level in physics, that we accept the property of T-hood into our ontology when the biconditional $(x)(T(x) \leftrightarrow \dots x)$ is accepted as empirically true, is part of the theory, and one has a reliable and precise confirmation-procedure for it. In addition the biconditional must satisfy some formal constraints: it must be projectible; it must characterize all particles (in a particle formulation of physics); one fundamental magnitude must be distance; and the laws must have a simple form. (E.g., they must be differential equations; this is what physicists look for, Putnam claims.)

From these building-blocks one can give identity-criteria for physical₂ properties; if two conditions are satisfied, then $P_1 = P_2$. These are

- a) P_1 and P_2 are derived from fundamental magnitude terms only with the help of logic and mathematics.
- b) $(x) P_1(x) = P_2(x)$ is a truth of logic/mathematics.

⁴³ H. Feigl: The "Mental" and the "Physical", Minnesota U.P., Minneapolis, 1967 p.10.

The next step is to use the concept of reduction essentially in giving identity-criteria for physical₁ properties. The reduction can of course be step by step, for the point is that if such properties can be reduced by bridge-laws (biconditionals), we can give identity-criteria for physical₁ properties in terms of physical₂ properties. This will of course only work if terms can be reduced; Putnam makes the claim that there is good hope for this in the future, and he thinks that irreducible terms in the long run will be eliminated. There are of course problems with the hard line on the unity of science Putnam takes here; one may think that the concept of reduction Putnam depends upon is far too strong to be realistic. Therefore, it may be thought that one should weaken that requirement, perhaps not demanding true biconditionals but one-way conditionals, which are true, but not sufficient for reduction. In an even weaker sense it might be held that the thing to do is to remain content with the laws that science gives us, whether or not these are reducible to physics, and see them as relating the properties that really exist.

I shall not dwell any longer on the last point, for what is striking is that Putnam directs his whole argument solely against Quine's claim that properties cannot be individuated. He seems to have overlooked that more is required to convince Quine that a property-ontology is needed: it must serve some genuine explanatory purposes. If the present scientific theories can be formulated without quantification over properties, then we can dispense with properties, and get away with a simpler ontology. If so, there would be no need for an ontological commitment to properties. Even if Putnam's cases meet Quine's clarity-argument, more is

needed to meet Quine's challenge.

In the treatments of this subject, I have found one serious attempt to meet fully Quine's requirements, and that is by E. Sober.⁴⁴ But Sober's argument is very limited: it only concerns evolutionary biology. Sober quite convincingly argues that it is necessary to generalise and quantify over properties in evolutionary biology as such, and in sub-theories within it. He also argues that there is no possible reduction of these properties to particulars or sets of particulars. It seems to me obvious that even if Sober is right, this cannot be of much help to my general problem concerning event-identity. Secondly I am not confident that there can not be an adequate Quinian response to Sober's arguments and claims. Sober's most general claim is that natural selection must be understood as selection for properties, and cannot be understood as selection for objects or sets of objects. Quantification over properties is thus needed to express the genuinely explanatory theory. But it is clear that in each particular case, where a mutation occurs, it is the reproductive capacity of the individuals instantiating the mutation which determines the outcome. If one steps down to a fundamental causal level in each individual case, then one may be able to retell the story without quantifying over properties. One can then, perhaps, view the theories quantifying over properties as having a basically epistemic function (i.e. to fix the relevant classes, and to support some higher-level counterfactuals), without needing to see the quantification over properties in the regimentation of the theory as having ontological implications. Whether this is a position that could be reasonably

⁴⁴ E. Sober: 'Evolutionary Theory and the Ontological Status of Properties', Phil. Stud., vol. 40, 1981, pp.147-176.

defended I do not know. One could admit that no reduction of the theory is possible at the present stage and with the present formulation. Another Quinian line would be straightforwardly to challenge Sober's claim that we need to quantify over properties to represent evolutionary biology. I am not going to take a stand on whether Sober's conclusion is fully justified, I do admit that his case is very strong for this particular historical discipline. I just want to indicate that I do not think that the final word has been said either way, and I am not going to rely on the truth of Sober's claim. In fact I do need something quite different for my purposes; it will not matter much for my problem whether Quine's scepticism is undermined in the case of evolutionary biology.

1.6.3. CAUSAL LAWS

If one takes the Quinian challenge seriously, then we seem to end up embracing Quine's position, since it is so hard to meet his arguments. That would be disastrous for any theory which attempted to give identity-criteria for events in terms of quantification over properties, as Kim and Beauchamp/Rosenberg seek to do. It also seems to lead back to Quine's space-time criterion for event-identities, with its extremely revisionist consequences. Still I believe there are further possibilities, and I have earlier remarked that a substantial theory of causation may provide what is needed. I shall now embrace a Humean theory of causation, of the kind defended by Beauchamp/Rosenberg.

It is extremely important to see that a Humean theory of causation like Beauchamp/Rosenberg's is committed to causal laws in an ontological sense. Within their Humean framework this ought to be expressed by saying that one is committed to an ontological distinction between causal regularities and accidental regularities. A Humean theory lays down four criteria for causal regularities, which ought to be mentioned.⁴⁵ They are:

- a) the uniformity specification: that cl (causal laws) state a uniform relation of contiguity and succession between relevantly similar pairs of particular entities;
- b) the universality specification: that cl are universally quantified, and have the form of universal conditionals;
- c) that cl are omnitemporally true;
- d) that they are contingent. ⁴⁶

Hume would agree with the insistence that law-statements should be of unrestricted universality. They state that there has never been, is not, and will not be exceptions to the regularities they express; the laws refer to open and infinite classes of particular instances. A Humean will be a realist in the sense that he accepts that we may not have found the

⁴⁵ T. Beauchamp and A. Rosenberg (1981) p. 132. This is a point where I fully commit myself to the view defended by Beauchamp and Rosenberg.

⁴⁶ See T. Beauchamp and A. Rosenberg (1981) pp. 81-86.

true set of laws, and that the present science is our best guess at which laws the true laws are.

The formal expression of these laws will be first-order, but all the above qualifications must be noted when these first-order statements are interpreted. A causal law may be regimented thus:

$$(x) [Ax \rightarrow (\exists y) (By \cdot Sxy)].$$

Here x ranges over causes, and y over effects. 'A' and 'B' may be highly complex predicates, and 'S' symbolizes the relation of contiguous succession in space-time. There is no quantification over any universals, only over the particulars that are the relata of the causal relation.

The properties which Putnam wants to acknowledge, are the referents of the predicates in our best guess at what the true causal laws are. Putnam argued that they were clearly individuated, and he actually laid down requirements on the laws more or less identical to the Humean requirements. I have indicated what I believe to be lacking in Putnam's argument and I have found no way fully to meet Quine's challenge. The question suggests itself: why not try to do with less, and do without a property-ontology? If the 'properties' expressed by causal laws are clearly individuated, and can be defined without presupposing a definition of events, why cannot those resources suffice to individuate events, even without a property-ontology? The ontological distinction between causal regularities and accidental regularities becomes the crucial building-block. I shall therefore take the Humean ontological distinction for granted, and explore how far one gets in constructing an

event-ontology from these resources.

There are still two further problems to be noted in this connection. The first problem receives little attention in the Beauchamp/Rosenberg defence of a Humean theory of causation. We know from Goodman and other writers that by these four Humean criteria alone a large number of odd universal generalizations will qualify as laws.⁴⁷ One can construct predicates like 'grue', 'gred', and 'emerose'. In short, one can formulate a large number of laws in these different languages. It therefore seems to be the case that Hume's criteria only give necessary and not sufficient conditions for being a law. Some philosophers have tried to add further conditions that have to be satisfied by a predicate if it is to appear in a law. B. Berofsky gives a long such list in 'Determinism', but admits himself that it is probably not sufficient.⁴⁸

It is far from being my aim here to say the final word on what a law of nature is. There are two reasonable options available, and I do not see that the choice between them matters enormously. The first option is to accept as laws all universal generalizations that qualify as laws by the four conditions. One then regards these conditions as sufficient as well as necessary for being a law of nature. This seems to be Beauchamp/Rosenberg's view. The second option is the one I would prefer. One could hold that the moral of Goodman's arguments is that a priori philosophy can not give necessary and sufficient conditions for being a

⁴⁷ N. Goodman: Fact, Fiction and Forecast, Bobbs-Merill, Indianapolis, 1955. The literature on this topic is of course large.

⁴⁸ B. Berofsky: Determinism, Princeton U.P., Princeton 1971, chapter 6. Berofsky sees shortcomings in his own analysis in Berofsky: 'Review of Beauchamp and Rosenberg: Hume and the Problem of Causation', Jour. of Phil., 1983, p. 487.

law. The singling out of the right predicates to occur in proper laws is done by science itself, and the task can be left to science.

The second problem is a new version of the circularity-problem. An objector might point out that we are quantifying over events to express true laws, and that we are then presupposing a grasp of what it is for two events to be sufficiently similar (in the first Humean condition). This is a deep problem; it implies an objection along the following lines: the individuation of causal laws presupposes an individuation of events, and causal laws can not then be used to give identity-criteria for events without breaking the circularity-requirement. It seems to demonstrate that no adequate account of event-identities is available.

The events that are presupposed by this criterion for being a law, can be seen as being precisely exemplifications in space-time of the laws the criterion is meant to determine. One possible view then is to regard this criterion for being a law as simultaneously giving a way of grounding identity-conditions for events and singling out a class of favoured predicates, namely those predicates which are apt to express causal laws. The criterion for being a law can only be expressed by quantifying over events, and it is very likely that the identity-conditions for events can only be given by the causal laws which are given this way. There remains a circularity, but the constraints laid down by a substantial theory of causation like the Humean theory of causation of Beauchamp/Rosenberg, can in fact be seen both as grounding the individuation of events and as giving the criterion for being a law. Shoemaker seems to take the notion of 'cause' just as primitive, and I was hesitant in accepting his non-reductionist view. By accepting a Humean theory, one brings further

constraints into the circle. My claim is that the circularity is not to be regarded as vicious if that is done. If it is not regarded as vicious, then it can be regarded as a non-reductionist reductive account, since it provides a grounding for the identity-conditions from within the circle by placing these constraints on the relationship between causal laws and the individuation of events.⁴⁹

⁴⁹ The reductive thesis is that we must give an informative account of how identity-statements are grounded. The claim in the text depends on having available the notion of being a law. It might seem that the claim is more securely based if one took the first option on Goodman's problem, and held that all universal generalizations satisfying the four criteria qualify as laws, and just bought the excess of laws as not mattering negatively for the individuation of events. If one takes the second option, and refers to some future ideal scientific theory, then the present individuation of events seems less securely based. The argument would be that that would not matter, since that would only be an epistemic limitation; it would not be in our power to apply the criterion properly, but we would still be able to understand what identity consists in, and use the criterion sufficiently well for our purposes.

1.7. THE THEORY

I shall now suggest what I think is the most promising way of giving identity-criteria for events, and briefly compare it with competing theories before I attempt a fuller defence of it. The latter part of this thesis will then be a further exploration of the adequacy of this theory in the context of an ontology of the mental. The background against which I give the criterion is worth summarising. I have argued that we have a clear criterion for what it is to be a causal law. This I argued in opposition to Quine's challenge to theories of properties, where I argued that a theory like Putnam's (or more correctly a Humean modification of Putnam's theory) partly meets Quine's challenge. I have found no good way of arguing against Quine's second challenge; that an ontology of properties must serve some genuine explanatory purpose. Still it must be correct to hold that if the criterion for being a causal law meets Quine's high standards for clarity, then we can quantify over instantiations of the predicates which express causal laws for the purposes of a philosophical theory of event-identities. I only want to quantify over instantiations of these predicates, and I intend to express no ontological commitment to properties. Still I shall, for the purpose of smoothness in the definition, express myself as if these favoured predicates in causal laws refer to properties.

I do commit myself to an ontology of causal laws, for which I have stated a Humean ontological criterion. The present laws of science constitute our best epistemic guess at what the set of true causal laws is. Science

is viewed as an eternal attempt to express what the true causal laws are. I am a realist about that one set of true causal laws, as a Humean must be. That set of true causal laws is constitutive of how things really are. We can imagine an ideal theory expressing them, and the quantification I suggest is quantification over instantiations of the predicates in this ideal theory.

Definition:

Events are particulars in space and time, and they are identical if and only if their constitutive spatio-temporal region and constitutive properties are identical.

'Constitutive properties' is then a short way of expressing that events sharing a spatio-temporal region are identical only if they are instantiations of the same predicates in the ideal theory of how things are. The quantification over these predicates could be read substitutionally. I do not see that it matters how one reads this quantification as long as we conceive of that set of predicates in the ideal theory as denumerable and nameable, and I see no reason for thinking otherwise. And as long as one is a realist about this ideal theory, I do not see how one can get Quinian problems of translation between 'logically incompatible' but empirically equivalent theories.⁵⁰

⁵⁰ It is impossible for me to assess Quine's indeterminacy argument in this connection. The main argument is from in principle underdetermination of theory to indeterminacy of translation. (See W.V. Quine: 'On the Reasons for Indeterminacy of Translation', Jour. of Phil., vol. 67, 1970, especially pp.178-180, or D. Foellessdal: Indeterminacy of Translation and Underdetermination of the Theory of Nature' Dialectica, vol. 27, 1973, pp.289-301. The argument from the 'gavagai'-examples is forcefully criticised by Gareth Evans in 'Identity and Predication', in G. Evans: Collected papers, Clarendon Press, Oxford, pp.25-48. The main

Still, in our epistemic specifications of events, we would always have to resort to the laws in the science of the day, even if events are ontologically defined by the set of true laws.

As this theory stands, there is no violation of Wilson's second requirement, since there is no quantification over events in the definiens. Still there is a circularity, because there is quantification over events in the statement which expresses the criterion for being a causal law, which the definition of event-identity depends upon heavily. This shows both that Wilson's requirement is in some sense superficial, and that a full reductionist account is not possible. Even so, the commitment to the causal laws, and the Humean theory, introduce constraints which remove the threat of vicious circularity. This substantial theory of causation provides the required determinateness to what events are, even if events and 'properties' are defined in terms of each other, and I regard it as an adequate reductive theory. This theory goes much further than Shoemaker's; his theory did not introduce such constraints.

To see the implications of this view more clearly, and to begin the larger process of evaluating how it meets the general adequacy-conditions on event-identities, I shall now consider its relations to other

argument depends crucially on criteria for being the same theory. In W.V. Quine (1981) pp.24-31, Quine gives up a syntactic criterion for theory-identity, and opts for empirical equivalence in principle as a criterion for theory-identity. It then seems as if a basic premiss in the argument for indeterminacy is undermined, since there is no in principle underdetermination of theory. The indeterminacy is a metaphysical conclusion about there being no fact of the matter about translation, and seems to need in principle underdetermination of theories, not only underdetermination given some finite data. So the whole situation seems unclear. In addition Quine's new criterion for theory-identity seems to be some kind of instrumentalist position.

criteria. The most interesting of these relations is the relation to Davidson's criterion.

It is clear that what I am here calling 'constitutive properties', are the determinants of what causes and what effects an event actually has, together with the constitutive spatio-temporal region of the event. So if two events have the same causes and the same effects in the actual world (these causes and effects being individuated according to the same criterion), then these events will have the same constitutive 'properties' and the same constitutive spatio-temporal region. A similar argument works the other way around: if two events have the same constitutive spatio-temporal region and constitutive 'properties', then they will have the same causes and the same effects. In my theory I do not have to say that the constitutive properties together with the set of true laws will determine the same causes and the same effects for events which are identical according to the criterion, or that the criterion in combination with the Humean theory of causation has this implication, as Beauchamp/Rosenberg say; on my criterion the causal laws of a Humean theory of causation are built into, and enter directly into the ontological criterion of event-identity. What this argument constitutes is a justification for Davidson's criterion; that events are identical when they have the same causes and the same effects. It demonstrates that Davidson's criterion is correct, and that it has a justified analytical use. It does this by making the legislative process explicit using resources in the theory of causation; this legislative task is fulfilled partly by the true causal laws. Beauchamp/Rosenberg remarked, after assuming without further argument that Davidson's criterion was true, that it had the effect of making the true causal laws the determinants of

event-identities. I can now put this the other way around: taking the set of true causal laws as determinants of event-identities has the effect of making Davidson's theory true.⁵¹

My other main objection to Davidson's theory was its non-essentialism. I shall come back later to my reductivist essentialism. At the present stage it is interesting to note what is easily seen, that if one thinks non-essentialism is correct, or that only non-essentialism is intelligible or justified, then my theory can also be used to justify the specific non-essentialist position which Davidson's theory was originally

⁵¹ M. Brand has given an example which seems to refute Davidson's theory. (See Brand: 'Particulars, Events, and Actions', in M. Brand and D. Walton (1976), p.137. Consider a particle undergoing a fission, the two new particles travelling in space, and then undergoing a fusion. If the fission is the cause of both the two movements, and the fusion is the effect of the two particles moving, then the two particles moving will have the same cause and the same effect. It follows that the two particles moving would have to be the same event. First it must be noted that on my view this causes no problem, since the two movements will have different spatial location, and be distinct. It is also not obvious to me how we ought to describe the causes and effects here, and therefore not obvious that Davidson's theory is not still true. But it might be that we ought to make an exception for this kind of case for a quite different reason. This relates to the very difficult problem of whether the universe is deterministic. David Papineau (1985) has argued forcefully for the view that there are reasons for holding a standard deterministic view on causation even if the universe is indeterministic. If so, there are events which are not caused, but which can still be individuated by their deterministic causal potential. My view can easily accommodate this kind of case, and I find Papineau's reasoning quite convincing. Fissions would be typical examples of this, and the split into two particles would not then be caused in the standard deterministic sense of 'cause'. This brings out two points: My view on events need not be committed to a deterministic universe, even if macro-events can normally be seen as caused, and Davidson's principle can still be true when events have causes and effects. Brand also criticises Davidson's view on the basis that Davidson would have to say that every event necessarily has a cause and an effect. This is not something I have to say on my theory, given Papineau's reasoning. What one would have to modify, if the universe is indeterministic, is the claim that events are the relata of the causal relation. This claim would still be true, but not in the sense that the relata of the causal relation are all the events there are. Some events would not be caused in the standard sense of 'cause', even if they have a deterministic causal potential.

understood as expressing. There are therefore two ways of seeing this justification of Davidson's theory. A non-essentialist will see it as a justification for Davidson's position without further complication. From his perspective there is now not much more to be said, although it was extremely important to achieve a justification of this kind because of the problem of circularity. An essentialist, like myself, will see the argument as a justification for the content of Davidson's criterion as far as the actual world is concerned. So from an essentialist perspective, much more needs to be said about modal claims.

A brief comparison with Kim's view is also worth making. One problem, which is shared by Kim and Beauchamp/Rosenberg, is that they define events in terms of substances or objects (continuants). Such a line seems to presuppose an individuation of continuants, or subjects of events, and also to be committed to the conceptual priority or primacy of continuants over events. The latter claim is hard to establish; Davidson has argued, in my view convincingly, that there seems to be more of a mutual dependency between the concepts of continuants and changes than a priority one way or the other. The Kimian view also has a further problem: some events seem not to be the exemplification of properties (in an ordinary sense) by continuants, for example an explosion. My theory, which takes space-time regions as primary, avoids all these problems, and also the additional problem of whether the heating of a metal ball is distinct from the heating of the piece of metal of which it is made.⁵²

Since I find Quine's arguments about properties rationally compelling,

⁵² Kim does at one point suggest a view quite similar to mine, but he does not develop it or defend it. See J. Kim (1976) pp.162-163.

they deprive both Kim's and Beauchamp/Rosenberg's theory of independent content. I do, however, owe a lot to Beauchamp/Rosenberg's modification of Kim. Although my theory differs from theirs in taking the circularity-problem very seriously, which makes it important for me to get the order of justification right, I have nevertheless learnt much from their discussion. In fact I am advocating an attitude to events which is in many ways similar to Quine's attitude to what he calls bodies.

Quine assigns a well-defined entity (a physical object, individuated by space-time) to a genuinely referring singular term in ordinary language.⁵³ There are clear pragmatic elements in the way this assignment is carried out. The ordinary language expression can then be understood as standing proxy, in what he calls a proxy-relation to this well-defined entity. There may be no absolutely right or wrong answer to which such well-defined entity a referring expression refers. The choice between several equally well qualified contenders can only be a pragmatic choice.

In the case of events, I believe we must apply criteria other than space-time to identify the well-defined entities; we must take into account the constitutive 'properties'. The pragmatics with respect to the constitutive space-time region will be parallel to the way that Quine conceives of the pragmatics for identifying a body with a physical object. The situation is also likely to be parallel when we assign a set of constitutive 'properties', taken by us to be expressed by the scientific laws, to an event referred to in ordinary language. Still it is the assignment of constitutive 'properties' which distinguishes my theory from Quine's theory of events, and it is these constitutive

⁵³ W.V. Quine (1981) pp.19-23.

'properties', expressed by the true causal laws, which provide the resources for saying that a specified number of events may take place at a certain region in space-time. It is these resources that enable me to avoid the extremely revisionist consequences of Quine's criterion of event-identities.⁵⁴

Cases like the heating and the rotating of a metal ball seem to me fairly simple, and there will be a negligible amount of pragmatism involved in assigning constitutive 'properties'. Other cases may be more difficult, for instance that of a rabbit jumping over a fence. Here there may be severe difficulties in drawing the distinction between the 'properties' exemplified by the jumping, and those which are exemplified independently of the jumping in the same region in space-time. The rabbit could be swallowing something when it jumped, or there could be a digestive process going on that we would like to think of as a separate event. If the swallowing occurred simultaneously with the jumping, Quine seems to want to identify it with the jumping.⁵⁵ On this view, one would have to identify the spatio-temporal location of the events, and then which laws they exemplify. By doing this it seems possible to view the swallowing

⁵⁴ One feature which this theory certainly has in common with Quine's, is that the theory has no strong explanatory aims. The individuations we make by having learnt the language are taken as given, and rigorous criteria are given for the events so individuated. There is no attempt to explain to someone unfamiliar with our language how our actual individuations are carried out. I have not tried to argue that this procedure, accepted by for instance Quine and Davidson, is justifiable. The theory given differs from Quine's and Davidson's present position by giving causality an essential role in the individuation of events; that is why it is less revisionary.

⁵⁵ This is the way Quine argues in the case of someone walking and chewing gum. See W.V. Quine (1986) p.167. As Quine notes, he could limit the chewing of the gum to the head. If he does that, there is no identity, but the chewing seems to have become part of the walking, and that does not seem to help much.

and the jumping as firmly distinct. Fortunately it will not matter much that it will be difficult to draw the distinctions and carry out the assignments of 'properties', because we will never need such a precise identification of the jumping for any practical purpose. For all such purposes we can go on identifying the jumping in the way we have always done. Precision will only be needed, if at all, for some theoretical or philosophical purpose.

It is quite important to see that an event like the jumping must be seen as an instantiation of a number of different constitutive 'properties', expressed by us in laws of perhaps several sciences; physics, chemistry, neurophysiology and so forth. Events are changes, and an ordinary language-event is often a succession of instantiations of various constitutive 'properties' in this latter sense; different 'properties' get instantiated in a sequence. The jumping is probably best thought of as such a sequence, since the different 'properties' will not be instantiated absolutely simultaneously, but one after the other during the jumping's duration. The various properties will be exemplified by the objects our scientific theories identifies. It is also probable that an event like the jumping must be seen as consisting of parallel sequences. Different objects, given by scientific theories, in different parts of the rabbit will exemplify different 'properties' in different sequences during the time in question. There would still be no reason to think that other jumpings or all jumpings have these 'properties' as their constitutive 'properties'. This throws new light on why it is a welcome piece of news that ordinary language predicates need not be taken as standing for anything we are accepting into our ontology.

Someone might object to the view that science, or the ultimate science, is supposed to supply the constitutive well-defined 'properties', but this situation is analogous to the quite wide-spread view that the sciences provide the essences of natural kinds. The difference is only that in this case we are concerned with particulars, not kinds. In general, on this view, science is preoccupied with discovering the true causal laws, and thereby discovering the constitutive 'properties' there are, i.e. 'properties' constitutive of the particulars that make up the relata of the causal relation. Events are changes, and science is an unending quest for the nature of changes.

I said the criterion might lead us to revise ordinary language distinctions. This will occur if we discover that we have to assign the same constitutive 'properties' to two events that seem to be distinct from an ordinary-language point of view. A case in point might be the heating of a metal ball which slowly turns red in the process. Here the spatio-temporal regions are identical, and it might be that we will end up thinking that the constitutive 'properties' are identical. If that happens, which I cannot see as an a priori impossibility, then it has to be judged to be the same event referred to in two different ways, and in some sense we might say that this identity is a discovery. But I just mention this as something we cannot rule out a priori, I cannot discuss this problem at length.

There are also a number of further points to be noted. An important qualification is that this criterion, as it is stated, is absolutely neutral on the issue of whether there are any true psychological laws, and therefore genuine psychological 'properties' constitutive of events.

This is a matter that has to be settled independently of this theory, and the theory can allow either outcome. The fact of the matter is of course that Davidson's argument, which establishes the token-token identity-theory given his views on event-identities, uses as a premiss that there are no psychological laws. Those views, or that premiss, are external to the event-theory as such.

There are links between this metaphysical theory of events and theories of explanation, in particular the deductive-nomological model of explanation (the D-N model). I do not, however, want to commit myself to a view on explanation in which the favoured model of explanation describes only the constitutive 'properties' of the relata of the causal relation. On my view explanations can work at a number of levels, and rely on laws, law-like regularities, and even weaker regularities. In addition to that, I believe that there are a number of pragmatic aspects in explanation which are not given a proper role by the D-N model, but which are essential to the explanatory enterprise. Still, this view on event-ontology may serve to explain on a meta-level why some explanations work even if they do not fit exactly the D-N model. The relationship between ontology and explanation becomes complex and puzzling when one acknowledges the variety of forms that explanations may take, and the pragmatic features involved in a number of explanations.

1.8. EVIDENCE FOR THE THEORY. ESSENTIALISM

The present theory of event-identities seems to have developed mainly as a result of different kinds of internal and conceptual pressure. A theory must of course be theoretically, or conceptually, satisfactory to be acceptable, but there must also be evidence in its support, which shows why we ought to accept this theory.

There are two important qualifications that must be stressed. The first is that most of the evidence for a theory of this kind will be theory-laden. The second is that such a theory may be revisionary towards certain kinds of evidence. This is because theoretical pressure on the conceptual side may force us to reject certain intuitions or natural assumptions as false. This may certainly be the case, for instance, with modal intuitions about events. The modal intuitions we have may not, as a set, be compatible with any essentialist theory of event-identity. There are limits to how revisionary such a theory can be. However, it may be thought to be a necessary condition of adequacy that a theory captures most of our intuitions in a systematic and satisfactory way.

I have laid down five central adequacy-conditions which a theory of event-identities must fulfil. The most important kind of evidence is therefore that the theory fulfils these conditions. Three of these I state without further argument; I take them to be true and absolutely essential. The fourth is well established by argument.

The three unargued conditions, the Particularity-requirement, the Logical Form-requirement, and the Causal Statements-requirement are all met by this theory. The first requirement is explicit in the definition. Further, since this theory is co-extensional with Davidson's theory, it does as well as Davidson's theory on the second and third requirements. Davidson's theory meets these requirements well. Indeed, it was actually Davidson's writings which powerfully established these requirements, and thereby made it possible for me not to argue for them in this connection. The fourth requirement, the Circularity-condition, is also met by this criterion, as I showed in the presentation of the theory. In fact I believe this theory to be unique in meeting all these requirements in a theoretically satisfactory way. Non-essentialists would of course not accept my fifth, essentialist, requirement. However, they ought to accept the present theory under a non-essentialist interpretation, as was indicated in the presentation of the theory.

Although the Essentialist requirement is thus the most controversial, it seems obvious how it can be met on the present view. If we take the constitutive 'properties' as essential properties of an event together with its space-time region, then we have available a clear and powerful account of what cross-world identities of events consist in. Many other 'properties' (in an ordinary sense) might then be regarded as accidental to a particular event, i.e. as 'properties' it could have been without.

I shall claim that this account is able to capture many of our ordinary intuitions about modal properties of events, and that it should also be accepted as a normative guide to how we ought to think about these matters. And it gives a theoretical account which is able to answer

precisely the kind of question to which critics of the token-token identity theory claim to have given answers which are incompatible with the identity-theory.

What is especially in need of defence is the claim that we take, and ought to take, an event's spatio-temporal region as an essential property of that event, and that we do not take, and ought not to take, 'properties' other than my constitutive 'properties' as essential to events. While I can not, of course, consider all cases, I shall put forward some considerations and examples that show that this account is plausible.

I shall consider an example drawn from our ordinary talk about events. Someone might utter: "Imagine that that explosion had not killed him. Would he have been charged with murder?" If we look carefully into the form of this statement, we see that it can naturally be analysed as referring to some actual world objects in a possible world which is different from the actual world. Among these objects is this person, and if we take 'that explosion' as a rigid designator, this explosion. Understood that way, we are considering a world where this explosion actually took place, and where the difference from the actual world consists only in one of its effects being missing: this person not being killed. Let us imagine a case where this explosion was an effect of a criminal act which accidentally killed the criminal. In that situation it seems natural to frame the question in the way given above, i.e. by identifying the very same explosion in some possible world in which the person who caused it also survived it. We seem to need to identify the same explosion (a deliberate effect of a certain act of this criminal),

in order to get the right counterfactual question going. And it is easy to see how the present theory can give substance to such possible-world thinking. The explosion may be exactly the same, but some other things went differently, and so the ambulance arrived earlier, and the criminal was rescued.

Not many non-essentialists will be convinced by this example, I believe, but that is not my aim in introducing it. Before I go further, I shall point out how the modal questions I am looking at differ from other counterfactual claims. For instance in social science, counterfactual claims are put forward to evaluate the causal importance of certain factors. Thus we say: "Suppose that this did not happen, what would have happened next?". That question corresponds to the further question in my example; whether this man would have been charged with murder in this possible world. To answer such questions, we have to apply our best theories about such causal networks to get an answer, and thus assess the causal importance of the factor we removed. We hold constant theories which exhibit the causal connections or regularities, and thereby represent them as a kind of necessary feature, common to all possible worlds. However, what I am doing here is quite limited, as I am just examining the question of cross-world identities of events. I am not raising the question in what sense alternative futures are real, or whether there truly are different possible outcomes. I am just raising the question, relative to a given event, how to re-identify it in other possible worlds; and so the only necessities which I need to consider, are those which are needed for an event in a possible world to be identical with a given event in the actual world. The weakest position might be to represent all such possibilities as epistemic, and only as

epistemic, and I am not arguing against this position which sees possible worlds as epistemic constructs. I am only concerned with how to construct these epistemic constructs (if that is what possible worlds are) in a clarifying and illuminating way, which can serve the normative purpose of guiding our thinking. The revisionist view implies demanding absolutely clear and objective principles for carrying out the constructive enterprise.

