

ON PROPOSITIONAL MEMORY

By

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TABLE OF CONTENTS

	<u>page</u>
ACKNOWLEDGMENTS	4
ABSTRACT.....	7
CHAPTER	
1. PROPOSITIONAL MEMORY	9
1.1 Introduction.....	9
1.2 The Concept of Propositional Memory and Its Importance	10
1.2.1 Various Memory Phenomena	11
1.2.2 Various Ways of Remembering	12
1.2.3 The Significance of Propositional Memory	17
1.3 Disposition and Occurrence.....	18
1.4 The Concept of Dispositional Propositional Memory	20
2. EXPLANATION BY PROPOSITIONAL MEMORY	23
2.1 Introduction.....	23
2.2 Explanation by Appeal to Propositional Memory	25
2.3 Singular Causal Explanation by Appeal to Propositional Memory.....	28
2.4 Explanation by Appeal to Dispositional Propositional Memory	33
2.4.1 Manifestation of a Disposition	34
2.4.2 What Is Conveyed?.....	37
2.5 Explanation as an Answer to a Why-question.....	42
2.6 The Structure of Dispositional Explanations	49
2.7 Explanatory Information by Dispositional Memory Explanation	54
3. CONDITIONAL ANALYSIS	58
3.1 Introduction.....	58
3.2 Dispositional Concepts and Explanation by Dispositional Propositional Memory.....	59
3.2.1 Deviant Causes	62
3.2.2 Semantic Difference	64
3.2.3 Ceteris Paribus Clause.....	67
3.3 Causal Ground and Lewis's Scheme	70
3.4 Ontological Questions versus Conceptual Questions	74
3.5 Tasks and Remarks	78
3.5.1 Metaphysics of Causal Ground	79
3.5.2 Concepts of Manifestation.....	81
4. RETAINED KNOWLEDGE.....	86
4.1 Introduction.....	86

4.2 The Implication of Knowledge.....	87
4.2.1 Propositional Memory as Prima Facie Justified Belief.....	88
4.2.2 Remembering that <i>p</i> without Believing that <i>p</i>	90
4.2.3 Defeaters.....	98
4.2.4 Standing Condition?.....	103
4.3 Having Known that <i>p</i>	105
4.4 Retained Knowledge View.....	110
4.4.1 ‘Storing’ Knowledge.....	111
4.4.2 Retention of Knowledge.....	114
4.5 Retained Knowledge versus Epistemic Ground.....	117
4.6 Retention of Knowledge, Traces, Causal Explanation.....	125
4.6.1 Memory Traces.....	125
4.6.2 Dispositional Memory Explanation Again.....	128
5. MANIFESTING PROPOSITIONAL MEMORY.....	130
5.1 Introduction.....	130
5.2 The Disposition to Remember.....	131
5.2.1 Occurrent Use of ‘Remember’.....	133
5.2.2 Occurrent Memory Expressions.....	136
5.2.3 Various Descriptions of Occurrent Propositional Memory.....	137
5.2.4 Phenomenology of Occurrent Memory.....	141
5.3 Dispositional Memory Explanation and Occurrent Propositional Memory.....	150
5.3.1 Essential Ambiguity.....	153
5.3.2 Action and Motivation.....	154
5.3.3 Concurrence.....	157
5.4 Triggering Dispositional Propositional Memory.....	161
5.5 Propositional Memory and Retained Knowledge.....	163
5.5.1 Knowledge without Memory.....	164
5.5.2 Conceptual Difference.....	167
6. SUMMARY.....	172
LIST OF REFERENCES.....	176
BIOGRAPHICAL SKETCH.....	181

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In certain contexts, ‘remember’ is used to express a dispositional concept. When we say, “A remembers that such and such,” we often mean to be talking about a certain disposition of A’s. The main purpose of my project was to clarify the dispositional concept expressed by these uses of ‘remember’, which take a sentential complement, and which I call *dispositional propositional memory*. This sort of memory plays many important roles in our lives. My project aimed to explicate the concept through the analysis of one such role it plays when we explain occurrent beliefs and other aspects of one’s psychological life, especially occurrent states, by appeal to it.

Traditionally, dispositional concepts are analyzed in terms of a subjunctive conditional statement specifying how the disposition is manifested. Commonsense understanding of the concept of dispositional propositional memory tells us that it is manifested in various ways. One recalls that p , or one is reminded that p , etc., and we expect that there will be some differences between different episodes in how this is manifested in one’s conscious mental life. The naïve picture of the disposition as characterized by a subjunctive conditional, however, was revealed by further work in philosophy in the late 20th century to be inadequate to characterize what it is to have a disposition. It is broadly accepted nowadays that in order for one to have a disposition,

he must possess a causal ground of the disposition. The main goal of my project was to apply this new conceptual framework to the analysis of dispositional propositional memory. I argued that knowledge which is retained from the past causally grounds dispositional propositional memory. As a result, my analysis was presented as a revision of a rather classical view, namely, the view that to remember that p is to retain the knowledge that p . But this does not entail the mere identification of the two important cognitive notions, retained knowledge and dispositional propositional memory, as was often assumed in the traditional picture.

CHAPTER 1 PROPOSITIONAL MEMORY

1.1 Introduction

Memory plays a crucial role in our lives. It is unimaginable what life would be like without it. We have many words which have something to do with the faculty of memory: ‘remember’, ‘recognize’, ‘mind’, ‘forget’, ‘recall’, ‘memorize’, etc. The crucial role of memory can be recognized in the broad range of human activities which we explain by appeal to it. For instance, I am writing this dissertation now only because I remember a host of things. In writing this, I have had recourse to, and relied on, my memory of words, word usage, grammar, the arrangement of my keyboard, how to use MS-WORD, and so on. What explains how it is that I have this facility in using the keyboard to produce words and sentences? It is because, as we say, I learned how to type and remember what I learned. Why am I writing the dissertation? Because (among other things) I remember that it is due to be defended soon. And so on. Let us call all of those phenomena concerning the faculty of memory ‘memory phenomena’.

Among the wide varieties of expressions concerning memory phenomena, ‘remember’ must occupy a central position. Reflecting the wide varieties of memory phenomena, this paradigmatic memory word takes various different grammatical forms. The main topic of this project is a particular concept expressed by ‘remember’ in a particular grammatical form, and the purpose is to analyze that concept and illuminate its important role in our lives

The verb ‘remember’ can take a sentential complement as, for example, in ‘Jake remembers that Sosa hit a home run’. This project is concerned with this particular use of ‘remember’. For convenience, I introduce a technical term ‘*propositional memory*’, to designate the sorts of state attributed by sentences of this form [R]:

[R] *x* remembers that *p*.

When I speak of propositional memory, I speak of memory of this type. I will also use this phrase as a count noun, and speak of propositional memories and a propositional memory. I will also allow that it may take a sentential complement to specify the content of the propositional memory, as in ‘John has a propositional memory that p ’. Its truth conditions are fixed as follows:

For any subject s , time t , s has a propositional memory that p at t iff_{def} s remembers at t that p .

I will argue shortly that there are at least two different, but interdependent concepts expressed by ‘remember’ used in the form $[R]$. The main topic of this project is one of those two concepts of propositional memory.

This chapter is devoted to several preliminary issues. Despite the widespread use of the expression, people—including philosophers—tend to confuse propositional memory with other, adjacent memories. Thus, let us begin the discussion by identifying the concept of propositional memory in general in our ordinary practice and clarifying its significance. Then we will proceed to two different concepts of propositional memory by subdividing propositional memory into two different kinds.

1.2 The Concept of Propositional Memory and Its Importance

I start the discussion by answering the following two questions. First, do propositional memories constitute a particular kind of memory phenomenon? Is there any prominent difference between propositional memories and other types of memories? Second, why should we work particularly on propositional memory among all the others? What is particularly interesting about it?

1.2.1 Various Memory Phenomena

In remembering, we have recourse to a preservative function of the mind. The mind preserves things.¹ When I am typing a sentence, such as ‘aardvarks stink’, my spelling, my grammar, the precision of my typing, etc. are grounded in the preservation of something I learned, including the correct spelling of those words, the correct grammar of an English present-tense declarative sentence, which keys of my keyboard are assigned which letter, and many other things besides. This ‘information’ is retained by my mind. Nobody seriously denies that the primary function of ‘memory’ is to preserve information in the mind for future use. As John Locke puts it (rather loosely as it will emerge), “This is memory, which is as it were a storehouse of our ideas” (1997, 147).²

However, there are a variety of ways in which this preservative function may manifest itself. This is reflected in the variety of expressions for describing what is involved in various memory phenomena. For instance, think of the following two different cases. Suppose I am writing ‘Aardvark’. In the first case, I am wondering whether ‘Aardvark’ needs two initial ‘A’s, and I write two strings of letters, ‘Ardvark’ and ‘Aardvark’. While comparing them, it is still not clear to me, but suddenly I am struck with the thought that the latter is the correct spelling. In the second case, I simply write ‘Aardvark’ without any hesitation, and go on. Nothing strikes me as correct or incorrect. It cannot be clearer that what is stored in my memory and what is fetched from the storehouse is the same in both cases; namely, the spelling of ‘Aardvark’. Nevertheless,

¹ When I use the expressions ‘the mind’ or ‘my mind’ and variants, they are to be understood as shorthand for ‘the sum total of our/my mental faculties’ and the like, rather than taken seriously as a count noun of a type of peculiarly mental object.

² Of course, the present notion of memory is not the sole concept signified by the word, ‘memory’. For instance, we often refer to the information stored in such a storehouse by ‘memory’. Classifying wider varieties of the concept of memory used in the field of psychology, Tulving (2000, 36) suggests the present notion of memory should be called rather ‘memory store’.

what happens in those cases is plainly different, and hence the ways we describe those two cases may be different. I can say in the first case that I recall the correct spelling, but I cannot properly say the same thing in the second case.³ However, I can say that I remember the correct spelling in both cases. Clearly, then, what correct descriptions there are of a memory phenomenon may differ depending on its character. And these different descriptions clearly pick out different ways that the preservative function of memory is expressed, and so in effect different kinds of memory.

1.2.2 Various Ways of Remembering

I turn now to how we use the verb ‘remember’ in particular in connection with memory phenomena. ‘Remember’ is arguably the most common expression used to describe memory phenomena. Consequently, most philosophical discussions about memory concern the use of this verb. However, ‘remember’ is used in a variety of different ways. We can say, “He remembers the girl,” “The cat remembers where the water bowl is,” “I remember swimming 500 yards,” “That man remembers how to catch a fish,” “Everybody remembers that Bush won the election,” etc. The object of the verb can be a term for a concrete thing, an abstract thing, a proposition, a belief, a face, a place, an experience, etc. And it can be about a thing in the past, in the present, or even in the future (e.g., “I remember that we are going to be in Tokyo in October”).

We define propositional memory in terms of one prominent form of ‘remember’, namely, the form [*R*]. This is bolstered by, of course, the intuition that when a use of ‘remember’ takes a sentential complement as its grammatical object, as in “He remembers that the president looks like a monkey,” it is used to express a particular type of memory phenomenon. However, one and the same memory phenomenon may be describable in various different ways. When I say, “I

³ We will discuss the concept of recalling (recollection) later in section 5.2.

remember that that is the correct spelling of ‘aardvark’,” I may also correctly say, “I remember the correct spelling of ‘aardvark’,” and the two descriptions might even cite the same memory phenomenon. Hence, one might wonder why we should suppose that the form [*R*] marks a particular class of memory phenomenon.

This suspicion arises simply from overlooking the canonical status of descriptions in the form [*R*]. No single expression can describe the same memory phenomenon describable in terms of the form [*R*], except insofar as it codes for the canonical form. For example, suppose someone asks me who the best hitter in the Major League history is, and I immediately answer, “Pete Rose!” In this case, we can safely say that the same claim is expressed by a sentence in the form [*R*], as “I remember that Pete Rose is the best hitter in the Major League history.” On that occasion, I certainly remember Pete Rose. But what is meant by my remembering Pete Rose in that case seems to be that I remember something *about* Pete Rose. But this must be another way of saying that (for some ‘such and such’) I remember that Pete Rose is such and such. If I have no particular thing about Pete Rose in mind, I wouldn’t say that I remember something about Pete Rose.⁴ Thus, as in the above case, sometimes we talk about someone’s propositional memory without using the form [*R*]. But, it is only when we are presupposing that what is remembered has propositional content.

Well then, does the use of ‘remember’ in the form [*R*] alone occupy such a canonical status? Is propositional memory ultimately the only type of memory phenomenon expressed by ‘remember’ in any grammatical form?

No, it is not always possible to paraphrase a use of ‘remember’ in the form [*R*]. Think of these three different types of grammatical objects which commonly appear after ‘remember’:

⁴ Of course, I might remember Pete Rose himself, if, for instance, I saw him before. But it is obvious that I do not mean it in that case.

- (1) John remembers *how to swim*.
- (2) John remembers *nearly drowning*.
- (3) John remembers *his old home*.

The grammatical object in (1) is a how-to clause signifying a way of acting. Traditionally this type of sentence has been considered as marking a particular type of memory phenomena, which is typically called habit memory. In (2), ‘remember’ takes a gerund (or a gerund phrase) as its grammatical object. Here one remembers what it was like. This is also considered as marking a particular type of memory phenomenon, which is termed perceptual memory by Broad (1925, 223).⁵ In cases like (3), the grammatical objects are simply a noun (or a noun phrase).⁶ In the following, for each type usage of ‘remember’, I will show that these expressions cannot be reduced into the form [R].