I shall now proceed with my defence of points which patently need defence. I shall start with the claim that an event's spatio-temporal region is, and ought to be, considered essential to that event. The first part of this claim is not strictly true; I do accept that our common sense individuation of events allows for small variations in space and time, within which we can still think of it as the same event. The point is rather that we definitely do not think that an event could have occurred in some remote spatio-temporal region, and still be correctly described as the same event. If we base our judgements only on ordinary use, there may be an indeterminate middle ground, and there seems to be no clear line to draw except for that which says that their actual spatio-temporal regions are essential to events. In certain situations this may indeed be the correct way of speaking, e.g. when we are confronting an event for which either the place where it occurs, or its time of occurrence, is of crucial importance. The only conclusion we seem to be able to draw from the evidence of ordinary language, is that there are no definite ways of answering this question. So it seems safe to say that two events sharing their constitutive spatio-temporal region at least may be identical. If one wants to say something more precise, one will have to be revisionary towards ordinary usage, and the only

reasonable revisionist attitude is to say that an event's spatio-temporal attitude is essential to it. As always, precision requires revisionism. In any case we must distinguish very sharply between the questions whether the same event occurs in another space-time region, and whether an event satisfying the description by which we refer to the actual event can occur in such a region.⁵⁶

⁵⁶ One might find want of integrate into the theory of event-identities that we allow for the possibility that an event could have occurred at a slightly different time and place than it actually did. In the temporal case this there will be a reasoning parallel to the reasoning in the Sorites paradox as to whether it is the same event or not as we move from one possible world to another. The same will go for the spatial case, but here intuitions as to whether it is the same event will to a large extent depend on what kind of event it is. Me suffering an outbreak of a cold is naturally thought of as the same event even if I at this moment were at a different place, while digging a ditch seems to depend more strongly on where I am. The possibility for Sorites reasoning is still present. One would need special principles to stop it. One possibility at this point is to introduce fuzzy essences of events. G. Forbes explores fuzzy essences in great detail while discussing artifacts. (Forbes (1985) pp.160-190.) One might in a similar way regard an event's essential spatial and temporal location as fuzzy. I will not explore this line here. Its main feature is that '=' is understood as expressing the relation of counterparthood, which is not transitive. It would imply that there would be no strict identity between one actual event and an event in some possible world similar to the actual event in all important respects apart from spatial and temporal location. It seems clear to me that we must be revisionary towards some of our intuitions to be able to speak about identity of events across possible worlds.

A different case I do not discuss, are situations where the object or objects involved in an event, for instance like the window breaking, is replaced by a qualitatively identical object (a different window), and exactly the same properties are exemplified at the time and place in question as in the actual world. My strongest intuition is to say that it would have been a different event which occurred in this possible world. One problem in making event-identity depend on substance-identity, is that there may not be a determinate answer to whether it is the same substance in some possible world. If we accept Forbes's analysis of artifacts, as I am inclined to do, we would have to introduce fuzzy essences, and replace identity of artifacts by the counterpart-relation when certain possibilities are considered. This would probably have to be reflected in what we say about events, thereby introducing fuzzy essences in the case of events as well. It is a shortcoming of my theory that not all kinds of possible world are discussed, and I realise that more work is needed to give a theory which deals adequately with all kinds of speculation. The difficulties are numerous, and intuitions may be

It has been argued that certain kinds of events do not have their spatio-temporal parts essentially. This is not compatible with my position here, and I have to face this kind of argument. If such an argument has to be accepted, I would have to develop my position to accommodate it. I shall claim that when one looks carefully at such arguments, they are not in fact convincing.

One of the most plausible claims has been made by D. Charles in connection with tryings.⁵⁷ I shall now comment upon the specific claim he makes which has direct relevance for my position. By doing that, I cannot discuss the broader philosophical context in which this claim is made. This is unfortunate, but I do think that this specific claim can be understood sufficiently well even out of that context.

The scenario of Charles's argument is as follows: we have a chain of events, $a_1 - a_7$, where a_1 is causally basic to a_2 and so on. a_7 is the movement of a finger, and the other events are contractions of muscles in the arm, the elbow, the shoulder and so forth, which in turn cause the movement of the finger. Charles's claim is that the movement of the finger is identical to the action which is moving the finger. He thinks of the event which is 'trying to move the finger' as consisting of all a_1 to a_7 in the case where one moves the finger, so this event, 'the

conflicting at various points. For example: can one be revisionary and draw a principled line between identity and counterparthood? I cannot see that these acknowledged limitations in any way undermine the use I want to make of my theory, when I discuss the token-token identity-theory, and I leave these issues aside.

⁵⁷ D. Charles: Aristotle's Philosophy of Action, Duckworth, London, 1984, pp.70-84.

trying, or the attempt to move the finger' has a_1 to a_7 as parts. Because of this, the event which is 'trying to move the finger' can not be identical to the action which is 'moving the finger', since the latter is identical to a_7 on Charles's view. The claim then is that the very same trying could have occurred even if there was no success, i.e. that the very same trying could have occurred even if a_7 did not occur. Similarly, if only a_1 to a_4 had occurred, it would have been the very same trying.

To my mind it seems clear that even if we accept Charles's account of what a trying might be, intuition goes against his view concerning the thesis that its parts are not essential to it. It is clear that on a conception like Charles's, all events consisting of the various chains ($a_1 - a_7$), ($a_1 - a_6$), and so on, will satisfy the predicate 'being a trying to move one's finger'. And the actual world trying, if there is no success (a_7 does not occur) will have to be one of ($a_1 - a_6$), ($a_1 - a_5$), and so forth. But if it was ($a_1 - a_4$), could that very trying have been the same (token) trying as ($a_1 - a_6$)? My intuition is to say no. In the possible world where ($a_1 - a_6$) occurs, a different trying occurs, even if both ($a_1 - a_4$) and ($a_1 - a_6$) satisfy the predicate 'is a trying to move one's finger'.

Charles formulates a principle to determine when events have their parts essentially. An event has its parts essentially when it cannot occur without: 1) reaching a specific goal, and finishing at that point: 2) following a precisely specified route. He claims that since 'tryings' seem to fulfil neither of these conditions, they do not have their parts essentially. But if my intuitions above are accepted, this principle can

at most be seen as picking out an interesting class of predicates or act-types; those which are such that they cannot apply to an action unless the conditions 1) and 2) are satisfied. 'Trying to φ ' is not of this kind. An example given by Charles is 'successfully drawing at a specified place an equiangular triangle of a specified size'. Even this very detailed specification is such that a large number of different actions can satisfy it: nothing is said about time, nothing is said about which side of the triangle to draw first, and so on. If Charles accepts that such actions are different tokens, then he does it on the same intuitive grounds as I applied in the case of 'trying'.

Charles's argument takes place in the context of his criticism of J. Hornsby's view on the question of individuation and location of actions and tryings. Charles's points partly presuppose certain views on the relationship between successful tryings, actions and movements of the body which I can not fully accept, nor give a more detailed treatment in this context.⁵⁸ What I shall do from now on is to limit myself to cases where events clearly have the same spatio-temporal location, and inquire into our grounds for judging them identical in those situations, thus avoiding that particular problem. However, I do claim that it is natural to say that events have their spatio-temporal parts essentially. So, even if I am not going to rely on such a thesis, I believe that it is up to philosophers who take another line to produce convincing arguments for it.

One positive point is worth mentioning here. My theory, which puts stress

⁵⁸ For Hornsby's views, see J. Hornsby: Actions, Routledge and Kegan Paul, London, 1980.

on identifying the constitutive spatio-temporal region directs one towards issues on which there is genuine disagreement concerning action-individuations. J.J. Thomson has argued forcefully against Davidson's specific view on this subject, on the basis of considerations about the time of a killing.⁵⁹ Since Thomson accepts Davidson's causal criterion for events, rephrased in her own framework, the real disagreement, which leads to very different individuations, is not reflected in the event-identity criterion they both embrace. The point is simply about whether an act which is a killing can be said to end long before the victim is dead. Thomson thinks it cannot, Davidson that it can. The present event-theory is ready-made to focus the disagreement and locate it at the right point.

I shall now explore this theory's treatment of the other kind of modal statements about events, where it seems that I am facing a much harder task. Is it not natural to think that a killing is a killing and nothing else, and that it must be false to say that a killing might not have been a killing? If it is false to say that a killing might not have been a killing, then there is a problem for this theory. The problem is this. For an event to be a killing, it is conceptually required that this event has a certain effect, namely that the victim dies. But on the present theory it is not essential for an event to be the event it is, that it has the particular effects it has: it would have been the same event even if the effects it actually has did not occur. Now we do not normally think that 'being a killer' is an essential property of a man, but that is surely different? There is clearly a scope-ambiguity in the question

⁵⁹ J.J. Thomson: 'The Time of a Killing', Jour. of Phil., vol.68, 1971, pp.115-132, and Acts and Other Events, Cornell U.P., Ithaca N.Y., 1977.

of whether a killing might not have been a 'killing'.

Let me first say that I do think we often describe events by ascribing them properties they have in virtue of their place in a spatio-temporal causal framework. It is this causal network which interests us in certain ways, and events are identified by their causes and effects in this network. Epistemologically this is the way we mostly identify and describe particular actions, and I shall concentrate upon actions to a large extent. The point is the basis of the relational view of action-descriptions, and it has been put forward and defended with great force by such philosophers as Anscombe and Davidson.⁶⁰ I agree with their views on actual action-individuations, and I believe that their grounds for their views also support my theory of event-identities. I also think that this theory of event-identities can provide further grounds for believing that these philosophers are right, and that this can be done by looking into how we are inclined to answer modal questions about events.

The debate has focussed on questions like whether an actual killing can be identical to an actual shooting. Some philosophers, notably Goldman and, I think, Kim, have thought that generally an action is an exemplification of one act-type ('a shooting' for instance), and that no action which is the exemplification of one act-type (a shooting) can be identical with an action which is the exemplification of another act-type (a killing).⁶¹ It may be claimed that this reasoning is wrong on general reasons; for instance because no particular needs to have only

⁶⁰ G.E.M. Anscombe: Intention, Blackwell, Oxford 1957, and Davidson (1980).

⁶¹ A. Goldman: A Theory of Human Action, Princeton U.P., Princeton 1970, and J. Kim (1969) and (1976).

one 'property', and no two particulars need fail to be identical because one has one 'property' and the other has another. It may of course rather be that one particular has both 'properties', as J. Hornsby has argued.⁶² The situation is only different for the 'properties' referred to by substance-sortals. In these cases an individual ceases to exist when it ceases to have the 'property' referred to by the sortal concept, for instance <being a man> and <being a statue>. One reason needed for anyone to believe that an event cannot exemplify both 'properties' (a shooting and a killing), would therefore be that the properties referred to by the predicates describing act-types behave analogously to 'properties' described by predicates that stand for substance-sortals. If so, this behaviour should be manifest in how we think counterfactually about the ascriptions of such predicates.

It should first be said that Goldman's act-type-exemplification view provides events with the internal structure suited for raising counterfactual questions. We can ask, about a particular killing: is this action, this event, essentially a killing? The situation is someone shooting and killing someone far off with a gun. We can imagine that in some possible world the victim survived, solely because the surgeon was cleverer, or because he was just lucky, or because the ambulance arrived sooner.

On the act-type-exemplification view it would then be right to say that in this possible world the agent does not perform the action which he does perform in the actual world. But intuitively there is no action which the potential killer does not perform in this possible world but

⁶² J. Hornsby (1980) p.18.

which he does perform in the actual world. As far as the agent is concerned, the two worlds seem to be identical. Since the worlds are identical as far as the agent is concerned, he performs the same actions in the two worlds. Since this is so, 'being a killing' does not behave like a substance-sortal. Any other view seems totally implausible.

I claim that this is our intuitive way of thinking here. However, it is also the way in which we ought to think according to the present theory of event-identity. The 'properties' which an event has in virtue of relational predicates (i.e. those which are true of events in virtue of their relations to other events), are not essential 'properties' according to this theory. Therefore this theory too would conclude that 'being a killing' is an accidental 'property' of this event. Similarly we can ask whether 'being a shooting' is an accidental property of this event, of which 'being a killing' is also an accidental 'property'. If the gun had not been loaded, the very same pulling of the trigger as occurred in the actual world might not have been a 'shooting' in some possible world. So we conclude that 'being a shooting' is not an essential 'property' of this event. I claim that this is how we ordinarily would answer such questions, and that it is in complete harmony with the present theory, while being contrary to Goldman's view. Thus, my theory's way of answering modal questions also supports the Anscombe/Davidson way of individuating actions, because it supports the view which sees the shooting, the killing and the pulling of the trigger as the same event and the same action. It throws light on how we exploit the causal network between events to describe them and identify them for our purposes. It also liberates us from the views that postulate a new event for each particular causal consequence of a particular event, i.e.

for each 'property' an event happens to have because it happens to stand in the causal network in which it in fact stands.

I have now looked at cases where it seems to be correct to hold that events do not have their effects essentially. This is a view also endorsed by J. Hornsby.⁶³ A very difficult question is whether particular events have their causes essentially. One way to try to settle this is to look at very simple cases, and test the intuitions. One event is the breaking of the window. 'A' throws a stone at the window and breaks it. In some possible world 'B' throws the stone, hitting the window at exactly the same spot from the same angle with the same force. Would it be the same breaking, if the times are identical and the same constitutive 'properties' are exemplified? My firm intuition is that we can say that the very same breaking could have occurred even if it was caused by 'B's' action and not by 'A's' action. The causal history of the breaking is not essential for the breaking to be the breaking it is. There must, however, be available an explanation of how this breaking came to be exactly as it is. Apart from this, I can see no further constraints on an event's being that particular breaking, considered as a particular which occurs in space-time.

This intuition concurs with Kripke's in his argument against the token-token identity-theory, where he argues that for an event to be the very pain it is, no particular causal history is essential, only that it feels exactly as it does at the time and place in question. It would indeed be a very hard task to establish convincingly that origin is essential for events, for instance in a version where all the particular causes of an

⁶³ J. Hornsby (1980) appendix 1.

event are essential for it. I still feel less certain about whether some causes may be essential to some events than about whether effects are essential for events. I shall later explore some of the difficult cases, when I consider particular mental events in much more detail. But some of the grounds for hesitation are to be found in the fact that not every kind of causal history can intelligibly be ascribed an event, and that the theory of events I am defending imposes constraints on the causal history, since it must be explicable how a particular event came to occur in any world where it occurs. But this is a much weaker thesis than essentiality of origin.

There are several claims made here which must be distinguished: I claim to have described our non-theoretical modal intuitions, and to have shown that the present theory is supported by these intuitions. This further supports a particular view of action-individuation, the Anscombe/Davidson view, since it further undermines competing views. The present theory illuminates how our general tendency to pick out events in terms of their relational properties works, and is in close harmony with Davidson's view that events are identical if they have the same causes and the same effects. Still I am an essentialist, and will avoid a conclusion that an event's having the causes and effects it actually has is essential to that event. The only reliable way of investigating which 'properties' are essential to an event is to fix its spatio-temporal constitutive region and its constitutive 'properties' (as I have defined them), and then to suppose that the spatio-temporal network in which the event actually occurs had been otherwise. But this way of framing questions is made impossible if it is essential for an event to have the particular causes and effects it actually has. The way of constructing counterfactual

questions which I am endorsing is the only plausible way I can see of construing our ordinary talk about modal properties of events. Further, my theory has the virtue of relying only upon the individuation of entities that are clearly individuated, i.e. space-time regions and 'properties' that are in the process of being discovered by science, and which are individuated by the criteria for being a causal law. This theory then provides a way of identifying events across possible worlds.

It is questionable, of course, how closely the present view fits our ordinary intuitions concerning all modal questions about events which we may encounter. I am prepared for an outcome which shows that the present theory is more revisionary than it now seems to me to be. That is not a decisive counterargument in itself. One just has to look into the particular problems it poses and weigh them against the clarity of the present view, since a satisfactory theory may be revisionary and normative. My theory will not consider the intuition that the laws of nature might have been different from what they actually are, because in such a situation the events there are will be represented by my theory as distinct altogether from all actual events.

I do believe that much of the value of the present theory will be revealed when we frame philosophical questions about modal properties of mental and physical events we think might be identical. One problem has been that such questions have been answered by relying just on personal intuition concerning the case in hand. A framework which can make a constructive dialogue possible is badly needed.

It is in this light that I put forward this theory, and I shall soon

proceed to the second part of the project, after a further defence of this theory against competing views. It will later be demonstrated that this theory makes it far from easy to defend a token-token identity-theory. I believe my theory will help to state the problems for the identity-theory more clearly, and if that is so, my theory proves itself fruitful. The discussion in the later parts of the thesis is also at the same time a discussion of the more general adequacy of this quite simple theory.

1.9. FURTHER DEFENCE: COMPETING VIEWS

1.9.1. BRAND'S THEORY

One theory of event-identity which I have not discussed so far in the text is Myles Brand's theory.⁶⁴

Brand takes seriously the demand that one gives a theory of essential properties of events. He wants to give a non-actualist theory that provides the foundation for an answer to counterfactual questions, and he criticises theories which are not able to do this. While I agree with Brand thus far, I do not think that his own specific theory works well.

Brand's suggestion is that the identity-conditions for events consist in necessary spatio-temporal coincidence. More precisely: if 'e' and 'f' range over events, and if 'e 0 r' means that 'e' occupies the spatio-temporal region 'r', then:

$$(e) (f) \quad e=f \text{ iff } \Box(r) (e 0 r \leftrightarrow f 0 r)$$

There is a subtle circularity in this account as well, and it comes down to this: Brand's theory must, in order to be non-circular, presuppose

⁶⁴ M. Brand 'Identity-Conditions for Events', APQ. vol 14, 1977, pp.329-337, and M. Brand Intending and Acting, Bradford Books, Cambridge MA, 1977, chapter 3.

that we have a grasp of the necessary spatio-temporal locations of events without already having a full grasp of their identity-conditions and individuation. But it is exceedingly hard to see how to make sense of the question of an event's necessary spatio-temporal location without already having a grasp of the individuation of events. We can determine spatio-temporal regions in a non-circular way, but that is not sufficient: we need to answer the question whether two events which occupy the same spatio-temporal region necessarily occupy the same location, without presupposing their individuation. Again it might be the case that the criterion suggested is correct: if an event necessarily occupies the spatio-temporal region it does, then this criterion is correct on Quine's view. On my view Brand's theory is false, since different events, having essentially the location they have, can occupy the same spatio-temporal region.

It would be begging the question against Brand to argue simply that his criterion is false. Brand's view is of course that my theory is false. Furthermore he does not want to take Quine's line at all; he wants to regard it as possible that different events might occupy the same spatio-temporal region. Such events are distinct exactly because they do not necessarily occupy the same spatio-temporal region: the question becomes on what basis Brand wants to affirm or deny that events necessarily occupy the same spatio-temporal region, i.e. whether his method is satisfactory in the light of the constraints a theory of event-identities faces.

The essence of Brand's method of answering this crucial question, for instance of determining whether 'a shooting' is identical to 'a killing'

or 'a pulling of the trigger', is to ask whether there could have been a shooting at this particular spatio-temporal region without there being a killing, and the answer is of course affirmative. Therefore the shooting is not identical to the killing, according to Brand. His views on the individuation of actions approach both Goldman's and one interpretation of Kim's theory.

If Brand's theory has to answer these individuating counterfactual questions in this way, several points may be noted in its disfavour. Brand's theory must be supported by a theory of properties, and by a way of drawing a boundary-line between properties of events and constitutive properties of events (to avoid Cambridge-changes). Neither an individuation of properties nor a boundary-line is supplied by Brand, and in my opinion there are strong Quinian reasons for being sceptical as to whether a satisfactory individuation of such properties for such ontological purposes can be given (except by my way of doing it). I believe these points alone are sufficiently strong to cast doubt on the tenability of Brand's theory. Furthermore there is a deep problem about the method in answering these individuating counterfactual questions. In my view the relevant question is not whether there could have been a shooting without there being a killing. The correct question is rather whether this shooting and this killing could have occurred in different spatio-temporal regions. The answer to this question seems to me to be 'no' on further reflection; but it is a very different question from the one Brand poses. However, we need precise answers about the necessary spatio-temporal regions of these particular events, not answers concerning possible instantiations of properties. If this point is accepted, then it seems even harder for Brand to explain how to answer

such individuating counterfactual questions without founding it upon some independent way of giving criteria for event-identities. I believe that the circularity-problem I stated for Brand's theory comes to the surface when the correct way of formulating the counterfactual questions is perceived.

I take these remarks to be sufficient to refute Brand's theory as a rival theory to my own. In addition there is intuitive and semantical evidence in support of the Anscombe/Davidson individuation of actions, which makes Brand's case even weaker.

1.9.2. TAYLOR'S THEORY

It should be clear that as far as the semantics of adverbs is concerned, my theory will face the same problems as Davidson's, since my theory supports Davidson's theory. There seem to be problems for this position in the semantics of adverbs. B. Taylor has argued that they are so severe that a different theory of event-identity is needed.⁶⁵ Taylor offers a theory with clear similarities to Kim's; in Taylor's theory the role of Kim's 'constitutive properties' is played by intensions of ordinary language verbs. Taylor invites us to take these intensions as primitives, suitable to build a theory of event-identity. Since I share

⁶⁵ B. Taylor 'Events and Adverbs', Proceedings of The Arist. Soc., 1983-84, pp.103-122, and B. Taylor: Modes of Occurrence, Blackwell, Oxford, 1985.

Quine's sceptical and revisionist attitude towards intensions like these, I am sceptical about the foundation of Taylor's theory, and I am sceptical that it can bring determinateness to the event-ontology. But this sceptical attitude must not make us overlook the strong semantical motivation for Taylor's theory, and I shall now look into it.

The first point I want to make resembles a point I made in connection with Kim's theory. Although Taylor explicitly defines events as sets, I want to interpret him as giving a way of characterizing particulars. Taylor also offers an interesting refinement on a Davidsonian or causal theory, limiting the problematic cases, to be discussed below, to cases where the adverb describes the mode of action, or the event. There are, according to Taylor, two other kinds of uses of adverbs, sentence adverbs, and phrase adverbs. There are some internal problems in this classification, but I think it generally constitutes a clear improvement, and a causal theorist can accept Taylor's distinctions here.

The first severe difficulty for a causal theorist, according to Taylor, is the case of attributive adverbs. On the causal view a channel swimming is identical to a crossing, but since it may be a fast swimming and a slow crossing, we find an event which is both slow and fast. A causal theorist will reply along the lines first pointed out by Davidson; some adverbs cannot be treated as modifying an event simpliciter, but only under a certain description. The same is the case for adjectives, a big mouse may be a small animal. Taylor points out that there are cases which can not so easily be accommodated to this analysis. He suggests that these arise in the case of some adverbs which are not naturally thought of as being attributive. Thus, Oswald's killing of Kennedy is by causal

standards identical to Oswald's pulling of the trigger. Oswald killed Kennedy with a rifle, therefore Oswald pulled the trigger with a rifle. The causal criterion makes the inference valid. Taylor's argument is rightly regarded as an argument against the identity, or supposed identity, between the killing and the pulling of the trigger; so another criterion of event-identity, making this false inference invalid, seems to be preferable.

When we look into the semantics of adverbs, there seem to be several alternative ways of handling this question: Taylor's preference is to accept a different ontology. What are the alternatives if one wants to defend a causal individuation of actions?

The first alternative is to claim that the relevant 'with' can be glossed 'by using ...'. 'Oswald killed Kennedy with a rifle' is then glossed 'Oswald killed Kennedy by using a rifle'. Given the features of the word 'by' which everyone acknowledges (e.g. what Goldman, erroneously in my view, calls the asymmetry), we know that there could be no inference from

a ϕ -d by ψ -ing

and a's ϕ -ing = a's ψ -ing

to a ψ -d by ϕ -ing

Of course someone defending a causal theory of action needs a view of 'by', but that will have to be given anyway, and it may not constitute a

substantial problem.⁶⁶

The second alternative is to maintain that the inference which Taylor claims to be invalid, is valid after all. It is of course an inference we would not normally make, but when we reflect on the case, we come to acknowledge that it is right to say that the action which was a pulling of the trigger was done with a rifle. This position can be made more plausible if supplemented with pragmatic principles which explain why we are unwilling to modify the event with the modifier 'with a rifle' when the action is described as being a 'pulling of the trigger'.

The third alternative is to state a semantic principle which individuates the class of attributive uses of adverbs, thereby responding directly to Taylor's claim that this class must become heterogeneous and ad hoc given a causal individuation of actions. Predicates true of actions normally require of an action that it has specific events as effects if they are to be true of the action. Typical examples are 'being a shooting' and 'being a killing'. Let us express this by saying that event-descriptions can be more or less relational; by this is meant that they, in order to be true of an event, require that certain effects occur in a causal chain originating from the event which is described by the predicate, and that the specific effects they require to obtain can be, relatively speaking, more or less far away from the event we describe correctly by the descriptions. A 'killing' requires a death to occur in the causal chain, while a 'shooting' only requires that a bullet be discharged, and the same event could still have been

⁶⁶ Jennifer Hornsby discussed Taylor's views with me, and convinced me that this objection was a good one.

correctly described as a 'shooting' even if no one got killed. Then the following principle might suggest itself: if an adverbial modifier modifies an event under a relational description, and it specifies how the causal relation between the event and a specific effect came to obtain, namely the effect which must occur if the relational description is to be a correct description of the event, then it is not to be expected that such a modifier modifies this event when it is described by a relatively-speaking less relational or more basic description, if the causal relation between the event and the specific effect did not have to obtain for this more basic description to be a correct description of the event in question. This principle seems to me to be intuitively plausible, and it seems to cover the cases Taylor presents as deeply problematic for a causal individuation of actions. The second reply, taking it to be true after all that the pulling of the trigger was done with a rifle, can reinterpret this principle as a pragmatic principle, explaining and describing under which descriptions we would normally use specific types of modifiers.

There is still a whole range of puzzling cases in this area, and I can not give them anything like an exhaustive treatment here. The principle I stated can perhaps (under either a semantical or a pragmatic interpretation) be extended to cover cases of level-generalization in general (Goldman's term within an Anscombe/ Davidson ontology). A signalling was done with the hand, but we are unwilling, I think, to say that the moving of the hand was done with the hand. It may be that a modifier which describes how the higher-level description came to be true of the event, how it came to be a signalling ('with the hand'), does not carry over to a basic description of the same event, like 'moving the

hand'. This might either be a semantic or a pragmatic fact; it might be pragmatic if we tend to think that it is after all true that the moving of the hand was done with the hand. Pragmatically this would normally imply that the agent used one hand to move the other, and similarly, in 'he pulled the trigger with a rifle', it is pragmatically implied that the agent used a different rifle to pull the trigger.

It seems to me that this reasoning weakens significantly the attractions of Taylor's view. Taylor claims that no analytically plausible individuation of the class of attributive adverbs can be given, and this is a crucial point in Taylor's argumentative strategy to establish the case for a different ontology. But even if one accepts Taylor's view that the puzzling inferences are invalid inferences, so that Oswald did not pull the trigger with a rifle, one can give an intuitively plausible individuation of the class of attributive uses of adverbial modifiers, by the principle I stated. It is actually just as plausible to dispute Taylor's claim that these inferences are invalid, and to reinterpret the principle I stated as a pragmatic principle. Both these possible replies are founded upon a causal individuation of action, as is the reply which glossed 'with a rifle' as 'by using a rifle'.

On the other hand Taylor's own alternative faces problems, and one objection from G. Evans he discusses seems important. Let us suppose that Shem hit Shaun with a shillelagh violently and at the same time Shem hit Shaun with a cudgel, though not violently. Taylor's events are individuated by the intension of the predicate (here 'hit'), the

constitutive objects, and the time.⁶⁷ He must then count Shem's hitting Shaun as one event, and gets a contradiction: this event was both done violently and not violently.

Taylor's solution to this problem consists in postulating two verbs 'hit', one three-place predicate, and one four-place 'hit*', (where the instrument used enters the individuation of the event).⁶⁸ Thus, Taylor gets two different events, and no contradiction, but he has no way of saying which event has the three-place intension as a constituent, and which event has 'hit*', the four-place predicate as a constituent. In fact, since there is no way for a speaker of the language to tell which of these intensions he has learned or is using, this solution may also appear ad hoc and hardly satisfactory.

A causal theorist will analyse this example smoothly as two distinct events, since their effects may for instance be clearly different. Here we see a case where a causal individuation can be more 'fine-grained' than a theory like Taylor's in a situation where fine-grainedness is needed to avoid contradictory adverbial modifiers. Taylor's moves to save his theory in effect lessen the attraction of his position.

There is one further puzzle I would like to discuss, which concerns the sinking of the Titanic.⁶⁹ Consider the following inference:

⁶⁷ This shows how closely related Taylor's and Kim's views are.

⁶⁸ Taylor first presents this solution in B. Taylor (1983-84) pp.115-117. See also B. Taylor (1985), pp.99-103.

⁶⁹ This puzzle is introduced in T. Beauchamp and A. Rosenberg (1981) pp.270-273.

(1) The Titanic's striking of an iceberg caused the sinking of Titanic.

(2) The Titanic's striking of an iceberg caused the rapid sinking of Titanic.

Here (2) might be seen as both true and false, false because the rapidity of the sinking might be seen as caused by the Captain's incorrect orders, and so on. Let us look at it the other way around:

(3) The Titanic sank rapidly because the Captain gave incorrect orders.

(4) The Titanic's sinking = The Titanic's sinking rapidly.

(5) The Titanic sank because the Captain gave incorrect orders.