The first case. Suppose John used to live in a coastside town, and play on the beach everyday. He learned how to swim, although he did not learn it from any particular person or thing explicitly. However, since his family moved to North Dakota, he has had no chance to swim. Years later, one summer, his family travels to Florida, and visits St. Augustine beach. It is the first time he has seen the ocean since he was a child, so he is not confident about his swimming skills. But as soon as he dives into water, he is swimming as smoothly as he used to. In this case, we can say, “John remembers how to swim.” But is this a matter of propositional

⁵ Contemporary philosophers and psychologists broadly accept that ‘remember how’ marks a particular kind of memory. Russell (1921, 98), who was one of the earliest advocates of this distinction, regards only the latter as “true” memory. In addition, philosophers and psychologists, by and large, agree with the two sub-classes of this true memory, in spite of the varieties of their terminology, e.g., Tulving’s episodic memory and semantic memory, Ayer’s distinction between factual memory and memory of an event, Martin and Deutscher’s two different types of ‘remembering that’, Pollock’s division between propositional memory and personal memory. See Tulving 1983, Ayer 1956, Martin and Deutscher 1966, and Pollock 1974.

⁶ I do not intend that these different grammatical structures correspond to different types of memory phenomenon. In fact, (3) is normally taken to be ambiguous. See Malcolm (1963, 214-219). I focus here however on one reading to make my point.

memory John has? It might be the case that John has some related propositional memories, for instance, he remembers that he has to move his arms and legs in such and such a way. Nonetheless, it is utterly implausible to insist that this is what we attribute to John in saying, “John remembers how to swim.” For, as Ayer (1956, 150-151) correctly remarks, if John is significantly helped by such a propositional memory, we become more reluctant to accept that John remembers how to swim. But then, what proposition can capture the content of the memory we attribute to John? It is unclear, at best.

The second case. When John was 2 years old, he nearly drowned. However, because of the intense fear he had felt then, his memory about this unfortunate incident has been suppressed. Thus, from then to now, he has not recalled that he once nearly drowned. One day, he sees the movie *Titanic*. Seeing the climax scene where Jack is sinking into the water, John is suddenly overwhelmed by an intense fright and vivid feeling of being below the water and struggling for breath. John has no idea why he is overwhelmed by fear and these images. But suppose in fact it reflects how he felt when he nearly drowned, and the movie prompts his suppressed memory to surface again. In such a case, it seems legitimate to claim that he remembers nearly drowning, even if he doesn't realize it. On the other hand, what propositional memory does he have then? If he were to have a propositional memory, he must remember that he had nearly drowned. But this is very unlikely given his ignorance of the fact.⁷ But what else? There isn't any plausible candidate. After all, no expression in the form [*R*] can describe the same memory phenomenon as that we pick out here with ‘He remembers nearly drowning’.⁸

⁷ This point indicates the close connection between a propositional memory and the corresponding propositional knowledge. This connection will be the primary subject of chapter 4.

⁸ This type of example is originally presented in Malcolm (1963, 213-214) and Martin and Deutscher (1966, 167-168) However, Malcolm draws the opposite conclusion. Criticisms of Malcolm's argument can be found in Saunders 1965. Indeed, Malcolm takes back the claim in his 1977 book. See Malcolm (1977, 16n9).

The third case. When John was 3 years old, he and his family moved to a rural area in Japan. They lived in a traditional Japanese house and in its backyard there was a beautiful traditional Japanese garden with a small pond. John's parents loved the place very much, but John hated it simply because he wanted to go back to the States. Fortunately for John, they came back to the States after a year. And John has just not thought of the house and garden ever since. 50 years have passed and John has almost completely forgot his infancy. Indeed, he does not remember even that he used to live in Japan. One day, when he is reading a gardening magazine, a picture in the magazine strongly attracts him. It is a picture of an old traditional Japanese house and a beautiful Japanese traditional garden with a small pond. John certainly feels a sense of familiarity in looking at the house and garden in the picture, but he has no idea about why he is so attracted or why feels it looks familiar. Weeks later, John talks about his experience to his mother, and shows the picture to her. She is stunned. It is a picture of their old lovely house and garden. Considering this scenario, we are inclined to say that John remembers his old home. But it is very unclear that he has any propositional memory about the home. It is possible that it turns out that he later comes to remember that he lived in the house, or something else about the house. But having such a propositional memory is certainly not necessary for him to remember his old home. And no particular propositional memory seems to be necessary for his remembering his old home. Thus, it seems possible that John remembers his old home while he has no propositional memories about it. Thus, of course, there is no expression in the form $[R]$ which can describe the same memory phenomenon.⁹

⁹ Here I do not claim that this type of memory constitutes an irreducible class of memory phenomena. One possible suggestion is that it belongs to the class of experiential memory, although the experiential content of the memory is deteriorated.

In conclusion, there are evidently various different kinds of memory phenomena, and only a sub-portion of them are propositional memories. Sometimes memory phenomena are describable exclusively by the locutions we associate with propositional memory, and other forms do not apply. Sometimes other forms apply, but not the canonical form for propositional memory. An analysis of propositional memory, then, is an analysis not of every form of memory, but of one sort only.

1.2.3 The Significance of Propositional Memory

Let us move on to the second question. Why is propositional memory particularly important? The importance is particularly manifest if we think of the explanatory role of the concept of propositional memory. A great variety of human activities, mental or physical, are explained by appeal to propositional memory. But why does propositional memory occupy such a prominent status? This will be answered by our discussions in the following chapters, but as a quick preview, let me motivate the project by making one brief remark about the prominence of the propositional memory

Possession of a propositional memory is specially connected to the preservation of some corresponding propositional knowledge. One of the most important roles of memory in our intellectual life is to preserve what we know (and thereby it preserves (some of) what we believe as well). It is hardly imaginable that we could be more than minimally rational if we lost the capacity to retain knowledge. Memory is to this extent an important background condition of our having much knowledge at all, any knowledge that is acquired before the present moment—in other words, it is a precondition of the operation of ‘the realm of reasons’. In this regard, the close connection between propositional memory and propositional knowledge cannot be clearer. You know that Napoleon died in 1821, and you retain this knowledge only if you later remember that Napoleon died in 1821. The variety of content that propositional memories can have extends

at least as far as our knowledge. The importance of the realm of reasons, the capacity to develop reasons for and against things, to come to have reflectively justified beliefs and knowledge, cannot be overemphasized. If we do not understand this, we do not understand what is most important and distinctive about us. Thus, one reason for an interest in the analysis of propositional memory is its role as a fundamental precondition for the realm of reasons.

1.3 Disposition and Occurrence

Remembering something has been typically understood in terms of the resurrection of stored information. Locke (1997, Book II, chapter X, §2) and Hume (1978, Book I, part I, section III) talked about how a stored idea comes up to the conscious part of our mind. They seem to have had in mind an occurrent episode of mental activity in which some past thought or idea is once again presented directly to the mind. This dominant model captures one sort of propositional memory; an occurrent remembering. However, it doesn't exhaust all cases.

Suppose I was hit by a foul ball when I went to Dodger stadium to watch a game. Now, while talking to my friend about the Dodgers, suddenly the pain of being hit—what it was like to have the pain—comes back to me. We accept that I remember the pain (or remember feeling the pain) of being hit. In this case, what is resurrected is straightforward: it is (the feeling of) the pain. And, it is preserved by memory, as Locke would say that it is due to “a power ... to revive perceptions” (1997, 148). We say that I remember the pain, because my mind actually fetches the feeling of the pain from the storage closet of memory. On the other hand, think about when I am asleep. Do I remember the pain while sleeping? In a sense, yes. I have not forgotten it. What do we mean by that? We mean that in so far as I was disposed, even while asleep, to fetch from the storage closet of memory the feeling of the pain in the sense just being considered, in appropriate conditions, I do have the feeling of that pain in memory—I remember it.

Here is another case. Suppose your mother visits your home one day in the summer. It is the first visit since the last Christmas. Your son who is 2 years old has finally started speaking, and learned the word, ‘nana’. Suppose that when he first sees your mother, he does not look as if he recognizes her, and acts in a rather distant manner. But after a while, he starts acting as if he is familiar with her, and finally says, “Nana,” while pointing her. Then you say to your mother, “Hey, he remembers your face.” In this case, what you mean by ‘remember’ is something occurrent. But consider this story. Suppose your mother calls you before the visit. She is worrying about whether your son has completely forgotten her face. So you say, “Don’t worry. He still remembers your face.” In this case, you do not speak of any occurrent event, but of what would occur if he saw her face.¹⁰

Traditionally, this difference is explained in terms of the notions of occurrence and disposition.¹¹ An occurrent mental episode is conscious, in a broad sense. A dispositional state has the potential to produce an occurrent mental episode. The legitimacy of this interpretation is granted if we pay attention to the interchangeability of the expression ‘can remember’ with ‘remember’ without changing the meaning in such a case. I remember the pain, in other words, I can remember the pain, because I still have the ability to recall the feeling of the pain.

The distinction between occurrent remembering and dispositional remembering obviously applies to cases of propositional memory. Suppose that I am wondering whether I went to the bathroom this morning, and suddenly I come to realize that I did not. In this case, I occurrently remember that I didn’t go to the bathroom this morning. On the other hand, suppose I am in court and asked to testify in support of my wife’s alibi concerning where she was one morning. To

¹⁰ I owe this example to Eugenio Zaldivar.

¹¹ Sorabji (1972, 1-2) points out that Aristotle already drew this distinction.

reveal a gap in her alibi, a prosecutor asks me, “You didn’t watch her all the time, did you? For instance, didn’t you go to the bathroom?” I simply testify that I watched her all the time. Later, in court, my wife’s attorney tells the jury, “Her alibi has no gaps. Her husband remembers that he didn’t go to the bathroom in that morning!” Obviously, I did not occurrently remember that I didn’t go to the bathroom, but that is not what the attorney is talking about. He is talking about my potential for recalling what I didn’t do, for I certainly could depict the situation on that morning truthfully and testify that I didn’t go to the bathroom that morning. In this sense, my propositional memory that I didn’t go to the bathroom is dispositional.

1.4 The Concept of Dispositional Propositional Memory

The main topic of this project is the concept of dispositional propositional memory. The importance of dispositional propositional memory is patent: it occupies a quite important status in our intellectual life. First of all, it is undeniable that ascription of dispositional propositional memory is common and it might even be commoner than ascription of occurrent propositional memory. This seems to be a natural consequence of the fact that the most of our knowledge is what we dispositionally remember. Just think about how many occurrent thoughts you have right now. It must be only a few relative to all the things you want, desire, know, remember, etc. Hence, at any given time, we have at most a relatively small number of occurrent propositional memories. But how many things do you think you know now? You would say many thousands or even more, if you do not suffer amnesia. You know that you have a house, that you have a job, that you drove a car today, et cetera, et cetera. None of these pieces of propositional knowledge has to be occurrently entertained, but may simply be stored as propositional memories. Furthermore, a large part of our propositional knowledge is lost without being entertained even one time, once it is acquired.

Dispositional propositional memory is deeply rooted in our lives. This plain, but easily overlooked fact, cannot be dismissed when we glance at things explained by appeal to one's dispositional propositional memory. Many events are explained by appeal to one's propositional memory. For instance, when it strikes one that π is an irrational number, when one cries out, "Bush won," when one is groping in his pocket for a quarter, and etc. Some explanations of those events are given by appeal to occurrent memory phenomena. However, in the next chapter, I will start my project by demonstrating that a significant portion of them are actually explained by citing dispositional propositional memories.

The present considerations show the importance of dispositional propositional memory, but, of course, it does not discourage an approach to the dispositional concept by means of an analysis of occurrent propositional memory. As a matter of fact, traditional discussions about memory are centered on occurrent remembering, and dispositional memory is typically treated as a mere disposition to it.¹² In this regard, Shoemaker seems right when he says,

Memory theorists often suppose that this present tense use of "remember" is a secondary use of the word, and that to say that someone remembers in this sense is simply to say that if certain conditions were satisfied (for example, if he were asked certain questions, or gave thought to certain matters), he would remember in what is thought to be the primary sense of the word "remember," namely, a sense in which "He remembers" (or perhaps "He is remembering") reports a mental occurrence (a mental act or process). (1967, 271)¹³

I do not defy the intuition behind such a simple-minded approach to the dispositional concept—the intuition that to have a dispositional propositional memory is to be disposed to the corresponding occurrent propositional memory. As I will discuss in chapter 5, in essence, my

¹² Pollock (1974, 195) seems to think that this is partly because we are interested primarily in occurrent knowledge state.

¹³ Shoemaker cites Broad (1925, 222-223) as an example. When Locke characterizes memory as an ability "to revive" (1997, 148) ideas, he seems to go along with this view. As Munsat 1979 points out, Martin and Deutscher go along with this line. They say, "It merely reflects the difference between remembering and the ability to remember. Since understanding of such a general ability is immediately dependent upon understanding of actual occurrences of remembering, we concentrate our attention on an analysis of the latter" (1966, 166).

approach goes along with this intuition. Nonetheless, my approach to the concept of dispositional propositional memory does not go through an analysis of the concept of occurrent propositional memory.

This is primarily because I suspect that such an analysis might fail to capture the tight relation, though it does not amount to identity, between the concept of dispositional propositional memory and that of knowledge. Psychologists and philosophers deeply influenced by psychological studies suppose that to remember that p is nothing but to know that p .¹⁴ I believe that it is naïve if this statement is considered as expressing the conceptual connection between knowledge and propositional memory sufficiently. But we must grant that it seizes a fragment of the truth. On the other hand, an occurrent event of remembering that p is a particular type mental event. If to have a dispositional propositional memory that p is to have a mere potentiality for this particular event type, what is the connection between knowledge and dispositional memory? A satisfactory analysis of the concept of occurrent propositional memory must somehow capture its connection to knowledge. Maybe it is a manifestation of knowledge or maybe something else. In any case, if an analysis takes dispositional propositional memory to be a mere potentiality to such a mental occurrence, no matter how it is connected to knowledge, I worry that such an analysis represents the connection between dispositional propositional memory and knowledge to be rather indirect. We can circumvent this worry by weaving the concept of knowledge directly into the analysis of the concept of dispositional propositional memory. By so doing, we can suitably elucidate the concept in the light of its connection to knowledge.

¹⁴ Tulving says, “It is ‘semantic memory’ that in retrospect seems to have represented a less happy choice. Its connotations are simply not quite right for the realm of phenomena to which it is suppose to refer. In many ways a better expression would be ‘knowledge of the world’, which indeed has been used by many writers” (1983, 28). But to be fair to Tulving, he is not committed to a naïve understanding of the concept of propositional memory.