(5) is clearly false, while (3) seems to be true. There may be several ways of looking at this example; I shall consider some moderate ones. One might try to read the 'because' in (3) as intensional, understood as 'causally explains', or only 'explains', and not as purely 'causes'. However that still can not explain the plausible reading of (2) as false, since (2) does not seem to invite seeing 'causes' as 'explains' when it is read as false. At least it is a hard case. One solution is to deny (4), the identity-claim, to argue that our causal thinking in this case undermines the identity-claim as the two events have distinct causes and distinct effects. Of course there can be many similar cases.

To my revisionist eyes it is an attractive feature of a causal view that it here makes possible a departure from ordinary language. It is easy to see that such a revisionist line is not open to Taylor, and the case will be very puzzling on his line. The problem is again that since in this case the ontology based on ordinary language verbs gives 'too few' events, it is not possible to be revisionary.

When we compare the internal problems for Taylor's theory with the internal problems for a causal theory concerning attributive adverbs, it seems reasonable to conclude that Taylor's theory does not come out significantly better. In addition there are the foundational problems for Taylor's view, since he takes intensions as primitives. In my eyes this is a sufficient demonstration that my own theory of event-identity should be preferred to Taylor's. There is also a further point to be noted: a theory like Taylor's, if accepted, could most likely be developed into a form of materialism which would be immune to the specific criticism of materialism I shall consider later in this thesis. While Taylor wishes to say that distinct events can have the same causes and the same effects, and that there are close kinship-relations between such events, I am inclined to regard this as a version of a view which recognises constitution-relations between events. I conclude that Taylor's theory of event-identities is not yet sufficiently developed and securely based to serve as a foundation for a defence of materialism. I shall now turn to problems of constitution more generally.

1.9.3. CONSTITUTION-RELATIONS

1.9.3.1. VIEWS IN THE LITERATURE

Another possible general structure for a theory of event-identities which has recently been advanced in the literature. It has been suggested that there are constitution-relations between certain kinds of events. Such a theory would have some similarities to Taylor's theory. I am not going to recommend such a theory at this stage, although I think it is a most interesting proposal, and that it ought to be discussed thoroughly. The problem in recommending it is that as far as I know no theory worked-out in detail exists, and for this reason it is hard to base a defence of some kind of materialist position upon it. I shall nevertheless suggest lines along which such a theory might be developed, and state why I hesitate to go along with it.

What is a relation of constitution? The best example is perhaps the classical example of the relationship between a statue and the piece of bronze that it is made of, or a souffle and the eggs, cheese and milk of which it is made. One can say that the statue is nothing but the piece of bronze that it is made of, but that this 'is' is not the 'is' of identity, as can be clearly established by noting that the statue and the piece of bronze will have different existence-conditions. There is therefore more than one use of 'is'; one to express identity, and one

expresses constitution. The constitution-relation is a very intimate relation between two distinct objects sharing the spatial and causal properties at the time in question.⁷⁰

I shall briefly consider the suggestions in the literature that the relationship between mental and physical events should be modelled on the relation of constitution, and state why I find them unsatisfactory. I do not limit myself to criticisms of these views, however, since I think the theory of event-identities I have suggested contains resources to develop a prima facie much more satisfactory view of constitution-relations between events.

C. McGinn argues for, and states, such a view.⁷¹ His view depends on singular thought theories, to which I shall return in great detail in part III. Let us now suppose that there are Russellian singular thoughts in the most classical fashion of letting the object thought about be a constituent of the thought. McGinn suggests that an event which is a thinking of such a thought, is constituted by the aggregate, or mereological object made up of the internal brain-event, the external object thought about (whose existence is necessary for this thought's existence), and possibly the causally intermediate physical events between the object and the thinker's entertaining of this thought. This means that the spatial location of this thinking event is the same as the location of this mereological object. So if I think such a thought about the moon, then the location of this thinking event also includes the moon. The causal properties of events which stand in constitution-

⁷⁰ See D. Wiggins (1968) and (1980).

⁷¹ See C. McGinn (1980) p.201.

relations should perhaps be thought of as identical. But how can the causal properties of this thinking event be identical to the causal properties of this mereological object? McGinn probably wants to establish some special principles about the causal properties of events in constitution-relations. If so, it remains to be done. In any case I cannot see how it can be correct to locate the thinking event not just in the thinker, even if it is about the moon.

J. Hornsby comes close to expressing a constitution-view.⁷² She wants to view mental events as physical in some sense, and stresses very much the thought that there ought to be parallels between the case of continuants and the case of events. I shall interpret her as arguing for a constitution-view. The crucial point of Hornsby's argument is that we could never affirm identity-statements between terms referring to specific mental events and terms referring to specific brain-events or neurophysiological events, because the spatial location of mental events is indeterminate, and there might be infinitely many good candidates for a description to belong in the physical side in such a supposedly true identity-statement. Because of this, we should rather abandon the project of an identity-theory. She refers to an argument from P. Benecerraf against the set-theoretic identifications of numbers.⁷³ I do admit that if Benecerraf's premiss (many equally good candidates) is true of this case, then his argument seems sound, so the principle applied in the reasoning seems sound.

⁷² J. Hornsby: 'Which Mental Events are Physical Events?', Proceedings of the Arist. Soc., 1980-81, pp.73-97.

⁷³ p. Benecerraf: 'What Numbers could not be', Phil. Rev., vol.74, 1965, pp.47-73.

The first point to be noted here, is that there is no good reason to believe that the demands for spatial co-extensionality are less severe for constitution-relations than for identity. That would imply that Hornsby's argument could be seen as an argument against a constitution-view as well. This might also indicate that it is incorrect to interpret Hornsby as arguing for a constitution-view, and that she is thinking of some form of physicalism different from a constitution-view. I have not been able to work out what her view then precisely is.

I shall express my reasons for hesitating about accepting Hornsby's view. She accepts that there are no vague objects, on the basis of an argument of G. Evans⁷⁴, although our ways of picking out objects or describing them may be vague. She also wants to view mental events as having causal properties. I accept the view that causes must have some spatial location, since I hold a regularity-view on causation and I believe that such a view must hold that causes have spatial locations to be able to explain, for instance, why it was the mental event in your mind which made your arm go up, and not the type-identical mental event in the mind of your identical twin. Hornsby would probably not accept a regularity-view on causation, and therefore not accept this reasoning. She still seems to accept that a mental event is located to the person in question, but that we cannot specify a more precise spatial location. The spatial location is therefore vague or fuzzy. One might think that it is our epistemic individuation of mental events which creates the apparent vagueness as far as their spatial location is concerned, or one might hold that the spatial location is genuinely vague. Hornsby surely wants to take the latter line. But if vague spatial locations are accepted and

⁷⁴ G. Evans (1985) pp.176-178.

made precise sense of, there is no reason why there could not be physical events with similar vague spatial locations. An explosion is a good candidate for a physical event with vague spatial location. If physical events can have vague spatial locations as well, it does not seem sufficient as an argument against the token-token identity-theory to point out that mental events have vague spatial locations. There seems to be no reason why there could not be a physical event with the same vague spatial properties as the mental event in question. If one accepts the view that events can have vague spatial locations, it is not clear that one has accepted a view which is incompatible with Davidson's argument for the token-token identity-theory.

1.9.3.2. MOTIVATIONS AND WHAT THEY LEAD TO.

I shall now for heuristic purposes follow up McGinn's motivation for a constitution-view. Singular-thought theories seem to show that the resources in a theory of the type which I am supporting cannot individuate events in a sufficiently fine-grained way.

If we look at the paradigm of the case of continuants, there are two objects of different kinds: the statue and the piece of bronze sharing the same spatial location and causal properties at a time. The existence-conditions for these objects are different, the one can still exist after changes after which the other does not exist. In the case we are now

considering, I seem to treat the constituents of the causal order without taking into account which particular other events an event is causally related to. If a singular thought theory of McGinn's type is true, then this cannot be generally correct. The existence-conditions for a mental event which is a thinking of a singular thought and for the physical event supposedly identical with it, cannot be identical to the existence-conditions of a physical event which does not include standing in a causal relation to particular objects, such as the moon. In the continuant-case spatial location and causal properties at a time are not sufficient for individuation. Similarly in the event-case, spatial location plus the causal properties regarded by my theory as essential for event-identities are not sufficient for individuation of events.

Let us assume that the events which my theory of event-identities accepts are all the events that are required for causal processes. We can then imagine a theory of event-identities which acknowledges events which stand in constitution-relations to causal processes. These events may then have different existence-conditions from the causal processes, but they do not have different locations in space and time, nor are they instantiations of different causal laws. It can just be essential for such events to stand in causal relations to the particular objects and events they actually stand in causal relations to. When this theory of causal processes is given, it seems possible to build such a different theory of event-identities. This theory may be able to answer satisfactorily my essentialist constraints; if there is determinacy to cross-world identifications of causal processes, then this determinacy gets transferred to events generally when it is determined which actual causal processes an event must stand in causal relations, to be the event

it is.

So far this may look like a promising and interesting line. It seems that to regard my theory of event-identities as a theory of causal processes, provides an illuminating way of giving a general theory of event-identities which regards some events, for instance some mental events, as being constituted by causal processes.

The fundamental problem such a line faces is to be able to give a principled way of identifying the analogue of predicates which are regarded as substance-sortals in the case of continuants in the event-case. Someone might want to apply Taylor's 'intensions' for this purpose. Such a view would then lead to an individuation of actions like Taylor's, in conflict with the Anscombe/Davidson view.

It is a very demanding task to establish such a rival view on the individuation of actions, and I doubt whether it can be done satisfactorily. It is clear that a broad range of predicates we use to describe actions require, for instance, further events to occur if these predicates are to be true of the event in question. An event we describe as a killing must cause another event, the death of someone, to be truly described as a killing. I shall not recommend taking Taylor's intensions as the analogue of substance-sortals in the event-case, but instead consider a theoretical puzzle such a view must come to terms with.

What makes a substance into the substance it is seems to be the intrinsic properties of the substance. Whether a substance can be said to exist in a certain possible world, cannot generally depend on what other

substances exist in that world.⁷⁵ With an individuation of events like Taylor's, it seems to be the case that the 'shooting' and the 'killing', which will be distinct events, not properties of one event, will have all spatial and temporal properties in common when they are constituted by the same causal process. But in some possible world the victim does not die, and in that possible world presumably the 'killing' cannot exist. The 'shooting' can exist in all possible worlds where the bullet is fired, but only in those. What is striking is that whether the 'shooting' and the 'killing' can exist in various possible worlds, depends on what other events exist in the worlds we are considering. The important point is that it is hard to see how it can be a sound principle for the identity of a particular (what it is to be that event) to depend fully upon whether some other event comes into existence. This version of a constitution-view would have to see things that way, and this points to an important difference from the case of continuants. What it is to be a particular continuant is never construed as dependent upon other particulars coming into existence. Of course the properties a continuant acquires may depend upon such factors, for instance 'being a father'. I would not be fully justified in saying that this shows that 'being a killing' is more like 'being a father' than 'being a man', but the asymmetry between the event-case construed as constitution-relations in a Taylor-like fashion and the continuant-case is significant. It represents a puzzle. There is a lot more to say about this puzzle, but

⁷⁵ This is G. Forbes's requirement that identity must be intrinsically grounded. (Forbes (1985) pp.140-145). It is important to notice the qualification in connection with necessity of origin and constitution-relations. For a statue to exist in a possible world, it is plausible that it must be made of the piece of bronze it is made of, and for a tree to exist, it must originate from the same seed as in the actual world. Still the identity of trees and statues cannot depend on what other objects come into existence.

its very existence gives substance to my hesitation whether Taylor's intensions can be regarded generally as the analogue of substance-sortals in the event-case.

There might of course be principled ways of drawing a distinction between predicates which describe constitutive properties of mental events and predicates which do not describe such properties. One's resources for drawing the distinction might be found in worked-out theories concerning the mental, i.e. in psychological theory or in a theory of thought, as, for instance, a theory of singular thoughts. If predicates that get singled out by appearing in the favoured theory of thought describe mental events such that the conditions for being such an event satisfying such a predicate and the conditions for being a causal process that one might want to identify with this mental event come apart, for instance counterfactually, then a natural conclusion given some further premisses might be that there is a constitution-relation between this mental event and the underlying causal process.

There is no reason at all to exclude a priori that there might be mental predicates satisfying these constraints on being analogues of substance-sortals, and in fact my later discussion can be seen as exploring exactly this idea. By attempting a defence of the token-token identity-theory, I am addressing this question. I do think that it is a significant advantage of the theory of event-identity I have developed that it so clearly can be reinterpreted as a theory for the identity-conditions for causal processes, thereby possibly allowing room for a precise conception of what constitution-relations between events might be. As noted above, further premisses are needed to show that a constitution-view is the best

response to arguments which seem to refute the identity-theory, and I shall later come back to that.

It ought to be noted that many of the problems the identity-theory faces could be resolved if one assumed constitution-relations, and not identity, between physical events and mental events in general. But such a view needs to be established by principled valid arguments, and one needs to evaluate such arguments in detail. These arguments would be exactly those arguments which make an identity-view, which clearly is a simple and attractive view, untenable. But are there any such arguments? To this question I now turn.⁷⁶

⁷⁶ Lawrence B. Lombard's book, Events. A Metaphysical Study (Routledge and Kegan Paul, London, 1986), appeared when I was preparing this thesis for submission. Lombard executes a book-length discussion of largely the same literature as I have discussed, and advocates a theory of events which at first glance has many similarities with my theory. One might say that Lombard has developed Kim's theory with the help of what he calls the Ancient Criterion of Change, while I have developed Davidson's theory with the help of a Humean theory of causation. The differences between Lombard's view and mine are, however, significant. Lombard's view is that events are ontologically supervenient on physical objects, and not a category of entities just as primitive as continuants, and that events are objects exemplifying properties at times. Lombard provides a theory of which properties are essential to events, namely properties described by scientific theories (as suggested by Kim (1976) pp.162-163), while I appeal to causal laws. He argues, as I have done, that it is not essential for events to have the causes and effects they actually have. But mainly his arguments and his criticism of existing theories are different and differently motivated from mine.

Lombard attempts to give a 'deep' metaphysical theory of what events are. His ambition is not just to give identity-criteria for events recognised in ordinary language. As a consequence he is revisionary towards ordinary language. Among the events he does not recognise as 'events', are events which does not have one 'natural' subject of change. An example is two people greeting each other (Lombard (1986) p.238), and other examples will be parties, football-matches, weddings, and so forth. A different case is when the subject of change does not survive the change, when objects come into or go out of existence. Such things are not events on his view (pp.85-90). Lombard has to provide a criterion of what a subject of change can be. This he does not do. It seems to be quite unclear what his view really is, and what events there are, on his view. The situation is further complicated by the fact that throughout the book he discusses, and uses for theoretical claims, examples of events which I

cannot see his theory can recognize as events. One example is the discussion of Davidson's view, where he is partly endorsing Brand's criticism, based on an example with fissions and fusion of particles (pp.74-78). I just cannot see how fissions and fusions can be events on Lombard's view. A different example is his discussion of whether events can undergo changes (and thereby be subjects of events). He discusses a party which becomes boisterous after a while (p.130). I cannot see that a party has a physical object (in Lombard's sense) as its subject.

His basic definition of events is in terms of atomic events, which have atomic objects as subjects. An atomic object is a physical object which has no physical objects as parts (p.168). He gives no general criterion for what it is to be a physical object; he certainly does not endorse Quine's conception. Partly since he gives no general criterion for what it is to be a physical object which is a subject of change, it is unclear to me what atomic events are, and whether there are any atomic events. His view definitely seems to commit him to some kind of atomism, and he does not attempt to justify such a view.

All other events are by Lombard seen as composed of atomic events, but he does not in detail explain how such a composition is to be understood on his view. A necessary condition is still that a composed event has a physical object as its subject. Lombard commits himself to the view that there cannot be two physical objects at the same place at the same time (p.70). He is then talking about physical objects which can be subjects of change. (He seems to equate physical object and subject of change.) He regards, for instance, the piece of bronze a statue is made of as not being a physical object in the required sense of being a subject of change. (He claims that pieces of clay or bronze are not physical objects.) He also claims that the snow falling or the snow in the yard cannot be a physical object. 'The snow in the yard melting' probably cannot be an event for two reasons: the snow cannot be a subject of change, and even if it were a physical object (subject of change), it would not survive the change. I find this quite unsatisfactory. 'A snowflake falling' is claimed to be an event (p.238). But by what principle does a snowflake qualify as a physical object and a subject of change, while a piece of bronze does not? The view seems quite unprincipled. I am left in the dark about what singles out the category of things which are subjects of events, and Lombard's theory seem badly to need some elaboration. My own view is that no substantive account of what a subject of change is, is needed, and that the heating of the piece of bronze, the melting of the snow, and the deaths of people are all events. It seems to me that Lombard is discussing an important subcategory of event, namely continuants undergoing changes, and presents it as an exhaustive analysis of our concept of event.

I will not discuss Lombard in more detail; his book certainly deserves a much more thorough discussion. I have just given some of the reasons why I have difficulties in understanding what the view is. If we were to approach the mind-body problem with Lombard's theory, we would either have to say that a person is identical to his/her body, or that either persons or human bodies cannot be subjects of change. All alternatives seem very unattractive, and as far as I can see, these are the only options on his view.

PART 2. KRIPKE'S ARGUMENTS AGAINST IDENTITY-THEORIES

PART 2. KRIPKE'S ARGUMENTS AGAINST IDENTITY-THEORIES

2.1. INTRODUCTION

Saul Kripke's arguments in Naming and Necessity¹ against various versions of materialist identity-theories of the mind-body (or mental state-physical state) relationship have become famous. In my view his arguments make up the most influential and philosophically most interesting attack of its kind in the last 15-20 years. Not everybody shares such an opinion. D. Dennett wrote in 1978 that 'It was something of an anachronism when, in 1971, Saul Kripke included a startling refutation of the identity-theory of mind as an illustrative by-product of his extra-ordinarily influential, even revolutionary new account of necessity, designation and identity.'² Dennett's view is that the new theories of functionalism have out-dated Kripke's refutation. I do not think this is so. Kripke's argument is intended to apply equally well to token-token materialist views as to more traditional type-type theories, and many (perhaps most) functionalists are committed to token-token materialism, (as for instance Putnam in his original version of functionalism³). Further, Kripke's ideas about necessity and identity

¹ Saul A. Kripke: Naming and Necessity, Blackwell, Oxford 1980.

² D. Dennett: 'Current Issues in the Philosophy of Mind', APQ, vol 15, 1978, p.254.

³ H. Putnam: 'The Mental Life of some Machines', in H. Putnam: Mind, Language and Reality, C.U.P, Cambridge, 1975, pp.408-429.

are really of great philosophical significance for the assessment of the materialists' claims, if only for the reason that the best and most rigorous theories in semantics are needed to understand what these materialist claims amount to.

Another interesting question is in what sense the refutation of materialism is simply a by-product of the new theory of direct reference. It will become clear during my discussion that it is not simply a by-product, since Kripke needs to introduce several crucial additional essentialist premisses in order to establish his conclusion. Each of these additional premisses can be contested, and there is no direct incompatibility between Kripke's semantics and some versions of materialism.

I shall now put forward arguments in support of the quite ambitious claim that one can actually accept Kripke's 'revolutionary account' (in Dennett's phrase) in semantics without being rationally compelled by Kripke's arguments to give up a materialist position. Before I do that, I think some preliminaries are needed. It is important to be aware that there are three different kinds of materialism under attack in Naming and Necessity. The first is the question of the possible identity between a person and his or her body. I do not think that there is a problem for a materialist in accepting a non-identity here, and thinking of the relation between a person and his/her body as one of constitution rather than identity. So without taking a stand on the issue of whether or not a person is identical to his/her body, I shall just proceed to the other kinds of materialism.

These are the traditional theories of type-type identity on one side, and a token-token identity-theory on the other. My inclination is to regard the token-token argument as much more important in the current discussion about materialism. If I follow that inclination, it will have some quite important methodological consequences for what I am about to do. I am also convinced that the cases are more different than is acknowledged explicitly by Kripke in the arguments in Naming and Necessity.

There are also some other preliminary points. Prima facie, D. Davidson's conclusion in 'Mental Events' is straightforwardly incompatible with Kripke's conclusions in Naming and Necessity. Davidson's argument seems to be valid; so if Kripke's argument is correct, it must have repercussions for at least one of Davidson's premisses. It should not be overlooked, however, that Davidson's and Kripke's arguments are in fact concerned with quite different mental phenomena. Kripke is concerned with pain, which is mainly a brute sensation. I say mainly, because there are different kinds of pain. Davidson's argument as it stands relies crucially upon ascriptions of beliefs and desires, which he claims are intrinsically bound up with and constrained by our conception of rationality. It is perhaps unclear how Davidson's argument applies to pains.

Arguments related to Davidson's apply to pains just as well as to other mental events. C. Peacocke's argument for materialism is in my view such a related argument. In any case, I shall here mainly be concerned with Kripke's claim that not even a token-token identity-theory holds for pains. If Kripke's argument cannot be disarmed, then the prospects for all kinds of materialism will be affected. It is problematic whether one

can be a materialist and at the same time accept Kripke's premisses.

One should be aware of two different varieties of Kripke's argument. The Cartesian intuitions that Kripke states, which I shall later specify, can be taken to be meant as real possibilities or epistemic possibilities. If they represent real possibilities, then the identity-theory seems to be false, in both the type-type case and the token-token version. However, if they are instances of the kind of case where someone believes that something is really possible when it is not, we want an explanation of how it is epistemically possible to come to believe such things.

Kripke discusses only the type-type case in great detail. His strategy is to show that even if we accept only the weaker claim, and treat the Cartesian intuitions as 'illusory' epistemic possibilities, we still have no clear semantic mechanism to explain how these 'illusions' can arise. If there is no such explanation apart from the falsity of the identity-theory, then this constitutes a very strong argument against type-type identity-theories. If one accepts that the Cartesian intuitions are epistemic possibilities, then Kripke's argument can only be met by showing either that we have such a semantic mechanism after all, or that other presuppositions Kripke makes are implausible or false.

Since to begin by taking the Cartesian intuitions as possibly 'illusory' epistemic possibilities yields the most persuasive version of Kripke's argument, I shall present his argument in that version in what follows. But even if Kripke's argument can be met in that version, it may still be argued with plausibility that in the token-token case the Cartesian intuition does constitute a real possibility. Therefore, towards the end,

I will consider how plausible this is.

Let me summarise my procedure: after an exposition, I shall evaluate to some extent the (in my view) most interesting counter-argument to Kripke in the type-type case, given by C. Peacocke. This argument is meant as a general counter-argument to Kripke, and its failure would underline the implausibility of type-type views. I shall then state a general methodological objection to what I take to be the strongest version of Kripke's argument (taking the Cartesian intuitions as only epistemic possibilities for believing that something which is not possible really is). Finally I shall put forward a different view on what the true possibilities are.

This is the structure of my argument. I shall present it in Kripke's terminology as far as possible. My ontological commitments are laid out in part I, and it goes without saying that if the Kripkean terminology seems to commit me to a different or richer ontology, for instance in the case of properties, than that to which I have committed myself to in part I, then the new and less austere commitment must not be understood literally.

2.2. EXPOSITION OF KRIPKE'S ARGUMENT

2.2.1. HEAT

I shall now give an exposition of Kripke's argument in the type-type case and the token-token case. I shall follow the text, and be more detailed in the type-type case than in the token-token case; but the exposition as such will not be very detailed. That is because Kripke's argument is well-known, and stated very clearly. I shall still, for the sake of clarity, proceed slowly on one specific point where many commentators have gone fast. The argument relies upon the metaphysical views and semantical apparatus Kripke puts forward in Naming and Necessity. Part of the argument is by analogy to the theoretical identification of heat and molecular motion. The statement expressing this true identity is a necessarily true statement, according to Kripke. All objects are necessarily identical to themselves. Some identity-statements express necessary truths; namely those where the identity-sign is flanked by two different rigid designators which pick out the same object. An example of this kind of case is 'Hesperus = Phosphorus'. Since the truth of this statement can represent an empirical discovery, it is not an a priori truth. Other true identity-statements may not express necessary truths, for instance when there are not two different rigid designators, and the

statements still represent empirical discoveries.⁴ A rigid designator designates the same object in all possible worlds in which the object exists.⁵ A definite description will normally refer to different objects in different possible worlds.

I shall now give my intuitive reading of Kripke's explanation of how we could come to believe that 'heat might not have been molecular motion'. Our term 'heat' picks out a natural phenomenon which necessarily is molecular motion. This identity-statement seems to be only contingent to us, in our epistemic situation, because the reference of 'heat' gets fixed by an accidental property of heat, viz. the sensation heat produces in us. Our theories about the world commit us to the view that molecular motion, (i.e. the phenomenon that actually produces this sensation), could very well have existed without our having any sensation whatsoever. Even if it is thought necessary that heat produces exactly this sensation as long as we exist to feel it, it cannot be a necessary property of heat

⁴ It is Kripke's view that there are genuine identity-statements even if there are no rigid designators. Still any object is of course necessarily identical to itself. One might hold a different view on definite descriptions, and analyse them in terms of quantification, not predication, and deny that such statements are identity-statements. For Kripke's view, see Kripke (1980) pp.3-4 and p. 98, and S. Kripke: 'Identity and Necessity', in M. Munitz (ed): Identity and Individuation, New York U.P., New York, 1971 pp.137-138.

⁵ It has been pointed out by D. Kaplan that there are two 'definitions' of 'rigid designation' in Kripke (1980); namely standing for the same object in all possible worlds, and standing for the same object in all possible worlds where that object exists. Kaplan argues that the first one ought to be preferred. Kripke does not want to go into the problems about truth-values of sentences in possible worlds where the referent of a rigid designator does not exist. The same simplification will here be made by me, but the point is relevant since one has to give some ground or other for believing that the referent does exist in the worlds one is considering. The notion of necessarily true is then a weak notion. If 'A' and 'B' are rigid designators, then 'A=B', if true, is true in the sense of being true in all worlds where this object exists. See D. Kaplan: Demonstratives, unpublished monograph, UCLA, 1977, footnote 6, p.101.

that it produces this sensation, since heat can exist without producing it. And other creatures, different from us, could have an exactly similar sensation as we have when we feel heat in the presence of something entirely different. This could be the case in a situation where heat still was molecular motion.

To find out whether this intuitive reading is correct, I shall now try to be more precise about Kripke's explanation. To see precisely how Kripke's explanation works, I will distinguish between the ultimate explanandum and the intermediate explanandum. The ultimate explanandum is the fact that we believe, or someone believes, what is expressed by 'heat might not have been molecular motion'. We believe, perhaps, that this is a real possibility. Kripke's explanation of the ultimate explanandum will work by establishing how it is epistemically possible that 'heat might not have been molecular motion'. If it can be satisfactorily explained how this is epistemically possible, then we can explain the ultimate explanandum as a case where the epistemic possibility is taken (mistakenly, but naturally) to represent a real possibility. The crucial intermediate explanandum, which needs to be explained before the ultimate explanandum can be explained, is then how 'Heat might not have been molecular motion' can represent an epistemic possibility. I accept that if this intermediate explanandum can be explained, then we have available a satisfactory explanation of the ultimate explanandum. I shall therefore concentrate upon the explanation of this intermediate explanandum, and often refer to it as the explanandum. If I occasionally refer to the final belief that 'heat might not have been molecular motion', I shall mean that the coming to hold this belief (the ultimate explanandum) is explained if the intermediate explanandum is explained. I

shall now represent the explanation of the intermediate explanandum, the epistemic possibility, more formally:

('□' and '◇' stand as usual for necessity and possibility, 'E' stands for epistemic, 'R' stands for real.)

◇_E (Heat ≠ molecular motion)

is explained by the following real possibility:

- 1) ◇_R (molecular motion is present, the sensation of heat (=S) is not)

or the following:

- 2) ◇_R (molecular motion is not present, the sensation of heat (=S) is)

Formally speaking, the real possibilities 1) and 2) are not the same; one could be true and the other false. I shall now show how the different interpretations will go. 1) has a clear and unproblematic first reading. Heat (which is identical to molecular motion) may exist in a world where there is no one to feel heat. That makes 1) true, and constitutes the weakest modal claim that can do explanatory work here. Another reading would be available if one concentrated on a smaller set of possible worlds, the worlds where there are sentient beings; there are clearly worlds where some creatures, different from us, might be in the presence of heat without having the sensation of heat (=S) which we have in the

presence of heat. This also clearly shows that the production of S is an accidental feature of heat. A third reading would be to say that we, human beings, could be in the presence of heat without having the sensation S. (We presuppose that our sensory system is not straightforwardly malfunctioning as, if so, the claim would be uninteresting.)

The second possible explanans, real possibility number 2), involves the presence of the sensation S, but here heat (which is identical to molecular motion) is absent. I want to disregard the worlds where heat (molecular motion) does not exist at all. Then this possibility (2) either means that some creatures can have this sensation S in the absence of heat, or that we, human beings, could have S in the absence of heat.

Concerning the interpretation of both 1) and 2) it is natural, I think, to draw a distinction between the readings where there are modal claims involving situations where we, human beings, are present, and those which involve situations where we are not to be found, but where different creatures have sensations, and can have the sensation S that we have when we feel heat. These latter readings I shall call the weaker readings. This distinction amounts to a distinction between the more limited set of possible worlds where we exist (the stronger reading), and a larger set of possible worlds (the weaker reading). It should now be seen that these different readings have different explanatory values for the epistemic possibility (the intermediate explanandum) we want to explain.

Heat is referentially fixed by the sensation S it produces in us in the actual world. If we could have S, which we connect with heat a priori, in

the absence of molecular motion, or did not have S in the presence of molecular motion in some possible world, then this would serve to explain the epistemic possibility by use of the stronger reading of the modalities.

The weaker reading would explain things differently. Here one would have to say that because we believe that some creatures, different from us, can have S in the absence of molecular motion, and this (or another) creature can fail to have S in the presence of molecular motion, it is epistemically possible that 'heat might not have been molecular motion'. Because we realize that the reference of heat is fixed by an accidental property of heat, we understand how this epistemic possibility arises. This latter explanation is how I intuitively understood Kripke in the introduction to this part.

The explanation essentially involving us in the presence or absence of heat, which I call the stronger explanation, seems to work very well in explaining this epistemic possibility. I am now momentarily a bit more uncertain about the latter explanation, which I call the weaker explanation. That is because the explanation relying on situations which we think we can experience ourselves seems better suited to explain our epistemic possibilities. It is important to notice that someone who thinks that we necessarily have this sensation in the presence of heat, and necessarily only then, can use only the explanation which I call the weaker explanation. It might also be thought that a Kripkean, given his general essentialism, and a lot of evidence about our bodies, would have to accept the claim just mentioned: that we could not have the sensation S in the absence of heat and vice versa. This would mean that Kripke

would be committed to the weaker explanation.