CHAPTER 2 EXPLANATION BY PROPOSITIONAL MEMORY

2.1 Introduction

I start this project with investigation into a relatively inconspicuous phenomenon concerning one's propositional memory. The topic of this preliminary chapter is a type of explanation by appeal to one's propositional memory. Reflecting the variety of memory's roles, propositional memory explains a vast variety of things. Why did George return to home? Because he remembered that he had to take a pill. In most cases, explanation by appeal to propositional memory appears to be a kind of causal explanation of an agent's behavior in terms of his psychological states. The general form is: so and so acts in such and such way because of these particular antecedent psychological states of his. However, this project begins with investigation into an interesting type of explanation which involves not the relation of propositional memory to behavior, but to other psychological states/events. It is a case in which one's having a particular type of propositional attitude toward the proposition that p is explained by his dispositional propositional memory that p .

Why are we interested in this particular type of explanation by appeal to propositional memory? It is primarily because the structure of such an explanation shows the important conceptual bearing the dispositional concept of propositional memory has on other notions.

The first step of this introductory chapter is to address the explanatory role of dispositional propositional memory in relation to a certain type of mental episode. In the next two sections, we will discuss the conceptual connection between the explained psychological states/events and propositional memory in such an explanation. What attracts our interest is that the structure of the explanation cannot be captured by the simple model of explanation of an effect by a cause of it, and thus the relation between explained psychology and explaining memory cannot be

understood in terms of a simple cause-effect model. This part is devoted to an investigation into the question of what relation between explained psychological states/events and dispositional memory grounds the form of explanation. As we will see, we will reach the conclusion that the explanation is of the type which Ryle (1949, 88-89) found and Hempel (1965) calls a dispositional explanation, that is, an explanation by appeal to a dispositional state. And I will argue, along with Hempel's traditional approach to dispositional explanation, that what grounds the explanation is the fact that explained psychological states/events manifests dispositional propositional memory.

This will lead us to the second, more important question. How is citing a dispositional propositional memory explanatorily valuable in that form of explanation? If the structure of an explanation does not conform to the model of a simple causal explanation, the explanatory value of citing the dispositional propositional memory is not simply the information about what causes the explained psychological event/state. So what fills in this gap? In the later half of this chapter, we will tackle this question. Through careful examination, we will find an answer to this question in what information is actually conveyed by such an explanation: citing a dispositional propositional memory informs us of the condition in which the explained psychological event/state is caused. This discovery will guide us to the complex structure of the concept of dispositional propositional memory which is discussed in next chapter. There we will try to encapsulate the basic structure of the concept in an analysis which incorporates every element enabling the explanation.

The first task of this chapter is to show that there are cases in which psychological events are explained by appeal to dispositional propositional memory. Then, we will move on to explore how such a dispositional explanation is structured. There, following Hempel's approach

to dispositional explanation, I will establish these two claims; first, the explanandum event is a manifestation of one's having the propositional memory as a dispositional state, and second, the information conveyed in such a dispositional explanation is about how the explanandum event is caused.

2.2 Explanation by Appeal to Propositional Memory

Let us start by describing the sort of situation in which I am interested. Suppose Bill took a geography course in college. In the course, Bill gave a presentation on Northwest Africa, and he explained that the capital city of Togo is Lome. A couple of months later, he took the final exam for the course. One question on the exam was: "The capital city of Togo is Lome. True or False?" When he read this question, he immediately accepted that the answer was "True." Now, imagine someone asking why Bill accepted that the capital city of Togo is Lome. A natural response would be: "Because he remembered it." It seems that this answer appropriately explains why Bill accepted that the capital city of Togo is Lome, even if it is not surprisingly informative.¹ For the sake of simplicity, let us call an explanation by appeal to propositional memory an R-explanation. The explanation in the present scenario is, of course, an R-explanation.

Notice several important things about this example. First, one might wonder about the concept expressed by the verb 'accept' here. The verb is supposed to cite an event of Bill's accepting in this scenario, although sometimes the same verb is used to cite a state of acceptance.

¹ It is important to remark here that a sentence of the same type in a similar context can be used for a non-explanatory purpose. For instance, suppose you do not know the detailed story, so that you do not know that Bill actually accepted that the capital city of Togo is Lome. But if you know that Bill marked "true" on that question, and that he gave the presentation on North Africa before, you may infer that Bill must have remembered that the capital city of Togo is Lome. So, you may want to say, "Bill accepted that the capital city of Togo is Lome, because he remembered it." In such a context, you do not explain Bill's acceptance by appeal to his propositional memory, but rather justify your claim that Bill accepted it. This is not the type of use I am concerned with in this paper.

I do not enter into the semantics of ‘accept’ here. But I suppose that there was some change in Bill’s mind when he read the question, and a quite common use of ‘accept’ is to cite such a mental event.² Thus, it is reasonable to presume that the expression, ‘Bill’s accepting that the capital city of Togo is Lome’, is used to cite that event in Bill’s mind. (For the sake of brevity, hereafter, I refer to this particular mental event—Bill’s accepting that the capital city of Togo is Lome—by ‘Bill’s accepting the proposition’ or ‘Bill’s acceptance of the proposition’.) But it is very important to note that I do not commit myself to the claim that such an event allows no descriptions other than ones in terms of ‘accept’. Arguably the same event is described in a variety of ways; e.g., ‘It appeared to Bill that the statement is correct’, ‘Bill believed that the capital city of Togo is Lome’, and etc. Indeed, as it will be discussed in the following chapters, a quite similar explanatory context may be specified by means of some of those other descriptions.³ For example, we may instead think of a case in which Bill was struck by the thought that the statement in the question is true, when he read it, and nonetheless we can provide virtually the same argument as I will propose below.

Second, it is possible that Bill reaches the same conclusion, thereby accepts, that the capital city of Togo is Lome by reasoning in the same setting. For instance, he may have known that Togo used to be a colony of France, and may have thought that the word ‘Lome’ looks like a French word, and thus inferred that, and thereby accepted that, the capital city of Togo is Lome. In such a case, it would not be appropriate to say that Bill remembered that the capital city of Togo is Lome. But no type of inference, manifest or tacit, is involved in the process of Bill’s accepting in the present scenario. Quite often we accept something in such a way. For instance,

² Cohen seems to take this view, when he says, “But in my sense to accept that *p* is to have or adopt a policy of deeming, positing, or postulating that *p*.... Whether or not one assents and whether or not one feels it to be true that *p*. Accepting is thus a mental act (as what was called ‘judgement’ often used to be)” (1989, 368).

³ See chapter 5.

one day your cell phone rings. As soon as you check the caller ID, you immediately accept that the number is your parents' home phone without any inference.

Third, following the traditional terminology, let us call a token use of a statement to express an explanation an 'explanans', and a token expression expressing the occurrence of an explained event an 'explanandum'. Further, by 'explanandum event', I mean an event to be explained. In the present scenario, the explanandum event of the R-explanation is Bill's accepting that the capital city of Togo is Lome. The explanandum of an R-explanation need not cite an event. Something else, for instance, a state, may also be explained by an R-explanation. For instance, we may explain someone's knowledge by appeal to his propositional memory. However, in the following, I will mainly focus on the type of R-explanation whose explanandum is about an event's occurrence. Indeed, this focus makes an important difference, for the structure of an R-explanation of an event's occurrence uncovers an important aspect of the concept of dispositional propositional memory. Any other type of R-explanation, say an R-explanation of a state, does not share the same feature. We will discuss this in section 2.4.