Kripke is aware of these different possibilities, and I think he does not want to commit himself to a view either way whether it is a contingent fact about us that we have exactly these neural structures or not. He acknowledges this explicitly, and says that he is ignoring it for the purpose of simplifying the discussion.⁶ I think it is fair to say that he thinks that these different explanations, which I have called the stronger and the weaker, can both do the job, and that the difference between them is not all that important.

I have spent some time on this point in order to be clear about how Kripke's argument goes. Another reason is that he is often understood as giving the strongest and perhaps most satisfying explanation, which relies on experiences we could have had. Several times later in his argument Kripke refers to 'someone' who can have the sensation S, without being explicit about the domain of sentient beings talked about.⁷ 'Someone' has the connotation of some person, and gives the impression that we are talking about people. It is of some importance to notice that this is not necessarily so.

I shall for the rest of this chapter accept the adequacy, and the explanatory value, of both the weaker and the stronger explanation. Like Kripke, I shall just leave it open whether the constitution of our neural structures is a contingent fact about us. But because Kripke has not established by argument that we could have S in the absence of heat, or

⁶ S. Kripke (1980) p.132 and p.133.

⁷ S. Kripke (1980) p.152.

the other way round, it is clear that my intuitive reading, which involves only the weaker explanation, is the only one established by Kripke in Naming and Necessity. This leaves open a possible line of criticism of Kripke's position which I have never seen in print. One could perhaps argue that only the stronger explanation, essentially involving what we could experience, explains the explanandum satisfactorily. I have found no convincing argument for this position, and I shall not rely upon it. But taken together with an acceptance of the claim that we could not fail to have S in the presence of heat, it would mean that Kripke's argument against materialism could not get off the ground.

2.2.2. PAIN

I shall now show how Kripke argues against materialism by analogy with this explanation of how we can possibly believe that 'heat might not have been molecular motion'. The type-type case is the question of the possible identity between pain and c-fibre-firing. Kripke argues that c-fibre-firing is essentially c-fibre-firing just as molecular motion is essentially molecular motion, (or rather, just is molecular motion). 'C-fibre-firing' is used as a rigid designator of 'whatever neuroscience decides the pain-mechanism in our bodies to be'. To preserve the analogy to the heat-case, I shall say that 'pain' is referentially fixed by the sensation we have when we feel pain: i.e. the pain-sensation S. The

important point is that having this sensation S just is being in pain. Pain is also essentially pain. If something did not feel like pain, i.e. we did not have this sensation S by which 'pain' is referentially fixed, then it would not be a case of pain.

Kripke's argument then starts from the Cartesian intuition that we could have had pain-sensations even without c-fibre-firing, and that c-fibre-firing could exist without being 'correlated' with a pain-sensation. That we believe this is the ultimate explanandum, and this explanandum can be explained if the intermediate explanandum, the fact that this is an epistemic possibility, can be explained. The latter explanation can in this case be formalized in this way:

◇E (pain ≠ c-fibre-stimulation)

to be explained by

1) ◇R (The sensation of pain is present,
c-fibre-firing is not)

or

2) ◇R (The sensation of pain is not present,
c-fibre-firing is present)

These are the only two real possibilities that can do explanatory work in explaining the epistemic possibility of the Cartesian intuition, if we accept Kripke's way of explaining such possibilities. It is easily seen

that if either 1) or 2) is true, then the identity-theory is false, because both 'pain' and 'c-fibre-firing' are rigid designators, and the sensation of pain, S, by which the reference of 'pain' is fixed, can not be present without pain being present. The Cartesian intuition can not be satisfactorily explained unless the identity-theory is false in the type-type version.

The token-token identity theory can be treated in a very similar fashion. The question of the identity between a particular c-fibre-firing and one specific pain-event now comes out as follows.

Cartesian intuition: we believe that it is possible that for instance the c-fibre-stimulation I now have, could have existed without my feeling the pain I am now feeling (or vice versa). If we want to explain the epistemic possibility which can be an intermediate explanandum in the explanation of the Cartesian intuition, then this situation will differ from the heat-example in a way closely related to the differences from heat in the type-type case. There we saw that in the identification of heat and molecular motion, the sensation of heat came, so to speak, between us and the phenomenon. The reference of heat was fixed by this 'go-between'. But a pain-event is essentially pain. Let us designate these particular events, the pain-event and the c-fibre-firing-event by two rigid designators, 'A' and 'B'. 'A' is the pain-designator, 'B' is the c-fibre-designator. If these events, A and B, are in fact the same event, then it is necessarily identical to itself. We also know that designated as A (as pain), it is necessarily pain, because to be felt like pain is an essential property of a pain-event. In addition we believe that B is essentially c-fibre-stimulation. We can now formalize

again:

Explanandum: $\diamond E$ (A \neq B)

Explanantia:

- 1) $\diamond R$ (The c-fibre-stimulation is present and
the sensation of pain is not)
- 2) $\diamond R$ (The c-fibre-stimulation is not present and
the sensation of pain is)

If the token-token identity theory is true, then both 1) and 2) have to be false. There are then no such real possibilities as described here. The only way we can explain the explanandum is again by assuming that the identity-theory is false, this time in its token-token version. Only then will there exist real possibilities to do explanatory work. The conclusion is that as long as being pain (i.e. being felt as pain) and being c-fibre-firing are essential properties of A and B respectively, then we have no explanation of the epistemic possibility apart from the falsity of the identity-theory.

It should be agreed, I think, that Kripke has pointed out a significant difference between the two cases of identification: the identification of heat with molecular motion, and the possible identification of pain with c-fibre-stimulation. On the other hand, the issue hinges on epistemic possibilities and their explanations. Kripke's explanation avoids what a traditional semanticist would introduce to explain epistemic

possibilities: senses of words, modes of presentation, ways of thinking about an object. Kripke's explanation uses only properties of the events/substances involved, the distinction between accidental and essential properties of the events and substances, and theories about how references of rigid designators get fixed by these different properties.

2.3. COUNTERMOVES TO KRIPKE

2.3.1. THE COUNTERARGUMENTS

Now when the structure of Kripke's argument has been laid out, we can see how easily it can be contested at almost every point. Of course Kripke's version of the theory of direct reference can be contested; one could think that any referent is given by a sense or a mode of presentation, (whose existence may depend on the referent's existence, or be individuated by the referent in question). Quine would question the philosophical justification for a distinction between essential and accidental properties of things. In my view, it is still interesting to examine how well the arguments work against Kripke when less basic premisses are questioned.

Philosophers who have given less basic criticism of Kripke, questioning less basic premisses, are, among others, Grover Maxwell, Michael Levin, William Lycan, Fred Feldman, Christopher Peacocke and Colin McGinn.⁸ Feldman argues that 'being pain' is not an essential property of a pain-

⁸ G. Maxwell: 'Rigid Designators and Mind Brain Identity', in Minnesota Studies in Phil. of Science, Vol IX, 1978, pp.365-404, M. Levin: 'Kripke's Argument Against the Identity-Thesis', Jour. of Phil., vol. 72, 1975, pp.149-167, W. Lycan: 'Kripke and the Materialists', Jour. of Phil., vol. 71, 1974, pp.677-689, F. Feldman: 'Kripke on the Identity-Theory', Jour. of Phil., vol 71. 1974, pp.665-676, C. Peacocke (1979) pp.124-134, C. McGinn: 'Anomalous Monism and Kripke's Cartesian Intuitions', Analysis, vol. 37, 1977, pp.78-80.

event. Lycan argues that since one can have pain without being aware of it, this fact can explain the epistemic possibility. Levin thinks that the reference of 'pain', (or of an expression referring to a particular pain-event), is fixed not by an essential property of pain, but by an 'Australian' topic-neutral description. Maxwell argues that our scientific theories should not be taken to describe essential properties of things, so on his view 'molecular motion' and 'c-fibre-firing' are not rigid designators. If one were convinced by any of these arguments, which I shall not discuss, one would be forced to give up Kripke's argument as it stands.

Peacocke and McGinn question even less basic premisses. I shall concentrate on Peacocke. He questions Kripke's way of explaining how necessarily true statements appear to be only contingently true. If his strategy works, one can be a materialist without questioning any of Kripke's premisses. To show that this is so would be extremely satisfactory for a materialist, even if he thinks that this is not the only way of arguing against Kripke. Peacocke's strategy could perhaps convince someone who sticks to all of Kripke's premisses, and who does not accept the criticisms given by Feldman, Lycan, Levin and Maxwell.

Peacocke's argument is interesting from my perspective also because it might show how a basically Davidsonian position on the identity-theory issue is compatible with many of Kripke's premisses. Peacocke nevertheless concentrates on the type-type issue, as Kripke does, and his defence of an identity-theory is at the same time a defence of the possibility of a type-type identity-theory. Peacocke himself only believes in a token-token physicalism, and gives strong arguments against

a reductionist type-type view. In my view, Kripke could have been right on the type-type case, and still be wrong on the token-token case. I shall later give an argument that would have worked in such a situation.

Peacocke attacks precisely the structure Kripke invokes to explain why necessarily true identity-statements can appear to express at most contingent truths. He treats the problem of explanation in a general way, as Kripke seems to do too, without specifying distinct and different explanations in the token-token case as opposed to the type-type case. Peacocke produces an example of a type-type kind where he describes epistemic possibilities which he claims cannot be explained in Kripke's favoured austere way.

In the situation Peacocke describes, a person believes that two substances may not be the same substance. But it turns out to be two ways of approaching water. So, contrary to what one thought, one was not approaching two different substances, but only one. Peacocke claims that in both ways the referent, i.e. water, gets fixed by an essential feature it has, a feature it could not be without.

Now, if it is a real epistemic possibility for a normally rational person to believe that these 'substances' may be different, then this epistemic possibility cannot be explained the way Kripke wants. As long as the reference is fixed by an essential feature of the referent in both ways of fixing the reference, then there are no such real possibilities as demanded by Kripke's explanatory structure. This example would, if accepted, establish the existence of epistemically non-equivalent essential properties. If there are essential properties of this type,

then Kripke's way of explaining epistemic properties is inadequate for reasons independent of the problem of materialism. There would then be other cases that cannot be explained in the way Kripke favours. In fact, we cannot explain epistemic possibilities in Kripke's favoured way in any cases where there are epistemically non-equivalent essential properties, if the reference of the terms is fixed by different epistemically non-equivalent properties of the referent.

Peacocke suggests an alternative explanation to Kripke's. It is designed to be an explanatory structure that can explain 'illusions' of contingency in general. It turns out that this explanation can explain the 'illusion' of contingency in both the water-case and in the pain-case.

There are then at least two different claims in Peacocke's argument. The first is that there are cases which Kripke's model can not explain. The second is that this alternative explanatory structure given by Peacocke is genuinely explanatory. I shall here concentrate on the first claim, because that claim in itself leads to serious misgivings about Kripke's argument. I think the second claim is more problematic, and it raises a lot of interesting but difficult problems to which I do not really have satisfactory answers.

Peacocke's counter-example to Kripke consists in a thought-experiment involving a scientist referring to water in two different ways. He thinks that by these two ways of referring, he may be referring to two different substances. The reference is fixed by two different descriptions. One is chemical, the other is not. The chemical one is 'the substance that,

together with salt, is produced by the reaction of hydrochloric acid and sodium hydroxide in equal parts'. I think a Kripkean ought to agree that this picks out water by an essential property of water. But there may be doubts in the non-chemical case. The non-chemical description provided by Peacocke is 'the substance occurring naturally on earth in liquid form needed by plants and human beings to live'. I think an essentialist could argue that the needs of plants and human beings are not essential features of water, since water could have existed without plants and human beings existing. There is no doubt that this description picks out water uniquely, (and thereby fixes the reference). But so does our ordinary way of fixing the reference of heat; it picks out molecular motion uniquely, but by one of its accidental properties. If a Kripkean argues like that, he would not be persuaded by Peacocke's counter-example. He can then explain the 'illusion' of contingency in Peacocke's example in his own favoured way.

There are several ways of answering such a Kripkean reply. As Peacocke points out, the description of water discussed above can be changed. In response to people who think human beings and plants may not need water to live, he suggests that this non-chemical description is replaced by another chemical description of water. Unfortunately Peacocke does not give an example here. But if two different chemical descriptions of water are given, it is hardly possible for an essentialist to argue that water is not picked out by essential features of water in both ways of fixing the reference.

In such a situation, someone might find it more difficult to accept that it is a real epistemic possibility that a normal rational person can

believe that there might be two different substances. Since the first chemical description is very detailed, this person must know some chemistry, and know the meaning of these terms in chemistry. It may be an open issue whether there could be such an epistemic possibility, given that somebody had two different chemistry-based ways of fixing the reference. I shall not go deeper into such a claim, because that would also involve giving a more rigorous theory about contents of beliefs. Such a theory would also have consequences for the original question of which epistemic possibilities are real, and thereby for the Cartesian intuition itself; it would, perhaps, undermine it. The case might also be regarded as being outside the scope of Kripke's type of explanation if two theoretical terms are involved. (I shall return to this last point later.)

Another reply would be to appeal to dispositional essential properties. Such properties would be essential properties that are manifest only in worlds where certain other objects exist. On a normal understanding of such dispositions, dispositional properties have a categorical basis in underlying physical properties. If we again think about Peacocke's example of water, the dispositional essential property of being needed by human beings and plants must also have a categorical basis in terms of the basic physico-chemical properties of water. Water can react with other substances in certain ways according to chemical theory, and the disposition to react in some specific way, when brought into contact with some specific substance, may be thought of as an essential property of water. Although we describe it in virtue of the reaction it produces in another substance, and it therefore is a dispositional property, it is still essential, since we are in fact referring to some property water

has in all possible worlds where there is water.

It is clear that if we are in fact referring to essential properties of water by describing it in terms of effects it has upon some other substances, then there may be epistemically non-equivalent essential properties. But it is still not clear how that affects Kripke's argument. It is quite easy to detect dispositional properties, because the existence of something different from water upon which it has a reaction is presupposed in the description. Moreover, it has not been shown that there are other epistemically non-equivalent properties than the dispositional ones. In the cases we are concerned with (in the identity-theory problem), we are operating with non-dispositional essential properties, since the ways in which the referents are referred to do not presuppose the existence of effects in anything apart from the 'substance' we are talking about. So I am unsure about the force of this line as a reply to Kripke.

Another strategy is of course to find other and better examples to establish the existence of epistemically non-equivalent essential properties. One example which has been discussed in the literature, is the identification of genes and DNA-molecules. Both 'being genes' and 'being DNA-molecules' are, by Kripkean standards, terms specifying essential properties of their referents, and the referent is the same in both cases. They therefore seem to be epistemically non-equivalent essential properties.

Except for the case of the two theoretical terms picking out water, this case is different from the other cases I have discussed. Since we have

two theoretical terms, the issue is not the possible identification of the referent of a non-theoretical term with the referent of a theoretical term. This may be important, because cases like this may fall outside the intended scope of the type of explanation Kripke favours. Kripke may claim that his type of explanation concerns only the epistemic situations where at least one of the terms is a well-entrenched ordinary-language term. Kripke may claim that only such situations fall within the scope of his explanation, because in other cases the reference is fixed in quite different ways, for instance by the term's place in a large theory. It might therefore be impossible to apply this kind of explanation. There is still a significant range of cases where this kind of explanation is illuminating; the heat case is one of them, and the pain case is another where this kind of explanation ought to be adequate if the identification of referents were true.

I am not claiming that there are no further counter-moves against Kripke open to his critics; I only want to make the very modest claim that it is not obvious that the criticism that has been put forward has been successful in undermining Kripke's position. Peacocke's strategy is the most promising, because it questions so little of Kripke's semantical and philosophical framework. Peacocke's strategy has two parts. The first part produces counter-examples to Kripke's type of explanation; the second part prefers another type of explanation which is meant to cover all problematic cases. Since there certainly may be counter-examples to Kripke's explanation, cases it cannot handle, Peacocke's alternative explanation ought to be considered. In addition it has independent interest.

2.3.2. PEACOCKE'S ALTERNATIVE EXPLANATION

When I now turn to the alternative model for explaining epistemic possibilities given by Peacocke, we should be aware of the fact that the area we are entering is full of puzzles, and I do not intend to give a full treatment of the problems. My aim is to explore whether one can be a materialist without giving up Kripke's substantial doctrines. Without committing myself to any view about the truth of either Peacocke's or Kripke's position, I will try to show that Peacocke's alternative might involve a more substantial break with Kripke's position than appears at first sight. Its value as part of the project of making Kripke's views and materialism entirely compatible, will, therefore, be questionable.

Peacocke's explanation depends crucially on introducing the sensational qualities of our experiences of those phenomena about which we have beliefs. Let us look at Peacocke's example of water. It is clear that we want to explain how there comes to be a possibility of believing that the substance referred to by the chemical description and the description involving the needs of human beings and plants, may be different substances. This is what I earlier called the ultimate explanandum, which is seen as explained if we can explain that it is epistemically possible that there could be two substances. Peacocke's model explains this latter possibility by saying that the substance needed by some 'anthropoid-looking creatures' and the 'substance with a salty taste, etc', might not be the same substance. This possibility is truly a real possibility, and the epistemic possibility is explained.

It is clear that the sensory impressions we get from any external thing are accidental features of that thing, if the thing could have existed even if we did not. So by introducing the qualities of our sensory impressions as the basis for the real possibilities that explain the epistemic possibilities, it is obvious that one can explain many more epistemic possibilities than can be explained by Kripke's model.

I shall now try to show how this relates to Kripke's semantics and Kripke's view on epistemic possibilities. It is natural to concentrate once again on the Cartesian intuition, the specific case of pain and c-fibre-stimulation. We are about to explain the epistemic possibility we can describe like this:

◇E (c-fibre-stimulation is present,
pain is not present)

The real possibility that does explanatory work on Peacocke's model is this:⁹

◇R (strands of grey fibrous cells of such and
such a shape are stimulated,
pain is not present)

This is obviously a real possibility, because these grey fibrous cells do not have to be c-fibres. The question is how explanatory this is of our belief about c-fibres, and of the Cartesian intuition. Some imagined

⁹ C. Peacocke (1979) p.130.

Kripkean could say that the fact that something which looks like c-fibres but which is not c-fibres could be stimulated in the absence of pain does not explain satisfactorily how we can come to believe that c-fibres could possibly have been stimulated in the absence of pain. He would claim to have a belief about c-fibres, not something which looks like c-fibres. This Kripkean could point out that he is thinking of c-fibres as the bodily mechanism which is thought to be correlated with pain. The appearance of c-fibres or c-fibre 'look-alikes' play no role in the ancestry of the intuition, which is just that this bodily mechanism could have been stimulated in the absence of pain. That some other fibres, which are not c-fibres but look-alikes, could have been stimulated in the absence of pain, is not relevant to explaining this belief about c-fibres. Given the way c-fibres are introduced, this Kripkean could claim, we know what we are thinking about, independently of how they look. Other fibres, their behaviour and their appearances, are not what matters for explaining the Cartesian intuition about c-fibres.

In the individual case, we believe that this pain-event, A, could possibly have existed without this c-fibre-firing, B. The possibility that A could have existed without something visually similar to B existing, can not explain how we can come to believe that A can exist without also B existing.

A Kripkean would acknowledge two kinds of beliefs here. Kripke argues that there is one sense in which we can say that it is true that this table could have been made of ice (for example).¹⁰ We are then thinking that something like this table, a table looking like this one, could have

¹⁰ S. Kripke (1980), p.142.

been made of ice. This is the intuition that may be captured by the formalization offered in counter-part theories in the semantics of modal logic. The other way of understanding this makes the proposition false; in that sense it is false to say that this table could have been made of ice. We are then thinking about this particular table, not a table looking like this one. Kripke claims to have beliefs of this latter kind, about particulars, in his Cartesian intuitions.

In Kripke's original argument, the role of the analogy to heat is precisely that because 'heat' is referentially fixed by an accidental property of heat, we can explain how a belief which the subject takes to be of this latter kind, about heat, which we can describe from the subject's point of view, can in fact be a belief which from an objective point of view can only be correctly described as a belief of the former kind, a belief about whatever feels like heat.¹¹ We might call such phenomena transformations of beliefs. There is a semantic mechanism to explain such phenomena, but on Kripke's view they can only be explained in cases where a semantic mechanism of the favoured kind is available. The semantic mechanism invokes only the properties of the referent by which the reference of a term is fixed. The intermediate explanandum, the epistemic possibility, can be explained only if the reference is fixed by a description picking out an accidental property of the referent. The epistemic possibility is then seen as sufficient to explain the fact that the subject can take it to be a real possibility, and if the subject does so, he must from an objective point of view be described as having a belief about something which feels like heat.

¹¹ I give a more detailed justification for this claim when I later discuss Kripke's analysis of the content of what is believed to be true by someone who seriously assents to 'Heat might not have been molecular motion'.

On Peacocke's alternative explanatory structure, such transformations of belief from one kind to another can happen independently of the mechanism in Kripkean semantics. The explanation will always work when different, or the same, external things give us different but qualitatively similar sensory impressions. As long as the sensory impressions we get are accidental features of these things, there will always exist real possibilities which can be invoked to explain such transformations of beliefs from one kind to another.

As far as I can see, two things follow from this. First, Peacocke's explanation of epistemic possibilities seems not to connect the epistemic possibilities as intimately to a semantic theory of the Kripkean kind as Kripke wants. Secondly, Peacocke's position seems to imply a different epistemological attitude towards Kripke's two kinds of belief. Peacocke does not say more about it, but it might be thought in the Kripkean camp that Peacocke must in the end question Kripke's basic distinction between two kinds of belief. If a belief one believes to be about c-fibres, about a particular natural kind, can be transformed into a belief about something that is not c-fibres as easily as it might seem that it can on Peacocke's model, then that must have some consequences for the distinction between the two kinds of beliefs. That distinction is really crucial for Kripke's argument, and also for more general aspects of his philosophical views.¹²

We can put this differently, and perhaps more clearly, by considering the predicates '... is identical to molecular motion' and '... is identical

¹² I am not claiming that Kripke is right and that Peacocke is wrong, I am only pointing out differences between their positions.

to c-fibre-firing'¹³. Let us call these predicates F and G respectively. 'Molecular motion is F' and 'Heat is F' will then express the same proposition on the Kripkean view. Still 'Heat is F' appears contingent, even if 'Molecular motion is F' does not. This illusion of contingency is what gets explained by the way the reference of 'heat' is fixed. It is assumed by Kripke to be absolutely clear what the predicate '...is F' stands for in all possible worlds. If we think like this, then we get a clear analogy to the pain-case, where it is necessary and a priori that 'C-fibres are G'. But it again appears contingent that 'Pain is G'. The illusion of contingency, if it is an illusion, cannot then be explained by the way the reference of 'pain' is fixed, since the reference of 'pain' is fixed by pain itself, which is pain in all possible worlds. If a Kripke-type explanation of the 'illusion' of contingency is to be available, then the identity-theory must be false. This shows that the supposed illusion is not an illusion.

On this construal, Peacocke must be challenging the view that we can take for granted that the predicates '... is F' and '... is G' can be introduced in Kripke's way to figure in explanations of epistemic possibilities. In the case of these predicates also, there will always be ways of thinking about what the predicates stand for, and these ways of thinking about what these predicates stand for will have to enter crucially in the explanations of epistemic possibilities. If 'ways of thinking about', what we non-technically might call concepts, are individuated by evidential considerations, as they are for instance in

¹³ 'Molecular motion' and 'c-fibre-firing' are thought of as unstructured rigid designators, as Kripke does. Whether this can be fully justified is a question I shall not discuss.

Peacocke's more developed theory of content¹⁴, then we must account for epistemic possibilities by considering evidential situations which are indistinguishable from the evidential situations where we normally think of c-fibres, but where we in fact misapply the 'way of thinking' or 'mode of presentation'. If that is so, 'ways of thinking about' will be relevant both in the case of 'heat' and of '... is F', and in the case of 'pain' and of '... is G'. A Kripkean has a different view of the analysis of the content of '... is F', and of how '... is F' figures in epistemic considerations about what is possible or not, and is likely to hold that empirical misapplications of the predicates '... is F' and '... is G' are simply irrelevant for the analysis of why 'Heat is F' and 'Pain is G' appear contingent.

The moral of this is not of course that Peacocke is wrong and that Kripke is right. The moral is that Peacocke's alternative type of explanation questions fundamental assumptions Kripke makes. The assumption questioned is that the content of thoughts expressed by sentences 'Heat is F' and 'Pain is G' is to be analysed in Kripke's way, where the predicates '... is F' and '... is G' are analysed as having a fairly unproblematic content, given directly by the semantical analysis in a possible worlds framework. The direct relationship between this type of semantical analysis and the contents of thoughts is challenged by an alternative view of content, which is present, if not fully developed, in Peacocke's type of explanation.

I do not want to draw any conclusions about the correctness or adequacy of the positions taken by Peacocke and Kripke. I only want to claim that

¹⁴ C. Peacocke: Sense and Content, Clarendon Press, Oxford, 1983.

their different ways of explaining epistemic possibilities are to be traced back to substantial disagreements in the theory of content. My original strategy was to preserve most, preferably all, of Kripke's premisses, and show them to be compatible with a materialist position.

Let us therefore grant Kripke his analysis of the content of these problematic predicates. Is it still possible to explain the illusion of contingency in the pain-case? It appears not. But this relates interestingly to another question. How legitimate is it, as a method in metaphysics, to argue the way Kripke does? Is it legitimate, given Kripke's view on content, to invoke the requirement of an explanation of epistemic possibilities of his favoured kind in order to settle whether the identity-theory is true or false? What does the requirement presuppose? To these questions I now turn.

2.4. A METHODOLOGICAL COUNTERARGUMENT

2.4.1. BACKGROUND

I think the discussion so far illustrates Kripke's claim that if one thinks that the Cartesian intuitions represent epistemic possibilities, then it is far from easy to explain how they can arise without assuming that the identity-theory is false. I shall now give a different argument against Kripke. If it works, then it works independently of the outcome of the discussion above. I shall concentrate primarily on the token-token case. This is the version of materialism which to my mind has the best prospect of being true, and I am not too worried about not saying much about type-type problems. Even if a type-type identity-theory were to be true for some mental events devoid of rationality (as for instance brute pains), my argument will, I hope, work to establish a token-token identity for the events in question, and at the present stage of the discussion I am quite satisfied if that can be convincingly argued.

In his argument in the token-token version, Kripke states that we can rigidly refer to these particulars, the individual events. He does not discuss the different ways in which this might be done. I think it can be done in at least two quite different ways, and that these different ways of referring rigidly to these particulars will behave differently in the context of Kripke's argument.

First, one can refer to these events by demonstratives, by saying 'this pain-event' and 'this c-fibre-firing'. The other way is by proper names. Since the semantics of demonstratives and proper names can be thought to exhibit clear differences, one should be clear about how the argument goes. Kripke is clear on this point, when he says: 'Let 'A' name a particular pain-sensation and let 'B' name a corresponding brain-state, or the brain-state some identity-theorist wishes to identify with A.'¹⁵ The only way to understand this, as far as I can see, is to read it as implying that 'A' and 'B' are to be understood and analysed as rigid designators just standing for particulars. Since rigid designators like demonstratives might be thought to involve a particular way of thinking about the referent, I shall say nothing more about the semantics and epistemic logic of demonstratives, and concentrate on other rigid designators.¹⁶

¹⁵ S. Kripke (1980) p.146.

¹⁶ I consider this to be a very substantial concession to Kripke for the sake of argument. It seems to be that any workable account of demonstratives must account for the possibility of having two demonstrative thoughts about the same object without realising that one is thinking about the same object in different ways. This is achieved in different ways by for instance Kaplan's account (Kaplan 1977), and G. Evans (G. Evans: 'Understanding Demonstratives' in Evans (1985) pp.291-321). It also seems to me that understanding of sentences about particular events like the ones we are considering, sentences containing names, is in many cases derivative from understanding demonstrative sentences about these events. If the understanding of particular names of these events is derivative from understanding particular demonstratives, then we seem able to explain the cognitive possibilities of the Cartesian intuitions by explaining the cognitive possibilities which arise from understanding the demonstratives in question, even if there are no reference-fixing descriptions. It also seems to me that an interpretation along these lines is the most plausible interpretation of McGinn's argument in C. McGinn (1977). My later reasoning in many ways brings out the implausibility of Kripke's assumptions, but my strategy is to show that Kripke's argument does not work anyway, even if we make these concessions. My argument against Kripke will therefore be an ad hominem argument. This will be reflected in my presentation, but I am not subscribing to Kripke's views.

It should be noted, however, that it is far from obvious that this move by Kripke is justifiable. The account using demonstratives is clearly natural, and might be the only satisfactory one. Kripke's manoeuvre presupposes that it is in fact possible to analyse the naming of a pain-event and our counterfactual thoughts about it in the particular Kripkean way.¹⁷ I shall not go into this, and for the sake of argument I shall accept Kripke's 'naming' of pain-events. We have further seen that the Cartesian premiss is crucial for Kripke's negative argument. In the token-token case this is a belief expressed by sentences where rigid designators (I shall call these just names) refer to pain-events and c-fibre-firings. It says that we believe it is possible that A (a pain-event) could have existed even if the 'co-occurring' physical event B, which the identity-theorists want to identify with A, did not exist.

In a more recent paper, 'A Puzzle About Belief', Kripke addresses epistemic contexts in much more detail than he does in Naming and Necessity.¹⁸ It is therefore of substantial interest to explore how the thesis he argues in that paper relates to the argument against materialism. If we think the basic premiss in the argument is a belief which concerns an apparent possibility but which in fact concerns a possibility whose existence is an illusion, then we must be able to explain how that illusion is possible. That presupposes a thorough

¹⁷ Kripke's view might commit one to an analysis of the language of sensations at odds with Wittgenstein's subtle arguments concerning the nature of the language describing sensations. The question is whether this part of natural language, which certainly contains referring expressions, can be analysed the way Kripke analyses standard expressions referring to external objects around us.

¹⁸ S. Kripke: 'A Puzzle About Belief', in A. Margalit (ed): Meaning and Use, D. Reidel, Dordrecht, 1979, pp.234-283.

understanding of epistemic contexts. In addition it is prima facie plausible that epistemic contexts are more difficult for Kripke's theory of direct reference to handle than a Fregean theory. Historically, epistemic puzzles, like the informativeness of identity-statements, empty names and others, have made up important arguments for Fregean views, because only the assumption of the existence of Fregean senses has seemed to be able to give satisfactorily explanatory solutions to these puzzles.

Naming and Necessity is mainly concerned with modal contexts, and with establishing the truth of the theory of direct reference for names (which I, with Kripke, shall call the Millian view). In that work Kripke claims to have established that a proper name just stands for its bearer. If a Millian view were generally true, then the whole linguistic function of a proper name would just be to name its bearer. It seems to be the case that if such a theory were generally true, then we should expect that we could freely substitute all co-referring proper names in all contexts, including epistemic contexts. Prima facie that is just wrong. Kripke does not claim that the theory of direct reference, understood in the Millian way, by itself gives an exhaustive analysis of the role of proper names in epistemic contexts. On the contrary, what he says about ways of fixing the reference, and causal chains of usage of proper names, make up an apparatus of explanatory structures which are meant to explain how we can come to believe for instance that 'heat might not have been molecular motion', even if this statement is necessarily false when both 'heat' and 'molecular motion' are rigid designators. On Kripke's view the set of necessarily true statements is different from the set of a priori true statements, and it is these specific further explanatory structures, which explain substitution-failures when two different rigid designators

designate the same object and explain how it is possible that these two sets of statements can be different.¹⁹ The explanatory apparatus can work in the case of 'heat' and 'molecular motion' because the reference of 'heat' is fixed by an accidental property of the bearer.

This brings us back to our case. The point of the argument against materialism is of course that we have no explanation of the type given in the heat example of how pain-events can be believed not to be c-fibre-firings if the identity-theory is true. This epistemic possibility can be explained only on the assumption that the identity-theory is false, as long as we accept that Kripke's type of explanation (with his essentialist premisses) is the only one available.

In 'A Puzzle About Belief' there are further thoughts about the question of how to understand epistemic contexts, given the background of Kripke's theory of direct reference for proper names. Kripke states a fundamental puzzle for which he claims that there is no adequate solution. I do not want to take a stand on the issue of whether there are adequate solutions. That question turns to some extent upon the question of whether Kripke's fairly simple analysis of contents of beliefs which are expressed by sentences containing rigid designators is to be recommended. It might plausibly be argued that some notion of sense, perhaps an austere one, is needed for general reasons. If such a notion of sense is needed, it might be held necessary to appeal to it to make the speakers intelligible in the right kind of way in cases like the

¹⁹ Of course 'necessary' and 'contingent' are metaphysical notions and 'a priori' and 'a posteriori' marks an epistemic distinction. That the two sets of statements are different is not original with Kripke, even if his explanatory structures are original.

puzzle. If an austere notion of sense is needed, it is therefore plausible that we will have no deep problem with illusions of contingency, and Kripke's argument against the token-token identity-theory will fail in its epistemic version.²⁰ My interest is this: If Kripke's attitude to the puzzle is accepted, then what is the moral for the argument against the token-token identity-theory? There is an internal connection between Kripke's Millian view on proper names on one side, and the argument against the identity-theory on the other. The issue is whether a Kripkean, embracing a theory of content which generates the awareness of the puzzle, can rely on the argument against the identity-theory while he simultaneously is fully aware of the existence of the puzzle.

²⁰ See J. McDowell 'On The Sense and Reference of a Proper Name', *Mind*, vol. 86, 1977, pp.159-185 for an austere notion of sense. The dialectical situation is this: if a substantial notion of sense is needed in connection with proper names, then the epistemic version of Kripke's argument fails, because we can explain the epistemic possibilities by the notion of sense. An austere notion of sense 'lies no deeper', so to speak, than the actual linguistic behaviour of speakers. Still, if someone sincerely utters 'A might have existed even if B did not', this is sufficient to attribute to the speaker different uses of 'A' and 'B', even if A=B, and these different uses must be expressed on the right hand side of the axioms of the truth-theory we give for the speaker's language. These different uses will in a minimal sense explain the cognitive possibilities, since we must assume that the uses are different to make the speaker properly intelligible. On McDowell's view, the differences in sense lie no deeper than the failures of substitution.

2.4.2. THE PUZZLE

Let me first state the puzzle. Kripke generates this from the example of Pierre, a Frenchman who believes that London is pretty. He always assents to the sentence 'Londres est joli', he has read about it, seen pictures and so forth. This man comes to live in an ugly part of London, learns English from Londoners in that part of London, never leaves this ugly part of London, and sincerely assents to 'London is not pretty!'. The question is, does Pierre really believe that London is pretty or not? Our intuitive principles of disquotation and translation, which Kripke states carefully, lead us into a dilemma, apparently insoluble, when we try to state what Pierre's beliefs are. We have the choice among four options, and to be clear in the presentation I shall state Pierre's 'French' beliefs in French, to keep them apart from his 'English' beliefs. It is easy to see their translation and thereby what belief expressed in English we would attribute to Pierre if we attribute that particular belief at all. The options are:

- a) Pierre believes 'London is not pretty' but not 'Londres est joli'.
- b) Pierre believes 'Londres est joli' but not 'London is not pretty'.
- c) Pierre believes both 'Londres est joli' and 'London is not pretty'.

- d) Pierre believes neither 'Londres est joli' nor 'London is not pretty'.

I shall now present Kripke's reasoning concerning the puzzle, without questioning it. It is clear that there is no further possibility. In both cases a) and b), there are no good reasons for saying that Pierre has one belief rather than the other, given our normal ways of ascribing beliefs. Neither a) nor b) can therefore be acceptable solutions to the puzzle. In case c), our normal principles of disquotations and translation will lead to attributing Pierre with irrational beliefs. That is because the beliefs we ascribe to him expressed in English will be 'London is pretty' and 'London is not pretty'. This is not acceptable because there is no internal irrationality in Pierre's reasoning. To put it very directly, Pierre lacks information, not logic.

The problems with d) should be quite obvious as well. If we say that Pierre has neither of these beliefs, we should be committed to saying that if Pierre suddenly suffered total amnesia of his past in France, and of all his French, he would then have the belief that 'London is not pretty'. Forgetting and amnesia would then create beliefs, and this is hardly what we think possible. So there seems to be no satisfactory way of answering the question whether Pierre really believes that London is pretty or not. There are other ways of describing the situation so that it is not difficult to understand what is going on; but still the question can be nothing but an uncomfortably open one according to Kripke. The traditional problem of belief-ascription has been that there can be several different ways of getting it right; that is what we have

learned from, among others, Quine and Davidson. Kripke's problem is that all ways get it wrong, when we try to give an answer.

The same puzzle can be stated for co-referring proper names. Someone can assent to 'Tully is bald' and deny that 'Cicero is bald'. This has traditionally been explained by saying that the sense of 'Tully' is different from the sense of 'Cicero', even if these names have the same referent. First of all, Kripke claims, it is not obvious that there are community-wide different senses here.²¹ Someone asserting that 'Tully is bald' and denying that 'Cicero is bald' may attach the same 'sense' to both names, namely 'a Roman orator'. In addition the question about Pierre is still pressing. Does this somebody really believe that this man, (Cicero=Tully), is bald or not? When we liberate ourselves from classical semantics, and start to think in terms of Kripke's theory of direct reference, that problem becomes exceptionally clear, according to Kripke.

In this situation, different causal chains of communication which fix the reference may be relevant for explaining how it is possible to assent to 'Cicero is not bald' and 'Tully is bald'. That does not answer our question, though, whether this somebody believes that Cicero is bald or not. Exactly the same problem can be stated just for one name where just one causal chain is relevant. Someone gets to know about Paderewski, the Polish statesman and musician. He later comes to think that there must

²¹ Kripke does not justify his claim that Fregean 'senses' must be community-wide and shared to explain cognitive possibilities. This is really another gap in Kripke's argumentative strategy, where one could challenge his view. Frege of course held that 'senses' in ordinary language could be different from person to person in the case of proper names. I shall not discuss this.

be two Paderewskis. He believes strongly, perhaps on good empirical evidence, that no statesmen are musicians. He assents to both 'Paderewski is not a musician' and 'Paderewski is a musician', when in the first case he is speaking about the statesman. If we ask whether he believes that Paderewski is a musician or not, we get no answer.

This is Kripke's reasoning, and his negative thesis is that this is a puzzle: 'We enter into an area where our normal practices of interpretation and attribution of belief are subjected to the greatest possible strain, perhaps to the point of breakdown. So is the notion of the content of someone's assertion, the proposition it expresses. In the present state of knowledge, I think it would be foolish to draw any conclusion positive or negative, about substitutivity.'²²

I shall not discuss or question the truth of the view expressed in this quotation, but just observe that it is convincingly argued given the Kripkean theory of content. Kripke's concern is a different one from mine, as he focusses on epistemic contexts, and claims to show that traditional arguments for a Fregean view are unconvincing, since epistemic contexts in his view do not favour Fregean more than Millian views. The situation is puzzling and open, according to Kripke. The interesting question for my purposes is the status of his argument against materialism in the light of this negative thesis.

²² S. Kripke (1979), p.269.

2.4.3. CONSEQUENCES OF THE PUZZLE.

First, I want to be clear about which area it is that Kripke is referring to in the quotation above. It is the area made up of all belief-attributions involving rigid designators designating the same object. When someone fails to see that these rigid designators refer to the same object, it is difficult to attribute beliefs to him which we express by using the rigid designators in question. Kripke argues that the precise content of such beliefs, as the ones given in the examples above, is so dimly understood that no significant philosophical conclusions can be drawn from them. Mere assent to sentences, even when accompanied by strong conviction, may leave open the question which proposition it is to which assent is given. Somebody may be very certain that Cicero was not bald and that Tully was, and we still can not answer what he really believes about Cicero/Tully's baldness.

Normally we take assent to sentences to be at least a very good indication of the content of the beliefs they express. When someone sincerely assents to a sentence, we take him/her to believe what the sentence expresses. However, Kripke's view is that in this problematic area it is unclear what the exact content of the belief is. The difficulty arises when names we take to refer to different objects in fact refer to the same object. This can also be expressed by saying that how the world happens to be in these cases, (i.e. which objects happen to be identical to which,) makes the apparently clear contents of a person's beliefs basically unclear. If 'Tully' and 'Cicero', 'London' and

'Londres', had referred to different objects, we would not have had any problems in ascribing a precise content to the beliefs expressed by the sentences in these examples. Our normal indicators of contents of beliefs would have served us well and we would not have had this specific problem. The moral which Kripke draws from his discussion is that in the specific area with which we are now principally concerned, the way the world happens to be can make an apparently clear belief-content basically unclear.

If, contrary to fact, we did not believe that 'Cicero' and 'Tully' referred to the same man, then we would not think that any of the beliefs expressed by one person at a time who said that 'Cicero is not bald' and 'Tully is bald' were problematic. Similarly we would not have thought that the sentence 'Cicero might have existed even if Tully did not' expressed a problematic content. We would have taken the beliefs expressed by these sentences as straightforward and unproblematic. If we then, at some future time, realised that 'Cicero' and 'Tully' referred to the same man, and at the same time recalled these discrepant beliefs about baldness and about existence, we would realize that belief-contents which had seemed to be clear were in fact very unclear. This is because the world happens to be different from what it was thought to be.

Assent to sentences, or subjective conviction, is therefore not sufficient to determine the exact contents of such beliefs, according to Kripke. How the world happens to be is important. Empirical discoveries can turn belief-contents which we had thought to be clear into belief-contents we think are unclear, e.g. if two rigid designators, contrary to what we thought, turn out to refer to the same object.

If this thesis has been convincingly established, and Kripke claims it has, we have taken one important step towards disarming the argument against materialism. The first thing we should notice is the point I stressed some pages above. It concerns the Cartesian premiss, the belief that A (the pain-event) might have existed without B (the c-fibre-firing) existing. Here we are referring to individuals by names (rigid designators), thinking about them in counterfactual situations. The sentence is of the type which can express a belief with a seemingly clear content and yet turn into one with a basically unclear content. A belief expressed by such a sentence, where whether there is a precise content or not is dependent in part upon which particulars there are in the world, and upon which designators designate the same objects as a matter of fact, is in Kripke's argument the basic premiss for his conclusions about how the world is, i.e. that no mental event in fact is identical with a physical event. Kripke presupposes that the content of the belief which expresses the Cartesian intuition is clear; if it were not, the argument would not work at all. But we notice that in the light of his earlier remarks, such a content can turn out to be fundamentally unclear if the world is not how we take it to be. If the content of the Cartesian intuition is to be clear, A cannot be identical to B, but that is exactly what the argument is meant to establish.

From this I think a methodological point follows about the epistemic version of Kripke's argument. It clearly seems to be unwarranted to draw important conclusions about the truth or falsity of the token-token identity-theory solely from a premiss like the one which expresses the Cartesian intuition. For no matter how sincerely we believe that premiss,

or how clear we take it to be, to assume the premiss and take it to be clear seems to beg the question against the identity-theory at the outset. Let us suppose that we do not take a stand on the truth of the identity-theory; we think it might be either true or false. The Cartesian intuition is that 'A might have existed even if B did not exist'. 'A' and 'B' are names referring to events. It seems to follow directly that if the token-token identity-theory is true, and 'A=B' expresses an a posteriori necessary truth, then the precise content of the belief expressed by 'A might have existed even if B did not' is unclear. This unclarity is independent of what we may now think that this sentence expresses. We would be saying something similar to 'Cicero might have existed even if Tully did not'. If someone assents to that sentence, we can understand what is going on, but, if the Kripkean analysis is correct, there does not seem to be a determinate answer to what exactly he believes about the man we refer to by 'Cicero'/'Tully'. On the other hand, if the identity-theory is false, then the content of the Cartesian intuition is sufficiently clear.

What becomes apparent is that if we wish to question the truth of the identity-theory, without begging the question against it, we cannot just assume that the content of the Cartesian intuition is clear. If this is right, then it is unsound to draw any conclusion about the truth of the identity-theory from this premiss.

To be clearer about the point I am making, I shall try to reformulate Kripke's negative point. I think we can put it like this. The claim is that there are two kinds of rigid designators: either they have a reference-fixing description associated with them or they do not. If 'a'

and 'b' are rigid designators like 'Cicero' and 'Tully', where it is claimed that there are no reference-fixing descriptions, and propositions are individuated in Kripke's way, then we have no adequate notion of content which can make it plain how two different sentences which express the same proposition can have different contents. 'Fa' and 'Fb' will express the same proposition if $a=b$, and so will 'Cicero is bald' and 'Tully is bald'. Since there is no such notion of content available in these cases, it also becomes unclear what content 'a might have existed even if b did not', or 'Cicero might have existed even if Tully did not' can have. The propositions expressed by these sentences are necessarily false, and there is no explanation based on an adequate notion of content of how someone might come to believe such sentences to be true.²³

The situation is different in the heat-case, but I am not entirely confident about what notion of content Kripke is using in this case. Consider the sentence 'heat might not have been molecular motion'. Do we have a notion of content which makes it plain what content someone who believes this sentence to be true is entertaining? Does Kripke believe that we have such a notion of content? Kripke repeatedly says that when someone asserts this sentence, he inaccurately expresses what he means.²⁴ Kripke claims that what this speaker means must be understood by considering the a priori true identity-statement 'heat = whatever produces the sensation S', which, according to Kripke, is contingently true, since only 'heat' is a rigid designator. What Kripke must further hold can be seen when we consider Kripke's claim that the sincere

²³ The position taken by Kripke is of course very controversial. I am not committing myself to this view, and I cannot discuss its adequacy.

²⁴ S. Kripke (1980), p.150.

believer of this sentence (i.e. 'heat might not have been molecular motion') 'means, additionally, that the planet might have been inhabited by creatures who did not get S when they were in the presence of molecular motion'.²⁵

Kripke's analysis of the content of the belief expressed by a sincere believer of 'heat might not have been molecular motion' seems to be that this speaker thinks of heat as 'whatever produces sensation S'. He therefore replaces the meaning of 'heat' with the meaning of 'whatever produces the sensation S' on the basis of the a priori true but contingent identity-statement.²⁶ Once again we see that Kripke does not seem to hold that we have a notion of content of 'heat' which is such that 'heat is F' and 'molecular motion is F' can have different contents even if they express the same proposition, but rather that we make sense of someone who takes them to have different contents by considering the a priori identity-statement 'heat = whatever produces the sensation S'. The non-rigid designator does not give the meaning of 'heat', but since this way of fixing the reference of 'heat' is community-wide and known a priori we have a semantic mechanism to provide an Ersatz-content in such cases. In the Cicero/Tully case no such Ersatz is available by Kripkean semantic mechanisms.

Kripke's view is of course very controversial. I shall not elaborate further. But we see how this relates to his explanation of how someone might believe that 'heat is not identical to molecular motion'. Since

²⁵ S. Kripke (1980) pp.150-151.

²⁶ See footnote 4 in this part, concerning whether this should be thought of as an identity-statement.

'heat = whatever produces the sensation S' is a priori and contingent, we can explain the epistemic possibility, the intermediate explanandum, by the consideration that 'the sensation S might be present and molecular motion absent' and so forth. The ultimate explanandum is coming to hold such a belief, and that is explained as an instance of the illegitimate move of taking an epistemic possibility to represent a real possibility. The epistemic possibility, the intermediate explanandum is explained by the epistemic equivalence of 'heat' and 'whatever produces the sensation S', and the ultimate explanandum is explained as an instance of taking this epistemic equivalence for sameness in meaning. To give the belief in question content, we must, according to Kripke, make plain that this person is using 'heat' with the content of 'whatever produces the sensation S'.

Now the important conclusion is that in the case of rigid designators where there are no community-wide ways of fixing the reference, we must hold that the quest to specify the content of, for example, 'a might have existed even if b did not' when $a = b$ via a semantic mechanism, is in vain. This conclusion holds generally for sentences expressed by co-referring rigid designators with the qualification I have just made. Conversely, if there are 'senses', or ways of fixing the reference of rigid designators, as there might be, for instance, in the case of Hesperus and Phosphorus, then we have a semantic mechanism available which can give content (an Ersatz content) to 'Hesperus might have existed even if Phosphorus did not'. In the latter case that might amount to something like 'the brightest star in the morning might have existed even if the brightest star in the evening did not'. Either we can generate content via this type of semantic mechanism, or we cannot. In

either case we may go wrong in our beliefs expressed by rigid designators referring to the same object.

If 'A' and 'B' in the Cartesian intuition have no such 'senses' or ways of fixing the reference, then the Cartesian intuition in the token-token case is a controversial 'belief', which will have a clear content only if A is in fact not identical to B. If this is the situation, then Kripke is requiring a certain type of explanation of how this 'belief' is epistemically possible, when an explanation of the required kind (via a semantic mechanism) can only be given if the token-token identity is false. The demand for an explanation of this kind is unjustified if as a matter of fact the identity-theory is true, and it would in that case be unclear what content we are trying to show is epistemically possible. There cannot then be a methodologically sound step to the falsity of the token-token identity-theory from the demand for an explanation of this kind.

On the other hand, if there are relevant ways of fixing the reference in the case of the Cartesian intuition, for instance by demonstratives, then an explanation of the kind required by Kripke, will be available concerning the illusion of contingency. The epistemic version of Kripke's argument against the token-token identity-theory is then completely disarmed.

2.5. TRUE POSSIBILITIES

Even if the arguments given above are accepted, there may still be another version of the argument against the identity-theory which remains available to Kripke. Before I consider that, I will take a brief look at the dialectical situation. The attitude I have taken so far has been to accept the Cartesian intuitions as epistemic possibilities, and then discuss how, if they are illusions, such illusions can be explained. My aim has been to show that an identity-theorist can accept all of Kripke's general philosophical views, and still not be moved by his argument. And, of course, the situation is that if one does not accept Kripke's views, on for instance names and contents, but believes e.g. that names have senses (such that uses of different names of the same object can be fully understood by someone who does not know that these names name the same object), then this epistemic version of the argument can be totally disarmed.

The epistemic version of Kripke's argument is therefore dependent on the truth of some of his very controversial views in order to get started, and the argument does not seem to work, even if these controversial views are accepted. Still it is perhaps the strongest version of the argument; at least Kripke seems to think so. Thus, on p. 148, he says that the task (of explaining how these epistemic possibilities arise) may not be impossible, but it is obviously not child's play. But what does the other version consist in? It consists simply in insisting that the Cartesian intuitions involve not only epistemic possibilities, but real

possibilities. If it is a real (or metaphysical) possibility that A (the pain-event) exists and B (the c-fibre-firing event) does not exist, then of course A is not identical with B. ('A' and 'B' are rigid designators.)

I share the view that this latter version of the argument is weaker; and my reasons for holding this is that I can not find anything like a detailed argument to establish it as true, viz. as a real possibility, in Kripke's writing. I shall however consider briefly a possible foundation for such a claim, and thus comment indirectly on what may be Kripke's own basis for it.

The question we have to settle is whether A could really exist in a possible world in which B did not exist and vice versa. Kripke seems to assume that this could be so without further argument on the basis of intuition; but that cannot be a completely reliable method in metaphysics. What needs to be shown is not that there may be a pain-event even if B did not exist; we need to be convinced that in this possible world w , where B does not exist, it is A which exists and not A_1 , another pain-event qualitatively similar to A. And Kripke needs some principle which enables him to say that it really is B, and not B_1 (another c-fibre-firing event) which exists in the world w_2 where A does not exist. In short, he needs a principle by which he can decide whether a property of an event is an essential property of that very event or not. Such a principle would be a crucial part of a full-blown theory of cross-world identifications of events. Nothing less than such a theory would settle the complicated question, outlined above, of which possibilities are real. Only by applying such a full-blown theory can we conclude anything definite about whether the possibilities described by the Cartesian

intuitions are real possibilities. If we have no such theory, it must at least be very problematic to rely on pure intuition in an argument against the identity-theory, since that theory is deduced from other independent and plausible philosophical views.

One important reason why intuition in this sense can not be a completely reliable guide in judging which possibilities there really are, stems from the Kripkean insight that essential properties are often discovered empirically. If we take that to be true, then we must admit that we cannot always know whether we have really specified a possibility even if we believe we have. We may actually go wrong and believe that a state of affairs is possible when it turns out that it is impossible once we know the right essential properties. Kripke's thesis about the empirical discovery of essential properties rules out reliance on pure intuition in the case we are considering: the assessment of the truth or falsity of the identity-theory.

To explain and illustrate why this must be so, I shall again go back to the pain-event A. We might easily consider an empirical discovery of another essential property of A distinct from the one essential property Kripke considers: being a pain-event. As far as I can see this is a completely open question. An event like A in the causal order may have several essential properties. If so, what Kripke would have to demonstrate is that in the possible world w_1 where A_1 exists and is assumed to be identical to A, and B does not exist, then A_1 can have this other empirically discovered property of A. The point is, of course, that if A_1 in w_1 has not this further essential property of A, then A_1 is not identical to A. A similar argument works equally well for the world

w₂ where B₁ exists and is assumed to be identical to B, and A does not exist. I conclude that one cannot answer the question whether the Cartesian intuitions do describe real possibilities until we have a theory which determines the cross-world identity-conditions of events.

In fact, in the present form of his argument, Kripke needs some theory which not only shows that being 'a pain' is an essential property of A, but also that, for instance, some causal property cannot be an essential property of A. Kripke has not got anything like that. He just seems to assume that being 'a pain', or being felt as pain, is an essential property of A, and that the event A does not have an essential property in virtue of having the role it has in the causal order. I believe the situation is far more complex than Kripke seems to admit. The reasonable conclusion, given a study of the arguments he presents, must be that no one is entitled to advance any metaphysical conclusions only on the basis of the arguments which Kripke explicitly gives. A substantial theory of event-identities and their cross-world identifications is needed to establish anything like a refutation of the identity-theory.

My proposal in the first part of this thesis amounts to a sketch of a theory of the kind Kripke would need for this enterprise. I think one can predict with some confidence that someone like Kripke is likely to disagree strongly with this position. I still want to explore whether the Cartesian intuitions can be taken to describe real possibilities against this theoretical background. The theory I have suggested is one of the very few theories there are about cross-world identity-conditions for events. And since it makes immediate contact with the identity-theory, an analysis of the Cartesian intuitions within this framework is of

interest.

In world w_2 the physical event which Kripke assumes is identical to B is B_1 , and in world w_1 the pain-event which is assumed to be identical to A is A_1 . 'A', ' A_1 ', 'B', ' B_1 ' are all rigid designators, referring to the same individual in all possible worlds.

B and B_1 are meant to be events of a kind that can enter our best physicalistic or neurophysiological explanation of what is happening when there is a pain-event. There may of course be several mechanisms at work in such cases; it is for the sake of argument that they are assumed to be cases of c-fibre-firing. B in world w belongs to such a kind, and co-occurred with the pain-event A. B_1 in w_2 , which belongs to the same kind, did not co-occur with a pain-event. In w there is pain, in w_2 there is no pain.

We are thus comparing what we might call two courses of history: one in which there is pain, and one in which there is not. My strong conviction is that whether or not there is pain must be explicable. If there is pain in w but not in w_2 , then we must be able to say why this so, and provide a satisfactory explanation of it. This means that w and w_2 must exhibit different causal histories, i.e. that there must be some difference between the causal developments within w and w_2 respectively, since there is pain in w and not in w_2 . If there is exactly the same causal history in both worlds, the difference between the two worlds would not be explicable; but we cannot conceive of this as a real possibility.

If we think that the time t of the occurrence of these events does not

vary, then there are only two possible explanations of the causal difference between w and w_2 . The first possibility is that B and B_2 are instantiations of different properties. The other possibility is that B and B_2 belong to different causal networks, but share their constitutive properties.

In the first case, where B and B_2 have different properties, we can with access to the set of true laws explain the important difference between world w (where A occurs) and world w_2 (where there is no pain), by pointing out that the exemplification of different properties at the same region in space in these surroundings will, together with the set of true laws, determine different causes and different effects. These differences must then be thought of as sufficient to explain the difference between the causal histories of w and w_2 . The problem is that properties which are seen as contributing causal differences in constant surroundings are to be taken as constitutive properties. So for this to be the causal difference between w and w_2 , B and B_2 must have different constitutive properties, which means that B can not be identical with B_2 .

The other possibility is that B and B_2 share their constitutive properties, but their surroundings vary so much in w and w_2 respectively, that the difference this makes to the causal networks is sufficient to explain the causal difference between w and w_2 . The claim in this case would be that B and B_2 (with the same essential properties) can exist in some possible world where A does not exist. Kripke's claim can then be generalised thus. For any physical event B we want to identify with A , this counterfactual is true: B could have existed in some possible world where A does not exist.

It is very difficult to assess whether this is really possible. Kripke might insist that it is, but I cannot see any grounds for believing it possible. If no grounds are forthcoming, then this apparent possibility cannot carry the burden of an argument against the identity-theory. My inclination is to believe that we should deny this possibility on the ground that we can fully explain why there was pain by our best explanation of why B occurred, and that the explanation of B's occurrence is the best and most complete explanation we shall ever have of A's occurrence. If Kripke insists that B might have occurred even if A did not, I will pose a different question. If this possibility is a real possibility, then what philosophical moral ought to be drawn? On this more rigorous theory of event-identities, I think we ought to regard it as establishing that 'being pain' cannot be an essential property of an event. I shall defend this claim in some detail.

The possibility we are considering is this. Any well-defined physical event we want to identify with a pain-event, could have existed in a world where there was no pain at that place at that time. If there is a pain-event, we must, on this theory, identify it with some well-defined event or other to be able to raise sharply the questions which presuppose cross-world identifications of events. If we do identify it with some well-defined event, and this well-defined event is a physical event because of the anomalism of the mental, then we can only react in one way if we think that this well-defined event could have existed even if there was no pain. We must then conclude that 'being pain' is not an essential property of this event.

This argument depends only upon three assumptions: the theory of event-identities in question; the Anomalism of the Mental; and Kripke's problematic premiss which he wants to use in the argument against the token-token identity-theory. But as I said, I see no good reason for thinking that Kripke's premiss expresses a true proposition.

Kripke might of course dispute this reasoning by challenging the anomalism of the mental. The claim would then be that our concept of 'pain' can occur in strict laws. It would be Kripke's task to identify the kind of strict laws 'pain' could occur in, but if it is psychophysical laws, then the step to a type-type identity-theory seems a very short step indeed; if 'pain' is strictly correlated with some physical property then we might want to identify pain and this physical property, and we would not be able to assert the crucial modal claim if B is taken as an exemplification of this physical property. If 'pain' should be thought to occur in strict laws in a purely psychological vocabulary, then the situation is different. But it would be Kripke's task to substantiate and justify the claim that there can be such strict psychological laws. I am satisfied if I have shown that Kripke's claim would depend on being able to establish that this is really possible, and I will not go into the further arguments for the anomalism of the mental.

Kripke also has an argument working the other way around. This argument says that the pain-event A could have existed even if the physical event B with which the materialists wants to identify it did not exist. The evaluation of this argument will be quite similar to that of the other claim just discussed, so I shall deal only briefly with this claim.

As before, Kripke needs to give a convincing argument that A_1 (which exists in world w_1 where B does not exist) really is identical to A. To convince us that it is really possible that A should exist in world w_1 , he must identify the essential properties of A. The only way of doing that, on my theory of event-identity, is to find which properties expressed by scientific laws are instantiated by A. But the essential properties which get determined in that way are B's essential properties. This seems to establish that the pain-event A_1 , which exists in the world w_1 where B does not exist, cannot be identical with A. Thus, on this theory of event-identities, the Cartesian intuition cannot describe a real possibility. There will also be the possibility that 'being pain' expresses an essential property (in the event-theory sense of property) when Kripke's argument is of this variety. But the comments on that will be similar to the comments I made in the discussion of the other variety of Kripke's claim.

I conclude that on this rigorous theory of event-identities, Kripke's Cartesian intuitions are shown to pose no threat to the position held by the token-token identity-theory. I cannot exclude the possibility that the token-token theory can be shown false on another view of event-identity; but the very least that is needed to do this is a substantial theory of cross-world identity-conditions of events and a far more rigorous argument than Kripke has provided. Because I am acquainted with no such theory and no such argument, I conclude that the token-token identity-theory has survived so far.