Fourth, an R-explanation might be given for any type of event. For instance, an event of a meteor's striking may be explained by someone's having a propositional memory (though, such an R-explanation would be extremely rare). However, in the present scenario, the R-explanation is given to explain a particular type of mental occurrence, namely, one's accepting a proposition. This has particular importance, since such an R-explanation is paradigmatic. One's remembering that p normally suggests his affirmative stance on the proposition that p , his accepting that p . However, there are cases in which an R-explanation is given to explain somewhat abnormal situations. In fact, in a certain setting, one's rejecting the claim that p may be prima facie explained by his remembering that p . My discussion in chapter 4 will reveal why such an

explanandum event does not accord with the standard structure, and thus is atypical. But it is important to note here that the present scenario is of a typical case of explanation by propositional memory in regard to its explanandum event.

2.3 Singular Causal Explanation by Appeal to Propositional Memory

One way of explaining an event is to specify a cause of it. If a child asks his parents why he was born, they might say, “It is because we loved each other.” Many explanations are given by conveying information that helps us identify a cause of the explanandum event. If an R-explanation is of this kind, we can simply say that an R-explanation is a causal explanation. There is something right in this thought with respect to the present case. But as it stands it is still enormously dissatisfying. For evidently there is not just one kind of information that is conveyed about the causal conditions for the occurrence of an event. Saying “It’s brittle” and “It’s sharply struck” may both explain a glass’s breaking, and may convey information about the causal condition of the glass’s breaking. Nonetheless, it seems evident that conveyed pieces of information are of different types. And hence, this important question is left wide open: “What causal information exactly is conveyed about that event?”⁴

A simple minded answer to that question is that the information conveyed is that Bill’s remembering that the capital city of Togo is Lome causes the explanandum event. If this is the answer, the R-explanation conveys the information directly by citing the cause. This would be a singular causal explanation. Often, one’s propositional attitudes are explained in this way. Why did Dick feel that he was responsible for his friend’s wound? It is because he shot him. Here, Dick’s feeling is explained by appeal to a particular event, that is, his shooting his friend. If this

⁴ About various types of information given by a causal explanation, see Lewis 1986 .

is a good explanation, it must be because the explanandum event is the effect of the event cited by the explanans.

Do we explain Bill's accepting that the capital city of Togo is Lome in the same way? If so, the explanans must cite an event of Bill's remembering that the capital city of Togo is Lome. Otherwise, the explanation cannot have the right structure. But the expression, 'x remembered y', does not always express an event of x's remembering y. For, as we already saw, 'remember' is ambiguous between an event and a state reading.⁵ Given the contrast between an event of one's occurrently remembering something and a dispositional propositional memory, the question of which meaning is intended with respect to the use of 'remember' in the explanans of an R-explanation has an important bearing on the question of whether that R-explanation is a singular causal explanation. If an R-explanation is a singular causal explanation, the explanans ("Because x remembers that p") must cite an event of x's having an occurrent propositional memory that p as a cause of the explanandum event. If the explanans cites a dispositional state, it cannot be a singular causal explanation.

In certain cases, an R-explanation for some occurrent propositional attitude may be a singular causal explanation. Suppose Jesse knew that p years ago. One day, he happened to occurrently remember that p, and wrote what he remembered on a piece of paper. After many years, he has forgotten what he had remembered and once knew. But, when he sees what he wrote down on that piece of paper, he comes to believe it, recognizing his handwriting and supposing that he wrote down something he had good reason to believe. He now accepts that p, and so (once again) comes to believe it. We respond to a request for an explanation of Jesse's accepting that p in forming this new belief by saying, "Because he *remembered* that p." This is

⁵ See Section 1.3.

an R-explanation of Jesse's accepting that p . What does the explanans cite? Given the story, it is more natural to suppose that the explanans cites the event of his occurrently remembering that p years ago. If so, this is a singular causal R-explanation.

However, there are two reasons why this cannot be the model for all R-explanations.

First of all, it should be clear that this is not a typical R-explanation. Return to Bill's case. Hearing Bill's story, did you think that an occurrent propositional memory of Bill's caused him to accept that the capital of Togo is Lome? No! It might have been the case that Bill's accepting that the capital city of Togo is Lome was caused by an unmentioned event of his occurrently remembering it, just as in Jesse's case. Nevertheless, it was not the story you had in mind.

Second of all, there are R-explanations for occurrent propositional attitudes in which the explanans cannot be understood as citing an occurrent propositional memory causing the explanandum event. To illustrate such a case, let me modify the story about Jesse slightly. This time, Jesse has not forgotten what he wrote down on the piece of paper, although he has not thought about it for a long time. Nevertheless, when he sees that piece of paper, he immediately accepts what it says. In fact, he accepts that p not because of an inference from evidence about what he wrote. But he simply accepts it, just like Bill immediately accepted that the capital city of Togo is Lome when he saw the question. In this modified scenario, as well as in the original scenario, we can explain Jesse's accepting that p by saying, "Because he *remembered* it." But in the modified scenario, if Jesse actually remembers that p when he sees the piece of paper, we may explain the same event by saying, "Because he *remembers* it." However, we may not explain what occurred in the original scenario in this way, for in that scenario Jesse has completely forgotten that p , and newly comes to believe that p . Since Jesse has forgotten that p at that point, it is simply false to say that he remembers that p . Hence, the two explanans—in the

past tense and in the present tense—do not express the same explanation in the modified scenario. But then, is the R-explanation by this present tense explanans also a singular causal explanation? If it is a singular causal explanation, the explanans must cite an event.

It seems unlikely that that is the intention. Think of this explanation:

[*J*] At time *t*, Jesse accepts that *p* because he remembers that *p*.

Do we find this unacceptable? No. In some situations, an explanation of Jesse's accepting that *p* at *t* by appeal to his remembering that *p* at *t* must be legitimate. On the other side, if the tense structure of this [*J*] is construed literally, it must mean this [*J*₁]:

[*J*₁] Jesse accepts at *t* that *p* because he remembers at *t* that *p*.

Of course, if the explanation in this [*J*₁] is to be a singular causal explanation, an event which the explanans cites causes the explanandum event although they are concurrent. This seems to be untenable. If the explanation is a singular causal explanation, then there are two concurrent mental events—accepting the proposition and coming to have an occurrent propositional memory—in Jesse's mind. But, first, it is not very clear why we should take this view. Consider a case in which we know that Jesse himself cannot find any occurrent mental event except for his accepting the proposition. For instance, it seemed to Bill that the capital city of Togo is Lome, but nothing else occurred to him, nor did he realize that he was remembering that. Even in such a case, given a certain background story, we would be able to explain his accepting the proposition by appeal to his propositional memory. In such a case, why should we suppose that two distinct occurrent events (i.e., accepting and remembering) take place then? At best, it is unclear. Second, I simply cannot imagine any case in which one accepts that *p* and occurrently remembers that *p* concurrently and separately. For I cannot see how one can distinguish one's accepting that *p* from his occurrently remembering that *p* if these two events are concurrent. Third, it is simply unclear how, if these two occurrent mental events are concurrent, one can have caused the other.