2.5. CONCLUSIONS TO PART TWO

I began this chapter by giving an exposition of Kripke's argument, and I then discussed the countermoves to it suggested in the literature. From a methodological point of view, it is most satisfying if we can show that all of Kripke's premisses are compatible with a materialist position; and it is this consideration which has directed my choice of the countermoves to discuss.

I then introduced a different methodological argument against Kripke. The conclusion which I drew from it was the following. One must find reasons absolutely independent of Kripke's Cartesian intuitions (understood as epistemic illusions we have to explain) if one is to say something conclusive about the truth or falsity of the identity-theory. There is a further important point to be noted here. It is on Kripke's own views on the semantics of names that the difficulties in explaining these epistemic possibilities arise, and Kripke's own views on these matters are required to get the argument against the identity-theory going. On the other hand, it is on the same Kripkean views that the puzzle about belief becomes such a puzzle. On a more traditional Fregean or neo-Fregean theory, neither the refutation of the identity-theory nor the deep puzzle about belief would be possible, since Fregean senses would be explanatory for the cognitive possibilities in both cases. This demonstrates the relevance to Kripke's epistemic argument of the puzzle concerning Pierre's belief, since this puzzle is a consequence of the position which seemed to refute the identity-theory.

Since the question about real possibilities (which is what a Kripkean would have to resort to) is a very complex one, it is important to note exactly what would have to be established to refute the identity-theory in this way. While I do not expect a Kripkean to accept my position here, it seems reasonable to demand at least some independently plausible and clearer principles to settle this matter. These principles would lead us back to questions of event-identity, cross-world individuation and so forth.

In fairness to Kripke, I will quote from the final footnote in Naming and Necessity:

'Having expressed these doubts about the identity-theory in the text, I should emphasize two things: identity-theorists have presented positive arguments in support of their views, which I certainly have not answered here. Some of these arguments seem to me weak and based on ideological prejudices, but others strike me as highly compelling arguments which I am at present unable to answer convincingly.'²⁷

Kripke here clearly acknowledges limitations on his argument. I want to stress that only by answering these 'highly compelling arguments' can someone sharing Kripke's position conclude that the identity-theory is false. The argument which Kripke gives is not by itself sufficient to yield any firm conclusions.

²⁷ S. Kripke (1980), p.155.

PART 3. DE RE BELIEFS AND THE IDENTITY-THEORY

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3.1. THE DEFEAT OF THE IDENTITY-THEORY?

All the counterarguments to the token-token identity-theory I am concerned with here, aim to establish that any physical event one wants to identify with a given mental event may come apart from this mental event in some possible world, and vice versa. I have argued that Kripke's argument in the sensation-case is unsuccessful, i.e. that it does not establish that such possibilities exist. But arguments with the same general structure can be constructed in the case of cognitive states. One that naturally presents itself is de re beliefs. Most theories of de re belief give what is, in a clear sense, a modal individuation of singular beliefs and singular thoughts. I shall soon spell out how one important theory of that type makes modal claims. The general point is of course that the modal existence-conditions for mental events which are characterized by essentially being coming to hold such a de re belief, or being the thinking of a singular thought, may have to be considered as different from the existence-conditions of any physical event one wants to identify them with. One might easily get the result that for any such physical event we have no reason not to think that it could exist in some possible world where the mental event does not exist, and vice versa.

There are several points that ought to be borne in mind at the outset of

this discussion. There is, to my knowledge, no extensive treatment in print of the relationship between token-token materialism and theories of de re beliefs; only sketches of arguments exist. Part of the problem is that to be able to assess any argument fully, one needs an independently plausible and detailed theory about how to assess counterfactual or modal claims about events in general. A further point is that theories of de re and de dicto beliefs constitute a hotly debated topic, where little agreement seems to exist. All this connects in various ways with general problems concerning modality, the different ways of understanding it, problems of essentialism and non-essentialism, and so forth.

I shall therefore not dwell upon the arguments in the literature. There is one argument-sketch by A. Woodfield, and a more substantial argument along similar lines is given by T. Burge.¹ In that argument Burge relies on claims which are clearly quite controversial. I do not find it necessary to rely on those controversial claims to make substantially the same point; I think it can be more convincingly made independently, and I shall shortly proceed to show how. One controversial claim in question is Burge's claim that when we ascribe beliefs to persons with insufficient grasp of the terms in the language that figure in the belief-ascription in question, we are fully justified in describing the belief in just the same way as we would have described it if these persons had had a full grasp of the terms in question. This claim occurs essentially in Burge's argument. It may represent a pragmatic fact about belief-ascription, but theorists may want to resist drawing substantial metaphysical conclusions relying on such a principle. If it can be

¹ A. Woodfield: 'Foreword', in A. Woodfield (ed): Thought and Object, Clarendon Press, Oxford, 1982, p.VIII. T. Burge: 'Individualism and the Mental', in Midwest Stud. in Phil., vol. 4, pp.73-122.

avoided to rely on Burge's claim, it ought to be avoided, to make the argument as strong as possible.

So far as more general theories about how to assess counterfactual claims about events are concerned, I will allow an opponent of the identity-theory to avail himself of the theory I have been putting forward, including the more controversial aspects of it. At the same time I shall try not to rely on any such controversial claims in my attempt to defend the identity-theory. The best strategy seems to be to allow opponents any such plausible theory concerning events, and then base the potential defence on non-controversial claims. It will become clear that this attitude makes the defence a hard task indeed.

The characterization of de re and de dicto beliefs is, as I have said, controversial. It has constituted a major puzzle since Quine's classic article on the issue.² In fact there seem to be quite different views about what for instance de dicto is taken to mean and imply. The thoughtful and careful treatment by T. Burge seems to make a belief de dicto if it is fully conceptualized, and to regard such a belief as fully conceptualized if it is context-independent (i.e. it would have been the same belief or thought regardless of the spatio-temporal context in which one came to hold it).³ Beliefs are de re on this view if particular objects in the spatio-temporal context play an essential role in the individuation of the beliefs. This view might be regarded as a standard view on the matter. Opposed to Burge's understanding of de re and de

² W.V. Quine : 'Three Grades of Modal Involvement', in W.V. Quine: The Ways of Paradox, Random House, New York, 1966, pp. 156-174.

³ T. Burge: 'Belief De Re', Jour. of Phil., vol 74, 1977, pp.338-363.

dicto stands a neo-Fregean view, which acknowledges de re senses which can be present in de dicto thoughts. On such a view a thought is de dicto if it satisfies all the general constraints on being a Fregean thought: it has an absolute truth-value, objective existence, is such that it is not possible to take different cognitive attitudes to it at the same time, and there is an explanation of how the senses of the singular terms tie up with the sense of a predicate to form a unified thought. Some de dicto thoughts may then be said to have a de re content, a content which is such that it could not have been the content it is if a particular object, the object it is a thought about, had not existed. The object individuates the de dicto content essentially. Such an interpretation of Frege is defended by J. McDowell,⁴ and it can also be seen as a most important feature of G. Evans's theory of singular thoughts.⁵ I do regard Evans's theory as the most fully worked out theory of its kind, as the most sophisticated theory of singular reference and singular thoughts. His position therefore amounts to a major theoretical position in the literature. Since there are also good arguments for regarding Frege's position in 'Der Gedanke' as being the same in important respects⁶, I shall take this position to be the best representative of a de re view. In addition some of the details of Evans's position make it exceptionally suited for deriving counterarguments to the token-token identity-theory. I also think that the problems can be made clearer by using this theory as the starting-point. I am not saying that similar

⁴ See J. McDowell: 'De Re Senses', Phil. Quarterly, vol. 34, 1984, pp.283-294.

⁵ G. Evans: The Varieties of Reference, Clarendon Press, Oxford, 1982.

⁶ G. Frege: 'Thoughts', in G. Frege: Logical Investigations, Blackwell, Oxford, 1977, pp.1-30. For the claim that Frege's position is the same as Evans's in important respects, see J. McDowell (1984), and G. Evans 'Understanding Demonstratives' in G. Evans (1985), pp.291-321.

results could not have reached by basing myself on for instance Burge's or Kaplan's work, but that Evans's theory, with great attractions of its own, seems to make the case against the identity-theory stronger than any other view of de re beliefs.

Evans's theory attempts to give a substantive account of what it is to entertain singular thoughts, thoughts about particular objects where the objects are not thought about descriptively.⁷ Such thoughts are information-invoking thoughts, and information is individuated by its origin. A primary question then becomes what kind of ability or capacity is required for entertaining or understanding such thoughts. There are general criteria that must be satisfied: that it is a structured ability, and that it satisfies what Evans calls the Generality Constraint⁸ (i.e. that if one possesses an adequate idea 'a' of an object x, then one is able to entertain the thought that 'a is F' for all F's in one's repertoire, and the converse requirement for concepts). But the fundamental requirement that must be satisfied for someone to entertain an information-invoking thought about an object x, with an adequate idea 'a' of x as a constituent of the thought, can be cashed out by Russell's principle: that one possesses discriminating knowledge, a capacity to distinguish the particular object in question from all other objects. This view is at the heart of Evans's theory of singular thoughts. By discussing the various ways Russell's principle can be satisfied, and

⁷ Evans uses three theoretical terms: 'singular thought', 'information-invoking thought', and 'particular-thought'. The last, 'particular-thought', is defined on p. 110 in G. Evans (1982), (see in particular footnote 33). A thought like 'Julius is F', when 'Julius' is a descriptive name, qualifies as a particular-thought, without being an information-invoking-thought. I use 'singular thought' as Evans uses 'information-invoking-thought'.

⁸ See G. Evans (1982) pp.100-105.

thus how Russell's principle is to be understood, the theory gets very complex. The general demands on understanding and entertaining singular thoughts laid down by Evans's interpretation of Russell's principle, lead to a number of significant and also controversial conclusions.

Prominent among these conclusions is the thesis that the senses of the relevant singular terms in a sentence expressing a singular thought satisfying the theoretical structure of such thoughts, are de re senses, in the way explained above. Evans maintains that it is not possible to entertain such thoughts if the relevant object never existed. In that case we may think we are entertaining such a thought and be wrong about it.

Necessary conditions for thinking a singular thought are, then, that one displays a sensitivity to causal information-links (in ways to be specified), and that one possesses the discriminating knowledge required by Russell's principle. (It will of course have to be further specified what this is taken to imply.) Only if the generality-constraint is satisfied do we have sufficient conditions. On this view all these conditions must be fulfilled for there to be an adequate particular-'idea', and the surprising conclusion is that all these conditions can only be satisfied when the object thought about exists.⁹

At the moment I shall not question Evans's conclusion that singular thoughts are existence-dependent, but turn to the significance of this

⁹ In fact there are two ways of arguing for the Russellian status of singular terms, one from a priori considerations about thoughts in the philosophy of mind, the other from considerations about the semantics of proper names. The latter line is argued by for instance J. McDowell (1977). See G. Evans (1982) pp.80-81.

conclusion, if it is true, for the token-token identity-theory. My concern shall only be the possible incompatibility of Evans's position with the identity-theory. If some kind of incompatibility can be established, I shall explore how the identity-theory might plausibly be defended without questioning any of the essentials of Evans's view.

There are in fact two aspects of Evans's theory which seem to present immediate problems for the identity-theory. These aspects may be closely related in interesting ways, but it will presently be helpful to keep them separate. The first aspect is of course the existence-dependence of such thoughts, which I shall call the No Res, No Thought Principle. The other principle I shall call the Different Res, Different Thought Principle. Of these two principles, I take the first to be, at least prima facie, more controversial than the second. I also think it can be stated without further argument that it is the second of these principles which is prima facie essential to Frege's position on these matters; it remains a matter of considerable dispute whether Frege was actually committed to the first principle, or whether he ought to be committed to the first principle. The second principle seems to follow directly from what Frege says in 'Der Gedanke'. The sense must determine which object is the referent. In some cases, like 'today' and 'here', the object thought about is used as 'a means of expressing the thought',¹⁰ and it seems to follow that it could not have been the same thought if the object had been a different one. If such a sense could determine (or present) different objects, it would imply that the thought in which it is a constituent would not have unique truth-conditions in an absolute sense, since a thought like 'Today is fine' is only true if today is

¹⁰ G. Frege (1977) pp.10-11.

fine. That is, I take it, a conception alien to Frege's views. Frege's 'Sinn' is explained as the way in which a specific referent is determined (or given or presented), from which it follows, at least for these cases, that if different res, then different thought.

Let me first give the argument against the identity-theory based upon existence-dependence. Some mental events are thinkings of singular thoughts, and the natural view is that an essential characterisation of this mental event is given by specifying it as a thinking of the particular thought it is a thinking of. For a mental event to have these characteristics, the object thought about, call it x , must exist. We want to say that this mental event 'a' is identical with a particular physical event 'b'. Then it follows that b's existence is similarly dependent upon x 's existence, if the identity-statement is true, and a is essentially so characterized. An identity-theorist is then committed to the view that there is no possible world w where a does not exist, but where b exists, and vice versa.

One possible world w_1 might be a world where x does not exist, but where the subject comes to believe that there is an object like x existing in what to him appears to be an absolutely normal way, i.e. he is presented with a very clever illusion. The subject believes he is essaying a singular thought concerning ' x '. In this world w_1 , a does not exist. Do we have any good grounds for believing that b could not have existed in such a world? The answer to that question depends, of course, on one's favoured way of individuating physical events. One point is that one must not beg the question and argue that b's existence depends necessarily upon x 's existence since the identity-theory is true, and the same goes

for a view which wants to involve x somehow in the physical event b . I maintain this because it is the strong motivation of token-token materialism that the most detailed and complete causal story of particular mental happenings can be told at the bodily, physical level in each particular case. By this I mean that the token-token identity-theorist holds the view that when one event causes another, then either the cause is necessary and sufficient for the effect or the complete causal story can be told at the physical level. The first of these possibilities implies that if one gets close to expressing the laws that govern the particular case and exhibit this deterministic relationship, then these laws will be physical laws, since there are no strict psychological laws. (I am not saying that the most detailed story of the mental event qua mental can be told at the physical level.) On such a view it seems obligatory, or at least natural, to search for the essential properties of the physical events in question at this basic, deterministic, physical level. If one then considers those physical properties which are described by the laws in our best explanatory theories concerning the basic physical level to be our best guess at the essential properties of physical events, (the properties which together with spatio-temporal location give the individuation of these physical events), then it becomes clear that it is very hard to deny the possibility of there being a world w_1 where a does not exist, but where b does exist.

The existence of x is essential for the existence of and the individuation of, a , but if it cannot be regarded as essential for b 's existence and individuation, then it seems that b could have existed even if a did not, and from this follows the non-identity of a and b .

This way of arguing against the identity-theory from the existence-dependence of singular thoughts can then be seen as being based on three premisses.

- 1A) We assume as true a de re sense theory, in particular the No Res, No Thought Principle.
- 2) The essential properties of a cognitive mental event which is a thinking of a singular thought, are given by, or include, the essential properties of the singular thought in question.
- 3) An independently plausible individuation of physical events.

It seems that an identity-theorist is forced to deny one (at least) of these premisses. Principles concerning premiss 3) must be assessed independently of the token-token identity-theory. The right method must be to start out from clear and simple examples of physical events, and develop a systematic theory which takes into account both the intuitions and the acknowledged general theoretical constraints. The whole first part of this thesis was concerned with this, and I suggested a specific theory which represented a particular event as being individuated not by its place in the whole causal network, but by its exemplification of causal properties at the time and place in question. It was a theory which showed that a Kripke-type criticism poses a very interesting question, since it asks the right kind of question, even if Kripke's conclusions are not to be recommended. It seems to be appropriate to grant the critic of the token-token identity-theory such a theory of

events, with the caveat that the forthcoming discussion can also be understood as a discussion of the soundness of the theory of event-identities upon which the criticism of the identity-theory is based.

The first premiss is exactly the premiss we assume to be true to get the argument against the token-token identity-theory going. The second premiss seems to be the least controversial of all three. Intentionality is thought to be the essential characteristic of our cognitive activities, and there is a long tradition, going back at least to Frege, which regards a theory of thought as giving the deep level philosophical explanation of intentional phenomena, something which naturally suggests that the essential properties of thoughts are essential properties of intentional phenomena.

It is of course possible to defend the identity-theory by arguing against the No Res, No Thought Principle, even if that is a more radical move in its defence than is desirable. How radical, will of course depend on the form such a criticism of the No Res, No Thought Principle takes; whether it can remain compatible with the essentials of Evans's theory in some way or other. My tentative conclusion to this discussion is that it seems hard to reconcile the modal principle no res, no thought, with a token-token identity-theory. There seems to be no way of giving an independently plausible individuation of physical events which is compatible with both the truth of that modal principle and the truth of the identity-hypothesis.

I shall now attend to the other modal principle in Evans's singular thought-theory, what I have called the Different Res, Different Thought

Principle. Let us now suppose that our subject, S, sees a stone in front of him, and essays the singular thought 'That stone contains copper'. We can imagine that the stone in question had been replaced by a qualitatively similar stone in some possible world, a stone so similar that for creatures like us the differences are undetectable, even with the most sophisticated instruments.

If we in this situation believe to be true what I take to be obviously possible, that the actual stone had been replaced by a qualitatively identical stone, then we are again facing a situation in which a mental event seems to have different modal properties from the physical event with which we are inclined to identify it. Let us call the actual mental event 'a', and the possible mental event, which is a thinking of a different singular thought, 'a₁'. We assume that 'a' is identical with the physical event 'b', and that 'a₁' is identical with 'b₁'. The question then becomes whether we have any good reasons for believing that 'b' and 'b₁' are different physical events. And it becomes obvious that exactly the same bodily physical events could take place inside the skin, both in the actual situation and in the possible situation. It is not possible to conclude that 'b' cannot be identical to 'b₁'. But if $b=b_1$, and a is not identical to a₁, then one of the identity-statements $a=b$ and $a_1=b_1$ must be false. Since there are no reasons for distinguishing between them, we must conclude that a is not identical to b, and the same goes for a₁ and b₁.

This argument is based upon the Different Res, Different Thought Principle, which I shall call premiss 1B), and the two premisses 2) and 3) of the former argument. What, then, are the possible strategies for a

defence of the identity-theory?

It is important to notice at this point that premiss 3), which I am inclined to grant the critic of the identity-theory, would be disputed by Davidson's view of event-individuation. If all causes and effects of an event are relevant for its individuation, then it seems quite clear that, for instance, the second argument, basing itself upon the Different Res, Different Sense principle, would be disputed by such a theorist. He might say that the causal information-links, which are necessary for there to be a singular thought at all, would, in the possible world (containing a_1) we are imagining, link the subject to an object different from the object to which the subject is linked in the actual world. On such a view it would then be natural to hold that in both the possible world w_1 and in the actual world the mental events, a and a_1 , would have all causes and effects in common with the physical events b and b_1 respectively. A similar move would work in the case of existence-dependence. Such a theorist would therefore have reason to deny that b and b_1 are identical when a and a_1 are not identical.

I have in no way refuted such a view, but it is in sharp conflict with the basic intuition I find hard to deny, namely that this event could have been the same event even if some things, for instance happenings distant in space and time, could go otherwise. This is a firm intuition. It is the kind of intuition which Kripke relies upon; and it is the kind of intuition a critic of the token-token identity-theory is likely to rely upon. I have attempted to produce a theory which brings determinacy to cross-world identifications of events. I am strongly inclined to think that such a theory is needed, even if faults are found in the theory I

have been putting forward. The problem is that if we grant the critic of the identity-theory a theory which respects that kind of intuition, and when granting him a singular thought theory, we are landed with the results I have reached, or something like them. My strategy has been to attempt a defence of the token-token identity-theory compatible with the theory of event-identities I have developed. If we stick to the view that it is essential for an event to have all the causes and effects it actually has, then we are in some sense blind to the problem, since no modal claims, such as those we find in singular thought theories, are reflected on the ontological level. This blindness may be for better or for worse, but since a critic of the token-token identity-theory finds it for worse, a more convincing strategy seems to be to grant him a theory of event-identities in the fashion of the one I have given, and to try and find other rationally acceptable solutions.

If premiss 3) is granted, then only premisses 1A) and 1B) and 2) are left. Of these premisses, 1A) and 1B) are assumed true, and are not to be questioned. This leaves premiss 2). I shall now explore ways of questioning premiss 2).

3.2. WAYS OF DEFENDING THE IDENTITY-THESIS

3.2.1. THE FIRST STRATEGY: THE ANOMALISM OF THE MENTAL

I wish first to consider briefly one possible defence of the token-token identity-theory. It is a position I shall call the classical Davidsonian position, even if it does not correspond closely to Davidson's own position since he would have reservations about my essentialist framework. The position I envisage argues directly that since there are no psychological laws, or psychophysical laws (for reasons that are familiar from Davidson's writings), there are no mental properties which are essential properties of events. If no mental properties are essential properties of events, then, plausibly, there is no pressure towards accepting the argument given above as defeating the identity-theory. If only space-time location and causal laws are relevant for the individuation of events, then the argument above will be reinterpreted. That argument demonstrates that the event in question could have been a thinking of a different singular thought, or no singular thought, in the counterfactual circumstances. From the perspective of this view on the identity-conditions of events, however, it is just the same event which could have been a thinking of a different singular thought or no singular thought.

This view is derived directly from the theory of event-identities in part

1 of this thesis, in combination with the Anomalism of the Mental. A similar move could have been made against Kripke's argument in the pain-case. In that case I conceded to Kripke all his premisses while at the same time attempting to show that the conclusion was not to be recommended. That is admittedly the best and boldest dialectical strategy in the defence of the identity-theory. In the present context of de re thoughts it may be that no such bold strategy is available. Still this response from the classical Davidsonian position shows how a general philosophical view of event-identities, taken together with the widely shared view on the Anomalism of the Mental, directly implies the denial of the crucial premiss 2) in both versions of the argument which apparently defeats the identity-theory. Premiss 2) says that the essential properties of a cognitive mental event which is a thinking of a singular thought, are given by, or include, the essential properties of the singular thought in question.

I do not find this move unattractive. It does not in any way deny that we can describe mental events correctly by the mental predicates we use for this purpose. The view is principally non-reductive; it merely refrains from saying that any mental property is an essential property of an event. This makes the way mental descriptions work totally equivalent to the way in which most of our other event-descriptions in ordinary language and common-sense physics work, since these descriptions would not normally describe essential properties of events on this view about the essential properties of events. (One exception might be natural kind terms, but well-known contrasts between natural kind terms and mental

predicates may give further support to the line defended here.¹¹⁾

In order to specify what a particular event, i.e. an event referred to in natural language, is, this view would invoke pragmatic considerations in the assignment of a precise space-time location and in the assignment of the causal laws this event is taken to instantiate. This way of looking at things by no means implies that the ordinary language vocabulary does not describe entities, or does not describe the same entities as we describe by the vocabulary of the physical sciences. The ordinary language vocabulary by which we structure and organize our understanding of the world we live in, serves a large number of purposes, and does so well. Such a vocabulary, to be useful for its purposes, does not have to describe essential properties of events. In a case like the mental precisely the reverse may be true: for the mental vocabulary to be useful, it may have to describe non-essential properties, given the present construal of essential properties.

This view exemplifies an attitude closely related to the attitude behind Quine's double standard thesis.¹² Quine's flight from intension and intention when he is doing ontology is reflected in this framework, and the basis for this flight is on this view the Anomalism of the Mental, or the view that there can never be a serious science of the mental. But that is by no means a rejection of the mental; rather, correctly understood, it is an acceptance and appreciation of the mental in its own right. Quine has recently defended a form of materialism akin to the view

¹¹ See C. McGinn: 'Mental States, Natural Kinds, and Psychophysical Laws', in Proc. of the Arist. Soc., Suppl. Vol, 1978, pp.195-220.

¹² W.V. Quine: Word and Object, M.I.T. Press, Cambridge MA, 1960, especially pp.216-221.

presented here.¹³ Quine identifies a particular mental state with the particular bodily state that accompanies a mind which is in that mental state. In fact I believe the view defended here, the classical Davidsonian position, constitutes an improvement upon Quine's recent views, because of the fine-grained theory of event-identities, which seems to serve the general purposes of a theory of event-identities much better than Quine's own views on events.

Still this line, the classical Davidsonian line, may not be found entirely satisfactory. After all, how well argued is this thesis that only space-time locations and properties expressed by causal laws are essential properties of events? Could it not be that mental events have other essential properties, simply in virtue of being mental? I shall in the next section try to explore exactly where such questions lead. I shall explore whether there is a satisfactory response to the argument which seems to defeat the token-token identity-theory which does not deny that some mental properties are essential properties of events. Such a response must then concentrate on the question of which mental properties are essential properties of events, if it is acknowledged that some mental properties are essential. I do think that such a strategy is worth adopting. It may, however, turn out to be implausible, and should that be the case, I shall try to state the exact grounds for its implausibility. Even so, I will not abandon the classical Davidsonian line completely: it has the attractions of simplicity and clear internal structure, and I will ultimately return to it in a final evaluation of the various strategies.

¹³ W.V. Quine: 'States of Mind', Jour. of Phil., vol 82, 1985, pp.5-8.

3.2.2. THE SECOND STRATEGY. PSYCHOLOGICAL REGULARITIES

3.2.2.1. PRESENTATION OF THE STRATEGY.

I take the Different Res, Different Thought principle, to be the less controversial of the two principles in singular thought theories which generate the apparent counterargument to the token-token identity-theory. I shall for that reason concentrate on this principle, since it constitutes the strongest challenge.¹⁴ I shall accept it as true, and explore whether there is a way of denying premiss 2) in the argument against the identity-theory which has sufficient independent plausibility to constitute a defence of the identity-theory. This will now be a defence which acknowledges some mental properties as essential properties of particular mental events. It will be a bolder defence than the one considered above, which I called the classical Davidsonian position.

I approach this move with some hesitation, and I shall bring out the grounds for this hesitation when I discuss the adequacy of this defence. Still it is desirable to make the defence as strong as possible, so that if it is to be dismissed, it can be dismissed for the right reasons. The strategy is based on a fairly simple thought. There could be good reasons

¹⁴ This principle has historically been less controversial than the No Res, No Thought principle, and in addition the arguments in support of the latter more controversial principle, for instance G. Evans's arguments, can, perhaps, be more easily challenged than arguments in support of the former principle.

for holding that in all cases where it is true that a subject could have entertained a different singular thought with a different content from the actual content without there being any physical difference inside the skin, it is also correct to say that it is the same mental event which in the counterfactual situation could have been a thinking of a different singular thought. If there are good reasons for evaluating the counterfactual questions concerning mental events which are thinkings of singular thoughts in that way, then premiss 2) can be refuted and the identity-theory defended. But what reasons can there be for evaluating the counterfactuals in such a way? Can it really be maintained that such a view of how to assess mental events counterfactually is fully compatible with all the essentials of the singular thought theorist's position? Can it be argued that a singular thought theorist ought to accept this view of the essential mental properties of mental events? Can a singular thought theorist accept that the cross-world identity-conditions of mental events which are thinkings of singular thoughts can be separated from the cross-world identity-conditions for the contents entertained? At this stage it seems that the only plausible view to hold is that if such a defence is not justified, and one is not satisfied with the classical Davidsonian position, then there is no easy way of accepting both a token-token identity-theory and a singular thought theory. That does not, of course, mean that materialism/physicalism is false, since there may be a number of versions of materialism which are weaker than a token-token identity-theory. I shall later return to this point.

The strategy I envisage is intended to be fully compatible with all the essentials of singular thought theories, and it is therefore clearly

distinct from a dual component view as far as contents of thoughts is concerned. A dual component view, where the 'inner' (cognitively transparent) mental component is distinguished from the environment's contribution to content, is perhaps suited to this kind of defence, but is controversial in this context. An outline of the strategy is as follows. Mental events, like all other events, are essentially changes. What is essential to a mental event is the kind of change it is. The difficulty concerns how mental changes are to be classified into kinds. If the instantiation of causal laws is not to be the only clue to the classification of changes into kinds to which they essentially belong, the natural thing to appeal to will be the explanations that explain mental changes as mental. On a widely shared view on explanation, that will direct us to the properties that true explanatory regularities in the psychological realm can be taken to refer. If the true general regularities which cover the changes in question systematically group singular thoughts into kinds, and express regularities between kinds of occurrences of singular thoughts and other mental events, then the natural view might be that what is essential to a mental event which is a thinking of a singular thought, is not what singular thought it is a thinking of, but what kind of singular thought it is a thinking of. From that we might be able to draw the conclusion that a particular mental event could truly have been a thinking of a singular thought distinct from the singular thought it actually was a thinking of, but only if this distinct singular thought belongs to the kind of singular thought which essentially characterizes this particular mental event.

It is fairly easily seen that if this strategy can be justified, then one might be able to dispense with the problematical premiss 2) in the

argument I have developed against the token-token identity-theory in so far as the Different Res, Different Thought principle is concerned. Needless to say, the strategy faces a large number of difficulties. These difficulties will be dealt with and assessed subsequently. For the present I will concentrate on whether the notion of a kind or type of singular thought upon which this strategy must depend, can be made precise and uncontroversial from the point of view of singular thought theories.

The notion of a 'way of thinking about an object' which I will suggest for grouping singular thoughts into kinds, is not the notion of a 'way of thinking about an object' which is relevant for understanding what a Fregean sense is. Still it is uncontroversial, I take it, to claim that there is a relevant notion of a 'way of thinking about an object' which is such that people can think about different objects in 'the same way'. Even the most committed singular thought theorists see a need for such a notion of 'the same way' which groups de re senses into kinds. J. McDowell sees this as a way of accommodating constancy of linguistic meaning for indexical expressions.¹⁵ Different people thinking 'I' or 'here' thoughts think of themselves or a place in the same type of way. (In the place-case we can introduce a Twin-Earth example to make the point a strong one.)¹⁶ McDowell explicitly states that 'given a context,

¹⁵ J. McDowell (1984) p.288.

¹⁶ McDowell stresses that his sorts of de re senses will be different from D.Kaplan's 'characters' (See D. Kaplan (1977)), which are the rules we apply in the use of an indexical expression to determine the referent in a context. The difference, McDowell points out, between his 'sorts' and Kaplan's 'characters', is that Kaplan allows some kind of content even if there is no referent. (The content will in that case be a kind of sub-propositional conceptual content.) The de re sense theorist here stresses the existence-dependence of de re senses: if there is no object, then there is no singular thought, and no conceptual content

a sort of de re sense may determine a de re sense (if one cares to put it like that)'.¹⁷ I quote this to show that the notion of a 'sort of de re sense' is legitimate and important even on this conception.

G.Evans likewise stresses that it makes perfectly good sense to claim that different people think of different things, for instance themselves, in the same way, when they entertain demonstrative thoughts.¹⁸ This is a response to an imagined objector who is dissatisfied with a consequence of Evans's view on demonstratives, namely that there will be an infinite number of distinct ways of thinking of objects (at the de re sense level). Evans's response is that it is implausible that there are infinitely many types of ways in a thinker's repertoire. If a type of way determines a token way of thinking (a de re sense) in a context, then we can explain how a thinker can have a repertoire of a potentially infinite number of token ways (de re senses) by having acquired a finite number of types of ways. Evans gives some indication of how he thinks of types of ways, and these types seem to correspond to McDowell's sorts. In an example Evans takes himself and Hume as both thinking 'I am hot'.¹⁹ Both do it in the same type of way. The different senses of 'I' on the two occasions in fact get analysed as having an abstract 'cognitive' element in common. The only difference, on Evans's construal, between his thought and Hume's thought, seems to be which object they think about, which object the common type of way determines in the two different contexts.

which corresponds in any way to a 'character' (without a referent).

¹⁷ J. McDowell (1984) p.288.

¹⁸ G. Evans (1985) p.315.

¹⁹ G. Evans (1985) p.316.

Frege explicitly held that we are all presented to ourselves in a special and primitive way, and what Evans here says might be thought to be directly at odds with Frege's position. Evans seems to hold that in our 'I'-thoughts we are presented to ourselves in the same type of way (only to different people, according to who we are). Different positions are available on how to view this problem, even if it is maintained that the distinction between type of de re sense and de re sense can be drawn at some level. The difference between Evans and Frege, if there is one, concerns how that distinction is to be drawn. I need have no argument with a de re sense theorist who wants to take what seems to be Frege's line, where it is not only the object which is thought about that distinguishes the de re senses of different people's 'I'-thoughts.²⁰

This distinction between types or sorts of de re senses and de re senses themselves, implies that a particular de re sense is seen as analysable into the type it belongs to, and what in addition makes it into the de re sense it is. This additional element can be held to be just the relevant res in the context, or a further conceptual element which is seen as 'combining' with the type-element to yield a de re sense, a way of thinking about a particular thing. The distinction can now be put to further use. This has been done by C. Peacocke.²¹ Peacocke holds the former of the mentioned views of how the distinction is to be drawn. The

²⁰ See J. McDowell (1984) p. 289, note 15. I understand McDowell as wanting to take Frege's line, regarding that as different from Evans's view. McDowell seems to regard Evans's view in 'Understanding Demonstratives' as a slip. See also C. McGinn, The Subjective View, Clarendon Press, Oxford, 1983, p.68, note 17.

²¹ C. Peacocke: 'Demonstrative Thought and Psychological Explanation', Synthese, vol.49, 1981, pp.187-217.

important thing right now is the fact that the distinction can be drawn, and I shall later discuss the significance of various ways of understanding the distinction. For simplicity I shall stick to Peacocke's notation, and represent the particularity of a specific de re sense by the object which the thought is about.

Peacocke has worked out a general view which upholds the distinction between type de re and token de re sense for all de re senses, and he integrates this into a general theory of meaning for indexical expressions. The token de re senses are fundamental, but the types have important explanatory roles. Let me now illustrate Peacocke's view in the context of psychological explanation.²²

Perceptual demonstrative de re senses can be of the same type if one sees two qualitatively indiscernible objects (x and y) from the same angle and distance under normal conditions, and entertains demonstrative thoughts about these objects. If ' Δ ' is the type mode of presentation, then the tokens, the de re senses, can be represented by indexing the type; in this case the de re senses are ' Δ_x ' and ' Δ_y '. 'Now_t' is a type mode of presentation; indexed with a particular time it represents a token de re sense. To grasp that sense one needs actual (or potential?) knowledge as to which time it is. Still it is the type mode of presentation 'now_t'

²² It should be noted that there are differences between Evans's and McDowell's position on the one side and Peacocke's on the other which I can remain neutral about. Peacocke seems to include the relevant res in the thought content itself, as a more classical Russellian conception of singular thoughts will do. The Fregean position is that only senses, cognitive entities (if we are to speak of entities), and not 'Bedeutungen' are constituents of thoughts. Furthermore Peacocke argues for a distinction between employing a mode of presentation and referring to a mode of presentation in giving a theory of meaning for indexical expressions, a distinction McDowell sees no need for.

which we come to know as a result of understanding English, even if it is held necessary to know more than just the linguistic meaning of the term 'now' to grasp a de re sense. Similar considerations apply across the board for indexical expressions; 'self_x' is the 'character' of 'I' and so forth. The approach can be generalised to cover natural kind terms, Twin Earth cases and so on. Thoughts about a particular natural kind, call it N, can be given the following analysis. If it is a perceptual demonstrative thought, we may like to include a perceptual qualitative presentation of the object, call it 'Π'. There will be a cognitive stereotype, call it 'C', (a 'concept'). These elements must be indexed with the kind itself to complete the de re sense. 'This water is good', a thought essayed when presented with some water, is then represented as '(This) Π CH₂O is good'. On Twin Earth the only difference might be that the indexing work is done by XYZ, and not by H₂O. Thoughts will on this analysis have determinate truth-conditions, truth-conditions which will depend on the context in which the thoughts are essayed, since the objects thought about contribute to the determination of which particular de re sense is a constituent of the demonstrative thought in question. Understanding of the sentence 'This water is good' still requires the right kind of discriminating knowledge in the circumstances. I shall not concern myself further with this generalization to natural kind cases, but concentrate on demonstratives and psychological explanation. The claim to be made by this strategy in defence of the token-token identity-theory is that what is essential for explanation of action is sorts or kinds of de re senses. Only kinds or sorts occur in the regularities between propositional attitudes and behaviour by which behaviour can be explained.

A claim similar to this was made by J. Perry, who argued that the relevant explanatory regularities were not to be found between thought-contents and behaviour.²³ Perry uses an example of a person attacked by a bear. This person knows that the best thing to do if he wants to survive is to roll up into a ball. It could have been you, it could have been me. You would demonstratively have thought that you were about to be attacked, I would have thought that I was about to be attacked. We would entertain different thoughts, but behave in the same way, by rolling up into a ball.

With the explanatory apparatus developed so far, we can express precisely the explanatory regularity which Perry was after. ('[Self_x]' is the type of de re sense we all entertain in our 'I'-thoughts.)

(x)(t) (x believes at t that [self_x] is about to be attacked by a bear →
x rolls up into a ball at t)

This regularity expresses that 'same type mode of presentation entertained, same behaviour to be expected'. The predicate in the antecedent, '... believes [self_x] to be attacked by a bear', corresponds to what Perry came to call belief-states, which are not beliefs or thoughts, but a general psychological property all people have in common when they come to entertain a thought expressed by 'I am about to be attacked by a bear'. It is the exemplification of this property which exhibits a regularity with a certain type of action: rolling up into a

²³ J. Perry 'The Problem of the Essential Indexical', Noûs, vol 13, 1979, pp.3-21.

express this explanatory regularity unless the distinction between types of de re senses and de re senses were made. If one stays within the neo-Fregean framework, then the regularity can only be exhibited at the type-level. If this regularity is the crucial element in a psychological explanation of the following action, then this demonstrates the importance of the distinction between types and token modes of presentation.

To illustrate the point further, I shall look at one of Peacocke's more complex examples.²⁴ A person is presented with a container, and believes that he might die unless he consumes the contents of this container. He then acts upon this belief and consumes the contents. The container is demonstratively thought about. The explanatory regularity in question is expressed like this in ordinary language: 'Anyone who wants to go on living and who believes himself to be in danger of dying unless he consumes the contents of a container in front of him within reach does consume these contents.' To express this precisely we need some more notation: Peacocke uses ' π ' to represent the perceptual experience of the container, ' φ ' is a variable for the concept assisting in the identification of the object (a 'container'-concept in this situation). The regularity can then be expressed:

(x)(t)(y)(π)(φ) (x believes [self_x] to be in danger of dying unless [self_x] consumes at [now_t] the contents of [$\pi\varphi$]_y), and $\pi\varphi$ presents its indexed object as within reach in front of x at t and x wants to be alive after [now_t] → x tries to consume the contents of y)

²⁴ C. Peacocke (1981) pp.201-202.

(Peacocke writes 'tagged'; I have written 'indexed' instead.)

It should again be fairly clear that the general psychological property ('belief-state') which plays the important explanatory role, by being the property the instantiation of which is regularly followed by an action of the kind described by the explanandum, will be the referent of the predicate in the antecedent in abstraction from any specific values of the variables. The crucial point is that only terms describing types of de re senses occur in this predicate, not terms standing for token de re senses. It is a predicate that will apply to any rational person, at any time, in a situation of the type described.

We can now see the contours of this position more clearly. The structure of these two examples is held to be generalizable to all explanations of actions by demonstrative or singular thoughts. It is descriptions of these 'belief states' which occur in regularities, and explanations are seen as working because the behaviour in question can be covered by such a regularity. All actions are changes, and the view is that essential properties of mental changes will be the predicates which occur in the regularities by which we explain psychological changes, or, in other words, explain why actions took place. If we are to have a view about which mental properties are essential properties of mental events, we must choose these general psychological properties, 'belief-states'. Cross-world identifications of mental events can be construed on the basis of these general psychological properties. This is a view in the spirit of the earlier view about the essential properties of changes, a view which the counterargument to the identity-thesis accepted in the

physical case.

The opponent of the token-token identity-theory says 'different singular thought entertained, different mental event'. The present view suggests, in connection with the Different Res, Different Thought-case, that the correct analysis is that the same mental event could have been a thinking of a different singular thought, if only all the general psychological properties which enter explanatory regularities are the same in the two cases. The latter condition implies that the different singular thoughts must be of exactly the same type, but that is what is suggested in the counterargument to the identity-theory. The present view can also maintain the following: the argument against the identity-hypothesis considers a situation where there is a different singular thought; but this counterfactual, just taken to be obviously true, cannot be barely true, any more than other counterfactual statements can be. It is true precisely because the subject in question satisfies one of these general psychological predicates, where it is abstracted from which particular objects are thought about. This fact is suppressed by the objector to the identity-theory, but if the subject did not satisfy such a general predicate, we would have no reason for thinking that this crucial counterfactual really is true. But the general predicate, which occurs in the regularity in virtue of which the crucial counterfactual that there would have been a different singular thought is true of the subject, also serves to give foundation to the view that it would have been the same mental event which in that world would have been a thinking of a different singular thought.

3.2.2.2. PROBLEMS FOR THIS STRATEGY

I shall now look into the question of whether this strategy in the defence of a token-token identity-theory can be adequately defended. The first and obvious response to the regularity-view is to ask for a justification for regarding the mental properties described by the terms expressing the regularities in question as the only essential mental properties of such events. This question I shall discuss quite thoroughly later. I shall first try to specify more precisely the position I envisage.

The regularity-view in my version makes no claim whatsoever for there being a possibility of expressing the contents of singular thoughts descriptively. Nothing that is said implies commitment to anything like that. Secondly there is no wish to defend methodological solipsism, or to be revisionary on behalf of philosophy of science towards the form ordinary folk psychological explanations take. I understand methodological solipsism as the doctrine that the account of thinking we need should avoid commitment to world-involving contents, where world-involving content is so understood that particular objects or kinds in the thinker's environment contribute essentially to the individuation of contents. The position presented is not an attempt at anything so ambitious. I represent it as accepting G. Evans's views on the role of particular objects in the individuation of contents.

Much more substantial problems arise concerning the account of

psychological explanations. I shall now concentrate on these before I move on to more general considerations. Explananda in folk psychology are very often relational. By this I mean that they often describe a person as acting upon a particular object. The problem this presents is this: if particular singular thoughts, beliefs, and desires are essential to the explanantia of a certain common kind of psychological explananda, the claim that only the regularities identified above are really essential for psychological explanation seems unfounded. If that is so, then the defence of the token-token identity-theory which based itself on regularities which covered psychological changes, seems to break down.

To illustrate this point, we can look at the container-example again. If we are to explain adequately why the person acted upon the container he actually acted upon, we must state that he thought that the contents of that container could save his life. The explanatory regularity covers different people at different times with different containers in front of them, and if the explanandum is that he acted upon that particular container, then the person's demonstrative thoughts about that container is essential for a proper explanation of this action.

A similar move can be made in the familiar example of the attacking bear. Perry's claim was that there were different thoughts, but the same behaviour to be expected. But it can of course be maintained that there are two different explananda in this case too. You think that you are about to be attacked by a bear, and this belief of yours explains your action of rolling yourself up into a ball. The fact that I thought I was about to be attacked by a bear, explains why I rolled up into a ball. Two different singular thoughts relate to two different explananda. One

explanans explains one explanandum (your action), the other explanans explains a different explanandum (my action). Two different pieces of practical reasoning explain two different actions.²⁵

The explananda in these counterexamples to the regularity-view on psychological explanation, are actions identified by demonstrative and singular terms. Let us call these explananda singular explananda. Singular explananda seem to require singular beliefs and desires in the relevant explanantia. It is a thesis in the literature that singular explananda require singular explanantia, that singular beliefs and desires are ineliminable and essential to adequate explanantia of such explananda. This is a thesis forcefully defended by Peacocke, and also (even if more indirectly) by J. Perry.²⁶ I shall take this thesis as

²⁵ This is essentially the argument given in G. Evans (1982) pp.203-204 against an argument for methodological solipsism based on considerations about explanation of action similar to the ones that support the regularity-view.

²⁶ C. Peacocke (1981) and J. Perry (1979). The claim made is not just the general claim and entirely uncontroversial claim that if the explanandum is a singular event, then we need a singular statement in the explanans. This is a thesis true for all explanations. In typical physical cases, a singular physical event is explained by subsuming the event under a certain kind, a kind whose description occur in a regularity. The explanans will then contain the general premiss that one kind of event is correlated with another, and the singular premiss that there was an event of the first kind. This explanans will explain that there was an event of the second kind. The physical explanandum might also contain a relational description, describing one physical object as acting upon another. The claim made here is that when the explanandum is an action upon a particular object, then the explanans must contain a demonstrative or singular thought. I shall later elaborate on the significance of this, but the important difference between the physical and the psychological case is this. Let us imagine we have a relational physical explanandum. The properties we ascribe to the physical object, the explanatory properties, are from the point of view of a theory of explanation properties this object would have had even if it had not had a relation to the particular object it has a relation to. The properties would be expressed by some law or regularity, and the physical object would have exemplified the same such properties even if the object it is related to had been replaced by a qualitatively identical object. If in the psychological case the particular demonstrative thought entertained

uncontroversial and true.

What can the regularity-theorist say in response to this challenge? There is no way of disputing that singular explananda are extremely common in folk psychological explanation of action. Still the question of what the relationship is between singular explananda and other explananda is an extremely delicate one. In the presentation of the regularity-view, I wrote as if the explanatory interest always was what kind of action the agent undertook, and as if what particular action the agent undertook did not constitute the correct explanandum. Perhaps I was then presenting a position which unwittingly denies the existence of genuine singular explananda without further argument.

The regularity-view may still have a way out. It can be claimed that the deep-level explanatory work in all cases will be carried out by a subsumption under a regularity. Singular explanations work well, and there is nothing wrong in such explanations, but there is always a hidden reference to a psychological regularity, and it is always this regularity between kinds of singular thoughts and kinds of actions which really does the explanatory work. Explanation, on this view, is always fitting the events to be explained into a pattern. In psychological cases, these patterns can always be generated and specified on the model of the container-example in the previous section, by abstracting over particular contents to kinds of singular thoughts, and abstracting from particular actions to kinds of action. It is the fact that what needs explaining can

is essential to an explanation of an action upon a particular object, it seems that a basic explanatory property, exemplified by the acting subject, is a property the acting subject could not have exemplified if it had not been related to the particular object the thought is about.

be fitted into such patterns which is important from the explanatory point of view, not that we do so in particular cases. This position thus views singular explanations as explanatory, but as explanatory shortcuts from the point of view of a theory of explanation. There is no denial of the fact that singular explanations serve our purposes of everyday explanation of action well. It is only claimed that the regularities are primary and essential from a more theoretical point of view. No singular explanation could work unless the predicates expressing the regularity were true of the agent at the time in question.

At this stage we must remind ourselves of the fact that the regularity-view must do more than simply establish that the properties we take these general explanatory psychological regularities to stand for are essential mental properties of events of the kind we are considering. If it is to constitute a defence of the token-token identity-theory, given the argument against this theory in section 3.1, it must also establish that these mental properties are the only mental properties which are essential properties of the events in question. An argument against this might be derived purely from considerations about psychological explanation, along the following lines. All explanations need to fit the events to be explained into a pattern, implicitly or explicitly. But reason-explanation differs from other kinds of explanation by also serving a further purpose: it exhibits the thinker's rational motivation, his perspective upon the action undertaken. This is a further role which essentially characterizes psychological explanation. It may appear insignificant, but it throws new light on the relationship between general regularities and singular explanations in the psychological case.

The important point is that when the action is an action upon a particular object, then the agent's perspective must be characterized by demonstrative or singular thoughts: it cannot be adequately specified by descriptive, or non-Russellian, thoughts. As I have mentioned, this is a point well established in the literature, which I take to be true and uncontroversial²⁷, but further consideration of it might be in place at this stage. In the container-example discussed above, the action is upon the particular container presented. The thinker believes that it is the contents of that particular container which can save his life. When that is stated, it is plain why he acted upon that particular container. If that is not stated, then we have no adequate account of his perspective, and no adequate reason-explanation available. Descriptive thoughts cannot serve the purpose. The agent may act even if he fails to realize that the container he is presented with actually satisfies some particular description he knows the container he wants must satisfy, even if he is unlikely to act if he fails to realize that the container satisfies many of the descriptions he knows the container must satisfy. For each particular description it might not be necessary that the agent knows the container satisfies it. More importantly, even if he knows that the container he is presented with actually satisfies descriptions he knows must be satisfied by the container he wants, this is not sufficient for there to be an action upon this particular container. Only when he thinks something like 'this container is the one I need', will he act accordingly. Demonstrative or singular thoughts must therefore be entertained if the thinker is to perform an action of this kind, and they must be stated to present adequately the thinker's perspective. It is only when we know the thinker's perspective that we can provide an

²⁷ See C. Peacocke (1981) and J. Perry (1979).

adequate reason-explanation of the action in question; it is only then we can understand fully why he acted upon that one. Since the perspective is seen as essential to an adequate psychological explanation, the stating of singular thoughts is also essential to an adequate psychological explanation.

In terms of the relationship between general regularities and singular explanations this view can be stated thus: in psychological explanation of actions upon objects both the general regularity and a singular explanans are necessary from the point of view of a theory of psychological explanation; the first to fit the event into a familiar pattern, the second to state the agent's exact perspective upon the action he undertakes. The general regularity has therefore not the same kind of explanatory priority as in other kinds of explanation, for instance in causal explanation in physics. The point of a singular premiss in an explanation of a physical event, is just to state that there was an event of a particular kind. Together with the general premiss this explains that there was an event of a different kind (the event to be explained), viz. an event of the kind to be expected given the general premiss. The claim made is that this is not the only point of a singular premiss in an explanation of an action of the kind we are considering; to show the agent's exact perspective is an additional point of such an explanation. In physical cases, where there simply are no perspectives, no explanations can have such a role.²⁸

²⁸ It must again be stressed that this is a claim made from the point of view of a theory of explanation; I am in no way denying that we explain perfectly well many singular physical events just by stating that a different singular event occurred. An example is that we explain that the window broke by pointing out that it was hit by a stone. This is a perfectly adequate explanation for our normal purposes. Still, from the point of view of a theory of explanation, we must subsume the events

The regularity-view, in my exposition of it, acknowledged that singular explanantia were necessary for singular explananda, but maintained that what mattered for explanation was what kind of action was performed, and argued that one should quantify over the objects acted upon in the correct specification of the explanandum. The view which sees the agent's perspective as essential argues against this, because on the regularity-view a specification of what is essential in the explanans and the explanandum will not include the agent's exact perspective on the action in question in the explanans, and will not include the relevant singular terms in the explanandum. If the perspective is correctly given only in terms of demonstrative thoughts, as it seems to be when the subject acts upon that particular container, this will require that the correct specification of the explanandum makes the connection between the explanans and the explanandum plain, and this requires a singular explanandum to match the explanans.

I shall not consider further whether this counterargument to the regularity-view can be fully justified, but move on to different and more general considerations. But we can easily imagine a reply from the regularity-theorist that what matters for explanatory purposes is the type perspective, and not the particular perspective of the agent in the situation. Thus it may seem that we are reaching a kind of stalemate, and that only a very thorough discussion of psychological explanation can

under a regularity. In most cases like this, a regularity adequate for our purposes is very easily available, and known to the people who explain just by stating that another event occurred. Still, the explanation is a shortcut from the point of view of a theory of explanation.

settle the dispute.²⁹ Let me emphasise again that a defence of the token-token identity-theory must establish that these general psychological properties referred to are the only essential mental properties of mental events which are entertainings of singular thoughts. Even if the argument against the regularity-view on psychological explanation fails, there will, to my mind, be a further task facing a defence of the identity-theory.

A main reason for thinking that there must be a further task, is that our conception of the mental is not exhausted by our conception of explanation of action. In general the mental is characterized by being the entertaining of thoughts, of representations, of contents, capable of being true or false. The crucial cases we are considering are cases of entertainings of de re contents, for instance demonstrative thoughts. Since a theory of thought, or a theory of content, is just as much an essential part of our theory of the mental as a theory of explanation of action, we must consider theories of thoughts before we can settle any questions about the individuation of events which are thinkings. Part of a theory of thought is the theory of singular thoughts, which is a theory about what such thoughts are, about what it is to entertain such thoughts, and about what capacities or abilities are required to entertain contents of that kind.

The question we are facing is how to individuate events which are

²⁹ This means that I am not entirely satisfied with the argument given in G. Evans (1982) pp.203-204. I think there is something right in the position defended in Evans, but it seems to me that more arguments are needed in its support. I have not been able to find satisfactory arguments, and it is a delicate and complicated issue. For my purposes here it is not necessary to settle the issue, and I will go on to show why this is so.

thinkings of singular thoughts. A view which surely is natural and plausible is the view that events which are thinkings are individuated partly by which thoughts are entertained. We have individuated a thinking event when we have identified the thinking subject, the time and the place in question, and the content entertained. This view might be taken to imply that an event which is a thinking of a thought could not have been a thinking of a different thought from the one it is a thinking of, even if the subject would have entertained a different thought if the environment had been different. Such a thesis contradicts the defence of the identity-theory, which has to maintain that it would have been the same thinking event even if a different thought had been entertained as long as this different thought had been a singular thought of the same type as the thought actually entertained.

It is important to be clear about what the dialectical situation is at this point. The counterargument against the token-token identity-theory that I have given in 3.1., is based upon singular thought theories, in particular G. Evans's version of such a theory. I have made no attempt to justify a view like Evans's. I have only tried to work out the metaphysical implications of accepting such a view, given a theory of event-identity. Similarly I have, in the suggested defence of the token-token identity-theory, tried not to challenge the Evansian framework. One question facing us now is whether the attempted defence actually satisfies this latter constraint. What I want to try to settle at this point is not therefore whether Evans's theory should be regarded as correct, but whether the attempted defence of the token-token identity-theory is compatible with it, given independently plausible premisses.

If we recognise as true the thesis that thinkings are essentially entertainings of contents capable of being true or false, and recognise that the questions concerning the individuation of events which are thinkings must be discussed in connection with a theory of content, then we must try to interpret what is meant, in the context of a theory of content, by the claim that it is not essential for a thinking of a singular thought that it is a thinking of the singular thought it actually is a thinking of. The difficult point to establish is not that such a thinking event, to be the event it is, must be a thinking of a singular thought of the type to which it belongs. The difficult point is the additional claim that it is not essential for such an event to be an entertaining of the particular content it is an entertaining of. This latter claim must somehow be motivated independently of the truth of the token-token identity-theory in the context of a theory of thought.

The defence of the identity-theory has tried to base itself on the central explanatory notions in the explanation of actions. One natural way of establishing the claim it now needs to justify, would be to argue that the crucial explanatory notions we need in a theory of thought are such that it is not essential for an explanatory account of what is going on at the conceptual level, or at the level of thought, to introduce notions which are essentially individuated by the particular objects thought about. Let us call the level of thought the conceptual level, and consider an example. I entertain the thought that 'This pen writes well', while I am writing with it. I have a perceptual demonstration of the pen, I see it, feel it, and hear the sounds it makes while I am writing. I possess information, and use this information in the right kind of way when I entertain the thought that 'This pen writes well'. Let us for a

moment neglect the component of the thought which the predicate 'writes well' expresses. The question facing us is what kind of theoretical representation of the level of thought is adequate for the component represented by the expression 'this pen'. There are certainly positions in the literature which will represent the thought-component expressed by 'this pen' as something which could have been employed by me even if I had been thinking about a pen distinct from the pen I am now actually writing with, so that this particular pen does not contribute essentially towards the individuation of this thought-component.³⁰ But the first point to notice is that this seems incompatible with Evans's neo-Fregean view. Evans's view is that this pen contributes essentially towards the individuation of this thought-component. My knowledge of which pen I am writing with is on Evans's view partly constitutive of my ability to entertain the thought in question. The essential constituents of thoughts, which we might call 'senses', are on Evans's view ways of thinking about the particular referents of the expressions. In this case, it is a way of thinking about this pen, and this 'way of thinking' would not have been available to me if this pen had not existed and I had not invoked the information I possess about it in the right kind of way when I entertained the thought. It therefore seems to follow that there will be a direct conflict between Evans's view and the suggested alternative view on the question of the adequate theoretical representation of the level of thought. The alternative view will have to employ a notion of 'way of thinking about an object' which is not essentially individuated by the objects thought about in particular cases. Let us suppose that such an alternative view agrees with Evans's analysis of the truth-conditions of the thought in question - that the thought is true if and

³⁰ C. McGinn (1983), chapter 5.

only if this very pen, this object, 'writes well' - and agrees that the truth-conditions cannot be given by descriptive conditions the 'well-writing' object must satisfy. If this alternative view agrees with this, then there will be no direct explanation available on this alternative account on the level of the theoretical representation of the conceptual level, of how the thought entertained can have the truth-conditions it has, since the 'sense', the thought-constituent on the conceptual level, is not designed to explain directly why the thought has the truth-conditions it actually has. This is because the 'senses', or the concepts, are so individuated that it does not follow directly and solely from which concepts are employed what the particular truth-conditions are. The truth-conditions of thoughts are theoretically represented as not being internal to the conceptual level.³¹

I have said nothing about the possible motivation for this alternative view, nor argued against it. I have only tried to point out the difference and incompatibility between this view and Evans's. I shall now explain why I find this particular difference important, and why I find Evans's view incompatible with the regularity-defence of the identity-theory.

We think of thinking as an essentially structured ability. The components of thought I shall now call concepts.³² There are various

³¹ This does not mean that this alternative cannot explain why thoughts have the truth-conditions they have, only that the explanation must proceed in steps, and that things in addition to the concepts employed must enter the explanation. The objects in the thinker's environment is the natural candidate.

³² My use of 'concept' thereby includes both 'ideas' and 'concepts' in Evans's terminology.

ways of representing what our conceptual structure is, and corresponding ways of explaining what exercises of this essentially structured ability consist in. Particular exercises of an essentially structured ability can only be distinguished from other exercises of this ability by examining which concepts (the components by which the structure is identified), in fact are employed on the occasion. It follows that which concepts are employed contributes essentially to the individuation of events which are thinkings, since any theory of content must contain theoretical, explanatory, notions which contribute towards explaining what it is to exercise the structured ability on the occasion it is exercised, i.e. what it is to entertain that particular content, capable of being true or false. In the demonstrative cases this theoretical notion will, on Evans's view, be ways of thinking about particular objects, and the objects will contribute essentially to the individuation of the thought-components, and thereby to the identification of the conceptual structure. The point about the individuation of events which are thinkings of singular thoughts, follows if we think that the basic explanatory notions in a theory of content contribute essentially towards the individuation of thinkings. This latter view is a view the defender of the identity-theory ought to accept, since essential mental properties are thought of by him as being given by basic explanatory notions in our theory about the mental. And it has been accepted that it is an essential characteristic of the mental that it is entertaining of contents, representations, capable of being true or false.

The argument given establishes a close link between the individuation of events which are thinkings and the conceptual structure. If this argument is accepted, there will be a counterargument to the defence of the token-

token identity-theory which denies the truth of the second premiss in the argument against it given in 3.1, the premiss which says that a thinking event is essentially a thinking of the thought it is a thinking of. We also see clearly how the view I indicated, which identified the conceptual structure differently from Evans's, would be a view likely to be compatible with the identity-theory. But there is something very odd in the position taken by the defender of the identity-theory as I have identified his position. I have designed this position so as not to conflict with Evans's position in a theory of content. This position therefore agrees with the point that when I think the thought that 'This pen writes well', it would not have been the same thought, or an exercise of the same conceptual structure, if the pen had been replaced by a different but indistinguishable pen. Still, it seems to be maintained, this is not to be explained by a theoretical notion internal to a theory of content, or a theory of thought. This follows since basic explanatory notions in our theory of the mental are taken to give essential characteristics of mental events, and it is also maintained that it would have been the same mental event even if a different thought had been entertained. It seems very hard indeed to find any theoretical motivation for such a view once Evans's view is accepted, or even to think that it is a stable, possible position. Of course it is possible to disagree with Evans on the question of what the structure of content, or conceptual structure, is. But that is not the point in this argument. The point is that it seems to be a constitutive task of a theory of content to explain what exercises of concepts consist in, given an individuation of the concepts. If we accept Evans's view on singular thoughts, it seems to be an internal task of a theory of content to explain what it is to entertain singular thoughts, and for this we seem to need the notion

of 'way of thinking about an object' which is employed by Evans.