I acknowledge that it may be possible for two concurrent events to be such that one causes the other, as, perhaps, when my pushing moves a rock. But I cannot see how one's occurrently remembering that p can cause his accepting that p if they are concurrent.

But we may be deceived by the surface structure of $[J]$. So, one might respond that what is really meant by $[J]$ should be expressed by this $[J_2]$.

$[J_2]$ At t , Jesse accepts that p because at $t^* < t$ (in the very near past) he occurrently remembered it.

If this is true, the explanans of $[J]$ cites an event prior to t , and thus it may be a singular causal explanation. This may be right in certain situations, but cannot be always the case. For we can easily find a case in which we do say $[J]$, but not $[J_2]$. Think of this scenario. Jesse was preoccupied by his dissertation project during a certain period. He had in mind only thoughts about his dissertation, so that the thought that p was not entertained by Jesse's during that period. However, at t , the moment he takes a look at what he wrote down years ago, he immediately accepts that p , just as Bill accepted that the capital city of Togo is Lome immediately when he saw the question. In this scenario, until t , nothing which occurred in Jesse's mind for some time past can be his occurrent propositional memory that p . Hence, there is no t^* such that it is prior to t (in the very near past) when Jesse had an occurrent propositional memory that p , and, therefore, $[J_2]$ does not explain Jesse's accepting that p at t . Nevertheless, we have a strong intuition that $[J]$ explains Jesse's accepting that p in this scenario, as in Bill's case. Thus, in such a case $[J]$ cannot mean $[J_2]$, but rather $[J_1]$. And therefore, there are contexts in which $[J]$ proposes no singular causal explanation.

Given that $[J_1]$ cannot contain a singular causal explanation, if the explanans in $[J_1]$ is to express a causal R-explanation, can 'remember' in $[J_1]$ still mean Jesse's occurrently remembering that p ? I suspect that such an R-explanation is highly unlikely, for it is possible

only in a highly unlikely situation, i.e., when one is in two concurrent, but separate mental events—accepting that p and occurrently remembering that p . Thinking of the two meanings of ‘remember’—occurrent memory and dispositional memory—a natural construal of an R-explanation by $[J_1]$ is that the explanans of $[J_1]$ cites a state of Jesse’s, namely, Jesse’s dispositionally remembering that p , rather than an event of Jesse’s occurrently remembering that p .

2.4 Explanation by Appeal to Dispositional Propositional Memory

If the argument in the previous section is correct, some of R-explanations are not singular causal explanations. If the explanans of a non-singular causal R-explanation cites one’s dispositional propositional memory, that explanation must be given by appeal to one’s dispositional propositional memory. Let us call an R-explanation by appeal to one’s dispositional propositional memory a DR-explanation (dispositional R-explanation).

As is well known, the traditional approach to characterizing a dispositional concept is to provide a subjunctive conditional statement which specifies in the antecedent the triggering condition of a disposition and in the consequent the manifestation of it. For instance, the dispositional predicate, ‘is brittle’, is allegedly characterized in this way: for any x , x is brittle if and only if if x were sharply struck, then x would break. This approach to dispositional concepts is the starting point of our investigation into the structure of an explanation by appeal to a dispositional concept, namely, dispositional explanation. Ryle proposes an analysis of the structure of a dispositional explanation by means of this traditional characterization of a dispositional concept. He argues that the explanandum of a dispositional explanation is identified in the manifestation condition of the conditional characterization of the dispositional state by which the explanation is given.

How does the law-like general hypothetical proposition work? It says, roughly, that the glass, *if* sharply struck or twisted, etc. would not dissolve or stretch or evaporate but fly into fragments. The matter of fact that the glass did at a particular moment fly into fragments, when struck by a particular stone, is explained, in this sense of ‘explain’, when the first happening, namely the impact of the stone, satisfies the protasis of the general hypothetical proposition, and when the second happening, namely the fragmentation of the glass, satisfies its apodosis. (Ryle 1949, 89)

Modifying Ryle’s approach, Hempel (1965, 462) claims that the structure of such an explanation conforms to his deductive nomological model in this way.

<On Hempel’s D-N model>

(1) [Explanans] S has a disposition D.

(2) [Conditional Characterization] Any *x* with D will, in a situation of kind TC, behave in manner M.

(3) [Trigger] S was in a situation of kind TC.

(4) [Explanandum event] S behaved in manner M.

In the rest of this section, I will examine this Hempelian model for adequacy in the present connection. First, we will discuss its advantages. An application of this model to DR-explanation clarifies what relation between the explanandum event and the subject’s dispositional propositional memory supports the explanation. However, in the second part, I will argue that we must ultimately give up the straightforward application of the model to our example, for it fails to capture what is really explanatory about citing a dispositional propositional memory.

2.4.1 Manifestation of a Disposition

Let us begin with the positive remark about the Hempelian model. The model correctly grasps the relation between the explanandum event and dispositional propositional memory. It is credible that various sorts of events (and states) are symptoms of a thing’s possession of a certain disposition, but that the occurrence of them does not manifest that disposition actually. For instance, frequent rising of one’s blood pressure may be a symptom of his irritability, but the

rising itself does not manifest his irritability, for irritability is a disposition to get irritated, but not to raise blood pressure.⁶ Likewise, one may be convinced that to have a dispositional propositional memory is not to be disposed to accept a proposition, since to dispositionally remember that p must be to be disposed to remember that p . Accordingly, he might reach the conclusion that in the present case, Bill's accepting the proposition is just a symptom of his dispositional propositional memory. And the acceptance itself is not a manifestation event of the disposition, but more like a byproduct of his remembrance, as a rise of blood pressure is a byproduct of one's manifesting irritability. As I will demonstrate below, this is a false inference based upon a good intuition. At any rate, in the light of this picture, most occurrent psychological events (and states) associated with dispositional memory can be expected just to be symptoms of one's dispositional propositional memory. This is so, no matter how closely their occurrence is connected to one's possession of a dispositional propositional memory and even its being manifest. The previous attempt to construe an R-explanation on the model of a singular causal explanation might be motivated by the same misleading assumption. Surely Bill's accepting the proposition is causally explained by citing his propositional memory. Hence, given that Bill's acceptance itself is just a byproduct of a genuine manifestation event of the propositional memory, it would be concluded that such an explanation presumes that a genuine manifestation plays an intermediary role of causing the very explanandum event. But as we saw in the previous section, this intermediary step poses an intractable challenge.

The Hempelian model, however, leaves no room for such an intermediary step. To illustrate the difference, let us provisionally apply the current model to a DR-explanation in this straightforward way.

⁶ We will get back to this point later when we discuss the notion of manifestation. See section 3.4.2.