I have so far not considered it as part of my task in this thesis to argue positively in support of a singular thought theory. It might be thought that such arguments are needed at this stage if I am to be able to draw definite conclusions about the truth of the token-token identity-theory. I shall respond to this challenge in a limited way. C. McGinn has argued in support of a view on conceptual structure which closely resembles the view I have presented above and seems to be clearly compatible with the token-token identity-theory, given the argument about the connection between one's view on conceptual structure and the individuation of events which are thinkings. To my knowledge, McGinn's view is the clearest position along such lines. I will now briefly consider McGinn's positive arguments for his view.³³

McGinn has three arguments. The first concentrates on the constancy of linguistic meaning. Linguistic meaning is constant from occasion to occasion when sentences containing indexicals are uttered. McGinn writes: 'No theory of sense which entails denying this semantic constancy can be correct, and any theory which acknowledges it is compelled to discern a parallel constancy at the level of thought, since thoughts must have common conceptual elements if their linguistic expression does.'³⁴

McGinn's argument moves from constancy of linguistic meaning to semantic constancy and from there to conceptual constancy. The conclusion is stronger than it might appear from the quotation above: the conclusion is

³³ McGinn's view is defended in C. McGinn (1983), chapter 5.

³⁴ C. McGinn (1983) pp.64-65.

identity of conceptual structure, not just common conceptual elements. The view McGinn is arguing against is what we might call the Fregean view, which identifies thoughts with contents which are true or false, and conceptual structure as the structure of thoughts when thoughts are conceived in this way.

Let us look at an example to see the opposition more clearly: an utterance of 'Today is fine'. McGinn's view is that all understandings of all utterances of this sentence on different occasions exemplify exactly the same conceptual structure, since the linguistic meaning is constant. If thoughts, then, are what is grasped when these utterances are understood, or what is expressed by utterers, McGinn's view is that all that is expressed is constant from occasion to occasion. Frege's view is that different thoughts are expressed on different occasions, since the truth-conditions will vary according to what day it is. Frege writes: 'In all such cases the mere wording, as it can be preserved in writing, is not the complete expression of the thought; the knowledge of certain conditions accompanying the utterance, which are used as a means of expressing the thought, is needed for us to grasp the thought correctly.'³⁵ Frege must be interpreted as saying that knowledge of what day it is is needed to grasp the content, the thought, correctly, and that the time of utterance is used as a means of expressing the thought. On Frege's view, then, there are cases, namely indexicals, where the expressing of the thought is not done solely by the words with their constant linguistic meaning.

McGinn notes that his view 'entails giving up the classical Fregean

³⁵ G. Frege (1977) pp.10-11.

theory of sense and reference, if sense is understood to comprise the conceptual content of a thought, i.e. what cognitively transpires in the mind of the thinker'.³⁶ The argument we are now considering is an attempt to refute the Fregean view from considerations about linguistic meaning. McGinn's argument is difficult to assess, because he does not give a further theoretical motivation for a close correspondence between linguistic meaning and conceptual structure. One such motivation might be that we have an independent grasp of what linguistic meaning is which is the best thing available for an account of conceptual structure. Such a view would then hold that an explanation of conceptual structure and cognitive activity can only proceed via an account of linguistic meaning which does not use truth-conditions as an explanatory notion. Such a motivation might be challenged in various ways: one might, for instance, doubt that such an independent account of linguistic meaning, adequate for such explanatory purposes, is or can be available. I am not sure whether this is McGinn's motivation. Another motivation might be found in the arguments in support of methodological solipsism, put forward by Fodor. Since it is not clear to me what McGinn's motivation is, I shall restrict myself to the following points.

Fregeans are likely to give an explanatory account of constancy of linguistic meaning in terms of sorts or types of demonstrative thoughts. This explanation goes in the opposite direction; what it is to entertain contents of particular demonstrative thoughts is explained by the notion of truth-conditions, and this is again used to give an account of types or sorts of demonstrative thoughts, which again are used for an account of linguistic meaning. Peacocke's account can be understood as an example

³⁶ C. McGinn (1983) p.68.

of this strategy, and J. McDowell endorses such a view.³⁷ McGinn provides no direct argument in support of the view that this can not be the correct account, apart from the remark that it 'severs the tie between the structure of thoughts and the structure of sentence meaning'.³⁸ McGinn's own view of course severs the tie between the structure of thoughts and the truth-conditions of thoughts, and an independent argument is needed to establish that severing one tie is better than severing the other. Such an argument might have the following structure. The Fregean account severs the tie between the structure of thoughts and the structure of sentence meaning, but is at least able to provide an account of their relationship using the basic explanatory notion in its account of content. McGinn's account is not able to provide an account of truth-conditions for particular utterances using the explanatory basic notions within his account of conceptual structure. This seems to put the Fregean account at some kind of advantage. Of course McGinn might challenge the Fregean account of linguistic meaning, but he still has to do so. And he might question whether this is some kind of advantage. But a challenge of the latter kind needs to be motivated by general considerations about a theory of content, and McGinn still has to provide such a motivation.

McGinn's two other arguments can be dealt with more easily. The second argument concerns action-explanation, and points to a close connection between McGinn's account of conceptual structure and dispositions to

³⁷ This is the thrust of McDowell's position in McDowell (1984), where he gives absolute priority to the particular contents entertained, individuated by truth-conditions, and regards 'sorts' of singular contents as a way of accounting for linguistic meaning.

³⁸ C. McGinn (1983) p.65.

behaviour. The argument simply is 'same thought entertained, same dispositions to behaviour'.³⁹ I have dealt with action-explanation at length in the discussion of the regularity-view, and the deep problem is of course whether dispositions to behaviour ought to be characterized as dispositions to act upon particular objects or not; whether the dispositions referred to in the explanans ought to be singular dispositions explaining actings upon particular objects, or more general dispositions explaining types of behaviour. McGinn does not add anything new to this debate, and on the strength of my earlier discussion it is far from obvious that a view like McGinn's can be motivated in this area unless his view on content is already accepted. The argument was that the agent's perspective must be given in reason-explanation, and if that is correct, the crucial problem becomes how to analyse the contents which are entertained by the agent. I used a Fregean account of content to argue against the regularity-view, and of course that argument would not be available if McGinn is right about conceptual structure. If McGinn is wrong about conceptual structure, that argument is available.

The third argument is that McGinn's conception of conceptual structure helps to explain why indexicality is irreducible. McGinn is of course right in the claim that his view gives a good explanation of this. But so does Evans's neo-Fregean view, where it is argued that there is no way in which contents of demonstrative thoughts can be reduced to descriptive contents. The deeper question is of course what explanation of this irreducibility is to be preferred, and that will again lead back to general questions about a theory of content, which I shall not pursue.

³⁹ C. McGinn (1983) p.65.

The point of this discussion of McGinn's views is not to demonstrate that they are untenable. McGinn will certainly have much to say in his defence. The point is only to show that the Fregean view on conceptual structure which seems to lead to an incompatibility with the token-token identity-theory has much to say in its defence, and that it is legitimate for my purposes to accept this view without further defence.⁴⁰

I shall now return to the regularity-view as a possible defence of the token-token identity-theory. I have argued that this view, which had the ambition of being compatible with all essentials of Evans's position, gets into trouble because of considerations about the relation between individuations of thinkings and conceptual structure. I will finally point out that there will be further problems facing the regularity-view, given that it needs to be compatible with Evans's theory of singular thoughts. One such important problem arises in connection with the no res, no thought principle. I have in my discussion concentrated on the different res, different thought principle, since that principle is prima facie less controversial, and I have found severe difficulties for the identity-theory if the principle is assumed true. If we also take the other principle into account, this conclusion is likely to be strengthened. I shall not elaborate this in any detail, but a defence of the token-token identity-theory would be very difficult in the case of illusions, because one would prima facie be committed to holding that in the possible world where there is no singular thought entertained because there is no object, but no reason to think that anything is

⁴⁰ A full defence of the Different Res, Different Thought principle is a far too large task to be carried out within the limits of this thesis. It would, among other things, involve a careful consideration of the position defended in S. Blackburn: Spreading the Word, Clarendon Press, Oxford, 1984, chapter 9.

different inside the skin, then it is the same mental event as in the actual world. One seems thereby committed to saying that it is not essential to a mental event which is a thinking of a singular thought that it is a thinking of a singular thought, in cases where illusions are possible. This oddity would also be unavoidable in cases where one tries to entertain a recognition-based thought, and takes the Doppelgänger to be the person one has an adequate idea of, and there is no thought at the fundamental level of thought. What this shows is that when illusion is possible, or misrecognition is possible, the general psychological properties upon which the defence based on regularity depended, cannot be essential properties of events which are thinkings. This is because the general psychological properties are specified by abstraction from the contents of singular thoughts, and there will be no such general property available if there is no singular thought.

We are here approaching a large and difficult area, which I need not go into. The main point is to indicate the range of new problems that a complete defence of the token-token identity-theory must encounter if Evans's theory is taken to be true. I do not feel compelled to embark on such a full defence, since convincing and important objections to the project have already been stated. A full discussion of the no res, no thought principle and its implications can be put aside at this stage.⁴¹

If the defence of the identity-theory breaks down at the point

⁴¹ Since the truth of the Different Res, Different Thought principle is sufficient for an argument against the identity-theory, I can leave this aside. In theory, at least, it is certainly possible to accept this principle without accepting the No Res, No Thought principle. It seems to me that it is much more difficult to defend the latter principle than to defend the former.

indicated, what are the implications for philosophical materialism? I shall now go on to sketch the conclusion I think we should draw. Only when the consequences are reasonably clear, can we step back and attempt a final evaluation of the alternatives.

3.3. A CONSTITUTION-VIEW

The immediate reaction to an argument which seems to defeat the token-token identity-theory might be that its acceptance must have repercussions for Davidson's argument in 'Mental Events', which originally established the identity-theory. The options appear to be these:

- a) To accept the classical Davidsonian view, which holds that no mental event has any mental property essentially.
- b) To accept the regularity-view which holds that it is not essential for a thinking of a singular thought what singular thought it is a thinking of (this option has to come to terms with the thesis that singular thoughts are existence-dependent).
- c) To accept the present argument and question at least one of the premisses in Davidson's argument.

There will be a number of ways of questioning Davidson's premisses (option c)), and the minimal challenge which challenges neither the principle of causal interaction between the mental and the physical, the strict-law view on causation, nor the anomalism of the mental, is the constitution-view indicated in the introduction to the thesis. In my introduction I pointed out that there is the possibility of an ambiguity in the conclusion that each mental event is a physical event. The 'is' in

this conclusion can be understood both as the 'is' of identity (as Davidson does), or as the 'is' of constitution. The latter possibility will exist given a theory of what constitutes identity in the case of events which is different from Davidson's theory. If such a possibility exists, then the second of Davidson's premisses, (the strict law view on causation), will have to be reformulated accordingly. Each true singular causal statement will be backed by a strict law on the reformulated version also: if one event causes another, then there are descriptions under which either these events, or the events that constitute them, instantiate a strict law. Another way of putting it is to say that when one event causes another, there will be descriptions which are true of the events, either in the straightforwardly predicative way or otherwise, which occur in a strict law. One can then take the reformulated version of Davidson's argument as establishing that each mental event is either identical to a physical event or constituted by a physical event.

Towards the end of section 1.9 of the thesis I sketched a view of how the theory of event-identities I had developed could be modified to account for constitution-relations between events. The modification would have the following structure: one abandons the claim that this theory gives identity-conditions for events generally. The theory says that events are identical if and only if they are instantiations of the same causal laws at the same region in space-time. The 'properties' expressed by these laws and the property of having exactly that space-time location, are the only essential properties of events. It implies that all events which have the same actual causes and same actual effects are identical.

The modification consists in taking that theory as giving the precise

individuation of causal processes. Causal processes are events, but the theory which individuates causal processes does not give an exhaustive individuation of the set of all events. In the case of substances, I take as uncontroversial the view that there can be more than one substance at the same place at the same time. The existence or persistence conditions for a statue are different from those of a piece of bronze. This can be substantiated when we consider what it takes to be a statue and what it takes to be a piece of bronze, and consider what kind of changes the statue and the piece of bronze can undergo respectively and still be the same object. It becomes clear that the piece of bronze can still exist even if the statue does not exist, and their non-identity follows by Leibniz's Law, even if these two objects have the same location in space and the same causal properties at the time in question.

There would be an almost exact parallel in the case of events if two events we singled out were such that even if they have the same location in space and time and the same causal properties, the one could exist without the other's existing, and this could be established by similar considerations about what it takes to be the one and what it takes to be the other. On this theory, which gives precise cross-world identity-conditions for causal processes, this question can be raised in a clear and illuminating way. The argument against the token-token identity-theory can be seen as having precisely this structure. When we consider an event which is a thinking of a singular thought, then, according to the argument given above, it is essential for this event to be the event it is, that it is an entertaining of the particular content it actually is an entertaining of. And, according to G. Evans's theory of singular thoughts, it is necessary for the content of the singular thought to be

the content it is that the thinking subject invokes information from a particular object, the object of this information-invoking thought, when he is entertaining the thought, and therefore necessary that there be a causal link between this thinking event and a particular object. The identity-theorist wants to identify the thinking of the singular thought with a causal process, the causal process which has all the same actual causes and actual effects as the thinking of a singular thought. But when we consider what it takes to be this particular causal process, we discover that it is not essential for this event to be the event it is that it has the causes it actually has. But it is essential for the thinking of the singular thought that a causal information-link to a particular object exists. If this particular object, the object of the thought, had been replaced by a qualitatively identical object, it would have been a thinking of a different thought. But even if it had been a thinking of a different singular thought, and thereby a different mental event in the situation we are considering, the same causal process could have occurred. Nothing would need to be different inside the skin.

It therefore seems possible to conclude that there is an almost exact parallel to the case of substances in the case of events. What it takes to be a causal process is different from what it takes to be a thinking of a particular singular thought, and the one could have existed even if the other did not. Their non-identity follows by Leibniz's Law, even if they have the same location in space-time and the same causal properties.

A constitution view will run up against a number of problems, and one fundamental problem will be the one I indicated in section 1.9. The problem is how to single out the mental predicates that ought to be

considered as analogous to substance-sortals, in the sense of being predicates of such a kind that it is essential for an event which satisfies such a predicate actually to satisfy it to be the event it is. I found that a large number of mental predicates require that specific causal relations obtain between an event correctly described by these predicates and other events. An example is 'being a killing'. Taking such predicates as analogous to substance-sortals would have significant implications for the individuation of actions. It would seem to conflict with well-established and independently plausible views on action-individuation, like the Davidson-Anscombe view. It also seems to conflict with the intuition that the agent could have performed exactly the same action even if the victim survived.

If the argument against the identity-theory from singular thought theories is accepted as correct, then it can be regarded as an argument which establishes at least one kind of predicate as analogous to substance-sortals, i.e. thinkings of particular singular thoughts. For a thinker to satisfy such a predicate, he has to stand in specific causal relations to particular things or causal processes. The cross-world identity-conditions for such a mental event are seen as different from the cross-world identity-conditions for an underlying causal process. Identifying this kind of predicate, 'being a thinking of a particular singular thought', as analogous to substance-sortals, is based upon the arguments in support of the view that it is essential for a thinking of a singular thought which singular thought it is a thinking of. Nothing is said about other kinds of mental predicates, and the position remains neutral on issues in action-individuation.

It must be regarded as a strength of the present theory of event-identities, interpreted as a theory of causal processes, that it so clearly allows for the suggested modification, and is able to make precise sense of constitution-relations between events. The determinacy this view was able to bring to cross-world identity-conditions for causal processes, can easily be transferred to events that causal processes stand in constitution-relations to, because one has available a precise individuation of the causal processes that these events have to be caused by to be the thinkings of the particular singular thoughts they are thinkings of.

Such a constitution-view, developed from the case of demonstrative thoughts, can easily be extended to cover thinkings of thoughts which are expressed by general terms that are subject to a similar analysis as Russellian singular terms. I have natural kind terms in mind. One could, in such cases, develop a similar argument against the token-token identity theory. The basic principle is that a thinking of such a thought is essentially a thinking of the thought it actually is a thinking of. Suppose someone entertains a thought about elms on one occasion. The person has mastered the term 'elm' sufficiently well to be credited with such a thought. Let us suppose then that the environment he was raised in was just like the actual environment with one crucial difference: the trees called 'elms', which certainly looked and felt exactly like elms, had a different physico-chemical essence, and very different genetic structure. Let us further suppose that our favoured theory of thought says that the person in the counterfactual situation would entertain thoughts with different contents from the contents in the actual situation, when he entertained thoughts about elms. In the counterfactual

situation he would entertain thoughts about a different kind of tree, and even if he called those trees 'elms', we could not describe the content of his thoughts by using our term 'elm'.

When we then consider the occasion when this person entertains a thought about elms, this thinking is essentially a thinking of the thought in question. But when we consider the counterfactual possibility outlined above, we have a thinking of a different thought, and a different mental event. The question again becomes whether the physical event the identity-theorist wants to identify with the mental event could exist also in the counterfactual situation. On the present theory of causal processes there seems to be no good reason for excluding such a possibility. From this one might conclude that there is no relation of identity between the mental event in question and the underlying causal process.

We see that counterarguments to the token-token identity-theory can always be generated when contents of thoughts are essentially dependent upon the existence of specific causal relations. The present version of a constitution-view can leave it to one's favoured theory of thought to individuate contents and thereby determine the exact range of contents which are such that entertainings of them can not be identical to underlying causal processes. Such a theory of thought is again likely to draw a distinction between referring to an object and entertaining a singular thought about this object. There will be specific requirements upon entertaining a de re thought, which might be developed out of a specific interpretation of Russell's principle, or on independent grounds. The predicates analogous to substance-sortals will naturally be

identified with predicates which describe events as thinkings of singular thoughts, and not with predicates which describe events as utterances of sentences analysed as referring rigidly to specific objects or kinds, if this distinction between thinking and referring is drawn.

One might want to make analogous to substance-sortals a much broader range of predicates than that afforded by a theory of thoughts. For instance, one might want to think of 'pain' as such a predicate. I shall not here venture into the general problem of how to individuate the class of mental predicates describing events which are analogous to substance-sortals. My discussion of Kripke's argument in the case of 'pain', shows that it is far from obvious that if we single out a pain-event and an underlying causal process an identity-theorist wants to identify with this pain-event, we can have good reasons for believing that the pain-event could have existed even if the causal process did not, and vice versa. This means that it is hard to see how Leibniz's Law can be used in a direct, simple way to infer a non-identity. Someone might want to argue like this: with identity goes substitution in extensional contexts, and there are many predicates we can ascribe to a pain-event, which we are most unwilling to ascribe to a physical event. If there are substitutions in extensional contexts which we think are false or meaningless, but which the identity-theory makes valid, then we should not infer identity. A simple example is 'that pain was awful'. The predicate, 'being awful', can be claimed to produce a false or meaningless statement if predicated of a causal process. From this the non-identity between the pain-event and the causal process might be inferred. Another argument might be that, given access only to causal processes, there is no way to single out mental events whatsoever: there is no way so to individuate causal

processes that we can single out candidates for the causal processes which supposedly are identical to mental events. Such a line of thought has clear similarities to J. Hornsby's argument against the token-token identity-theory referred to in section 1.9. Hornsby's argument was that when we have many physical events which are equally good candidates for being identical with a mental event, we should not infer an identity. The present argument is that given only access to the causal processes, we have no way of singling out the candidates for being mental events among the causal processes. Hornsby concluded that her conclusion would have repercussions for Davidson's premisses, and opted for denying the Nomological Character of Causality. On the present view that premiss is reformulated to take the constitution-possibility into account. A different argument again is that the token-token identity-theory implies an independently objectionable mereological conception of events.⁴² What

⁴² J. Hornsby has in a recent article, 'Physicalism, Events and Part-Whole Relations', in E. LePore and B. McLaughlin (eds) (1986) pp.444-458, criticised mereological conceptions of events. This article appeared too late for me to take proper account of it. It is at present not clear to me whether her arguments are decisive, or what the right significance of her various arguments is. Her argument raises very large general problems in metaphysics, and I can in no way discuss them thoroughly. One large issue is whether the way identity-criteria for one kind of entity are given should provide a way of individuating and counting entities of this kind. For instance Quine takes our normal ways of individuating objects as given, learnt by learning the language, and the process of giving identity-criteria serves only to regiment what is already given. The explanatory aims of this latter process are quite minimal. (See my remarks about explanatory aims p.37-38.) The question is whether Quine's view, which is certainly also Davidson's view (see D. Davidson (1986) p.176) can be fully defended. If it cannot, and a theory of identity-criteria must have a very tight connection with our ways of individuating and counting entities, that will also have severe implications for the theory of event-identities given in Part 1. Further aspects of Hornsby's view are her arguments against event-fusions. It is not clear to me what the significance of those arguments is, if it is accepted that a theory of identity-conditions can have quite minimal explanatory aims. But I will make one remark. In the case of a souffle, it just is the eggs and cheese it is made of, and there is nothing recognized as a thing in ordinary language which is the fusion of the eggs and cheese distinct from the souffle. Still there is no identity between the souffle and what it is made of. Hornsby sees that her view is

is clear is that the arguments in this paragraph might provide motivation for a very general constitution-view, where the relationship between mental and physical events is generally modelled on constitution-relations.

Opposed to such a general constitution-view will stand the view that only cross-world identity-conditions as they are given on the general modified theory are relevant for questions of identity, and that true and informative identity-statements will make valid a large number of surprising inferences. The general constitution-view will have to argue that the cross-world identity-conditions for events given by this modified theory only give necessary conditions for identity, and that a number of specifiable additional conditions would have to be satisfied if we are to have sufficiency.

I shall let the official version of a constitution-view be what might be called the minimal theory of the domain of constitution-relations, which holds that we can infer non-identity and constitution-relations only when the cross-world identity-conditions, as they are given on the present modified theory, come apart. But the possibility of a general constitution-view must be noted. A full discussion of such a view will require a full discussion of a large number of problems in metaphysics, for instance about mereology, and also problems in the philosophy of

at odds with a nomological view on causation. But if this view on causation can be defended independently, we might be able to say that an action just is those neurophysiological events without having to say that it is identical to a fusion of events. We then think of this case as analogous to the souffle case. If the predicate 'being an action' is analogous to a substance-sortal, this view can be further defended. I find it plausible that 'being an action' is analogous to a substance-sortal, but I cannot argue that here, since it would involve me in a discussion of Hornsby's view that all actions are internal events.

mind, which I cannot presently undertake.⁴³

One further point about the present constitution-view ought to be noted. If the theory bases itself fully on Evans's theory of singular thoughts, as the favoured theory of thought, we get the following consequences. A particular mental event which is a thinking of a singular thought, let us call it A, is seen as constituted by a causal process B. It is not necessary, given only B, that A exists: it might have been a different cognitive event A1, or there might not have been a thinking of a singular thought at all (in the illusion-case), even if the subject takes himself to entertain a singular thought. Still, in the worlds where A exists, B exists, since it is argued that A and B have the same causes and the same effects. The interesting point is that this makes it impossible to know whether A exists given only that B exists. The non-reducibility of the

⁴³ One problem I have in mind is a puzzle T. Nagel has discussed. Nagel's puzzle is this. When we look at a morally relevant action from the agent's point of view, then the action is not something which merely happens, but something the agent produces. On the other hand, if one approaches the action as an event in the causal order, then it seems to be just a happening in the physical world, a link in a deterministic (or not deterministic) chain of events. Nagel claims about the action: 'No account of it as an event is satisfactory from the internal viewpoint of the agent doing it'. (T. Nagel: Mortal Questions, C.U.P, Cambridge, 1979, p.199) On a constitution-view the situation appears to be different. On such a view one is likely to say that no account of the action as a causal process can be satisfactory from the internal viewpoint of the agent. But if actions and their causal antecedents are not identical to causal processes, we have not given an account of the action and its causal antecedents as events by giving an account solely of causal processes. To give an account of them as events, we would have to single them out as the mental events they are. Among the causal antecedents of the action we are likely to find thinkings of singular thoughts about the objects acted upon, which are essentially entertainings of the contents they are thinkings of, and if 'being an action' is analogous to substance-sortals, we would have to single the action out as an action to give an account of it as an event. If this is right, it might seem as if the internal viewpoint of the agent is not lost when we give an account of the action as an event on a constitution-view. I shall not elaborate on this or other examples, and I am not claiming that Nagel's needs a metaphysical 'solution' of this kind; I am just making the claim that things might look interestingly different on a constitution-view.

essential properties of A to properties of B is evident from this point alone. Still it is very plausible that when all true physical statements about the person, his history, his nervous system, and his environment are fixed, then the class of true mental statements are fixed, even if there is no fixing of which physical statements are true from the class of true mental statements. This is a weak supervenience-claim that I shall not examine further.

CONCLUSION

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The alternatives facing the token-token identity-theory given the theory of event-identities in part I are now the following. One can take what I have called the classical Davidsonian line, which denies that any mental properties are essential properties of events. This approach is slightly dogmatic and for this reason unattractive from my perspective. But I will not deny that the position has an appealing simplicity.

If one does not want to take this line, then it may be difficult to defend the token-token identity-theory given recent theories about de re beliefs or singular thoughts. Of course one might challenge these recent theories themselves, but if they are accepted as correct, then they seem to be incompatible with the token-token identity-theory, given the theory of event-identities in part I and the further premisses I have discussed. This incompatibility must, if the necessary premisses are accepted, have repercussions for Davidson's three premisses in his argument to establish the token-token identity-theory. The minimal change in those premisses is to allow for constitution-relations between events.¹ Such a change does not challenge the main thrust of Davidson's three premisses. But it has a number of important consequences. First of all it will necessarily imply a complication and a reconsideration of how we conceive of the ontology of the causal relation, since two distinct events on this view might have exactly the same actual causal properties. If a cause is necessary and

¹ Of course this minimal reaction might not be the right reaction. It is likely to be the right reaction if Davidson's three principles are independently supported by good arguments.

sufficient for its effect and vice versa, then the constitution-view will imply that the descriptions which exhibit the cause as necessary and sufficient will apply to both a causal process and to a distinct (mental) event. In the latter case it will not apply in a straightforwardly predicative way. On this view one will have to be extremely careful in speaking about the cause if philosophical precision is needed.

The constitution-view will also have a number of significant consequences for traditional problems in the philosophy of mind. These consequences are presently unexplored, and I can not discuss them here, but it is a fascinating prospect.

Of course it is possible to dispute the theory of event-identities on which this reasoning is based. One position, which certainly is possible in theory, is the position that all events have their causes essentially, even if it is not essential that they have the effects they have. If such a line were accepted, it is extremely hard to see how a counterargument to the identity-theory in the manner of the argument given in section 3.1 could be produced. My comment toward the end of 3.1. shows why this is so. Arguments against the token-token identity-theory might still be given, but the arguments would then have to be of the kind given in support of a general constitution-view toward the end of 3.4.. I have not seen anything like a substantial argument in support of such a view, which amounts to a general essentiality of origin thesis for all events. I think some important intuitions might contradict such a thesis.

D. Davidson has in lectures given a conceptual argument for a strong historical dimension in his theory of radical interpretation. Davidson's

line of thought is this. Let us think that the lightning struck the tree in the quad, and by sheer cosmic accident an exact replica of me was produced. This organism would 'do' the things I would normally do, would utter sounds, apparently enter conversations, 'speaking' about the things, people and places I would speak about. Davidson's argument is that it would be wrong to use the rule of thumb and apply homophonic translation to this creature and ascribe it contents the way you would ascribe me contents, even if there would be absolutely no way of telling that it was not me if you did not know its origin. Davidson's view is that it would be wrong to ascribe contents to this creature because the causal connections I have to people, places, and things I speak about, would be completely missing. That these actual causal connections exist is considered by Davidson as essential if you are to be justified in ascribing the contents you ascribe to me.

I shall not question the correctness of this argument, or go into the details that would need to be considered to assess its correctness. I will stress that it is a thought-experiment concerning purely conceptual questions. The point of it in the context of a theory of radical interpretation is that both all the present dispositions to behaviour, grounded in the present physical make-up of the organism, and the external causal connections to items in the world, the history of the organism, are necessary if contents of the normal kind are to be ascribed. The ascription of content rests, on one side, upon the fact that my internal physical constitution does not break down in any way; any moment it does, ascription of content might get troublesome. It could, in case of internal physical breakdown or malfunctioning become impossible to approach me successfully as an interpreter, because I could

not be made sufficiently rational. On the other side the ascription of content rests on the fact that my actual history is similarly appropriate.

The way I would prefer to analyse this thought-experiment, is by noting the fact that external causal connections are seen as essential for there to be contents. Still the fact that these actual external causal connections exist is not, as such, necessary for the internal physical causal processes to fulfil dutifully the role they have to fulfil if there is to be content. The organism created by cosmic accident is an exact replica of me, and functions exactly like me, and would be described exactly as I am described as far as non-content involving descriptions are concerned. Given the theory of identity-conditions for causal processes given earlier, which says that causal processes do not have their actual causes essentially, we can understand Davidson's argument as saying that it is not sufficient for content-ascription that these causal processes which constitute my functional physical make-up exist. If there is to be genuine content it is also necessary that the organism I am have the causal connections to objects in the world I actually have. These actual causal connections are essential for describing mental acts correctly as entertainments of particular contents. On my understanding the very same causal processes which are correlates of my mental events could have existed even if their actual causal history was different from the one they have, but in such a situation, Davidson argues, they would not have been correlated with the mental events they actually are correlated with.

On this understanding, the argument points towards a certain essentiality

of origin for a number of cognitive mental events, and a similar essentiality of origin is hard to establish for physical events. It is easy to see how closely this fits the constitution-view I have outlined, and it further undermines the token-token identity-theory if the reasoning is accepted.

S. Kripke was the first to produce a really challenging argument against the token-token identity-theory. His argument was based on his views about identity and his new theory of reference. Kripke concentrated on sensation-cases and the explanation of cognitive illusions. In my view the argument has an extremely interesting structure, even if Kripke's own argument can not be said to be successful. But a more decisive argument with almost the same structure can be given in cognitive cases. The heritage from Kripke is striking, since it is a modified causal theory of reference which causes the deep problems for the identity-theory. The way causation has been stressed in a theory of content certainly owes a lot to Kripke's seminal work, and Davidson's argument, referred to above, is certainly influenced by Kripkean considerations. One might say that Kripke produced the structure which an argument against the token-token identity-theory must have, but concentrated on the wrong kind of case given his objectives. G. Evans's theory is a much more fully worked out theory of singular thoughts, but is certainly developed partly as a response to Kripke's ideas in the theory of reference. With Evans's theory of reference and singular thoughts to hand, we can see much more clearly what the real problem is for the token-token identity-theory.

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