- (1) [Explanans] S dispositionally remembers that p at t_1 .
- (2) [Conditional Characterization] For any x , time t , if x dispositionally remembers at t that p , then if x satisfied TC at $t-\varepsilon$, then x would satisfy MC at t .
- (3) [Trigger] S satisfies TC at $t_1 - \varepsilon$
- (4) [Explanandum event] S satisfies MC at t_1 .

In this model, the explanandum event satisfies the manifestation condition of the dispositional propositional memory cited in the explanans. For instance, think of explaining Bill's accepting the proposition by appeal to his dispositional propositional memory. According to this provisional model, the following is an approximation of the structure of such an explanation.

- (5) Bill remembers that the capital city of Togo is Lome at t_1 .
- (6) For any time t , if Bill remembers at t that the capital city of Togo is Lome, then if Bill were to be asked whether the capital city of Togo is Lome at $t-\varepsilon$, then Bill would accept at t that the capital city of Togo is Lome.
- (7) Bill was asked whether the capital city of Togo is Lome at $t_1-\varepsilon$.
- (8) Bill accepted at t_1 that the capital city of Togo is Lome.

According to this model, the explanation by citing dispositional memory of Bill's accepting the proposition at t_1 hinges on these two factors: First, his accepting the proposition at t_1 is triggered by his being posed the question at $t_1-\varepsilon$ and second, his acceptance is a manifestation event of what is cited by the explanans, i.e., the dispositional propositional memory that p . Hence, in such an explanatory context, the explanation does not rely on any causal relation between singular events like Bill's occurrently remembering that p and his accepting that p , and, hence, the explanandum event is not represented as a byproduct of a memory experience. Accordingly we are no longer confronted with the trouble posed by positing an intermediary step.

I believe this is basically the right solution to the previous question about in virtue of what relation citing Bill's propositional memory can explain his acceptance of the proposition. It is the

relation between one's possession of a disposition and its manifesting the disposition. In fact, as I will show in chapter 5, the intuition that dispositional propositional memory is a disposition to have a memory experience poses no threat to this model, given that an event manifests a disposition under a description.

2.4.2 What Is Conveyed?

The Hempelian model treats the explanandum event in a dispositional explanation as an effect caused by a triggering event. Thus, the model counts a dispositional explanation as a causal explanation, and hence goes along with our intuition that R-explanation is a type of causal explanation. And, as a matter of fact, like many other common ways of explaining an event, citing someone's dispositional propositional memory tells us something about the causal history leading to the explanandum event. To this extent, the model captures our intuition; namely, the explanandum event is an effect caused by a triggering event of a certain type. However, if this is why DR-explanation is classified as causal explanation, it squeezes a dispositional explanation into a very narrow category of causal explanation, and, as a result, it misses the primary explanatory value of citing one's dispositional memory.

Hempel's approach to the notion of dispositional explanation is basically to think of it as conforming to the canonical model of causal explanation to which a singular causal explanation also conforms. According to him, it merely appears that dispositional explanations including DR-explanations and singular causal explanations do not share the same structure. Hempel claims that a dispositional explanation and singular causal explanation appear not to accord with the same model simply because they are incomplete forms of the same type explanation, causal explanation. In its full-fledged form, according to Hempel, a dispositional explanation must have the same form as a singular causal explanation. He says:

It should be noted, however, that neither of the two kinds of explanation here distinguished by Ryle is sufficient by itself to account for the given event. The report that the pane was struck by a stone explains its being broken only in conjunction with the additional information that the pane was brittle: it is in virtue of the general hypothesis implied by this dispositional attribution that being hit by the stone becomes a cause rather than an accidental antecedent in regard to the breaking of the pane. Similarly, the dispositional statement can explain the breaking of the glass only when taken in conjunction with the report that the glass was sharply struck, ... Thus either of the two explanations here distinguished is incomplete and requires complementation by the other. (Hempel 1964, 458)

So, Hempel here claims that a full-fledged dispositional explanation should be equipped with both a statement about a triggering event and a statement of a law-like statement as to the relevant causal law. Hempel thinks that citing a disposition can explain an event only if something bridges a gap between the citation and the explanandum event, for they have no explanatory connection in themselves. And he thinks that the bridge must be the trigger of the explanandum event manifesting the disposition. If so, a singular causal explanation and a dispositional explanation may be both an incomplete form of the same complete causal explanation. As we already saw, Hempel's scheme for a dispositional explanation reserves one place for an instantiated causal law—a law-like (subjunctive) statement—which is expressed by a dispositional concept, and one place for a statement of a causing (triggering) event.⁷ According to Hempel, without both of those two statements, the explanandum event cannot be fully explained. However, Hempel thinks, this is just the ideal form of a dispositional explanation (and a singular causal explanation), and a dispositional explanation in an ordinary context always remains incomplete, so that it may appear to have a structure different from a singular causal explanation's.

⁷ The application of the Hempelian D-N model to DR-explanation yields the following trouble. According to Hempel's picture, a concept expresses a disposition only in virtue of expressing a causal law. But it is not completely clear whether a dispositional concept universally expresses a general causal law. Especially, if one is leaning toward rejection of mental causal law, like Davidson famously does, this presupposition may entail that most of mental dispositional concepts do not actually express any disposition. See Davidson 1970; 1974.

The present considerations bring us back to this basic question, “what is a causal explanation?” Certainly, there are different kinds of explanation (let’s set the question of what explanation is aside for a while). Some are causal, and others are non-causal to some extent. For instance, singular causal explanations are about the causal history of their explananda, but we do not take some of mathematical explanations to be about the causal history of their explananda. However, most explanations involving empirical matters are about some aspect of the causal history or current causal conditions involving their explananda. For instance, the weather forecast that a hurricane will hit Florida tomorrow would give you a good explanation of why wind is blowing so hard today. Evidently, the hurricane’s hitting Florida in the future cannot be a part of the causal mechanism of the present strong wind. To that extent, what the weather forecast directly cites is not any causal conditions of the explanandum event. Nonetheless, it seems that the present strong wind is well explained insofar as the weather forecast implies the present location of the hurricane. In this sense, the explanans cites something implying a certain, explanatory relevant, causal aspect of the explanandum event.

This seems to shed a light on the question of what is a causal explanation. As Lewis says, “to explain an event is to provide some information about its causal history” (1986, 185).⁸ Here I do not positively endorse the claim that there is one unique, coarse-grained notion of causal explanation, such as to causally explain something is simply to provide some information about its causal history. We are likely to have a reason to embrace a narrow notion of causal explanation to mark typical causal explanations—singular causal, for instance—from causal explanations of a broad kind. Nonetheless, I suppose that the example nicely illustrates an atypical way of providing certain information about a causal aspect of the explanandum event

⁸ The same view can be seen, for instance, in Kim (1987, 233).

which manifestly the Hempelian model does not count as a causal explanation. The Hempelian model captures the structure of probably the most conspicuous type of causal explanation, including singular causal explanations. Nonetheless, not all explanations which explain something in virtue of providing causal information are straightforwardly of the kind illustrated by Hempel's model. The model is too restrictive.

In fact, a moment's reflection tells us that the straightforward application of the Hempelian model to Bill's case does not reflect accurately our intuitions about what it tells us. Its insufficiency is evidently shown in the gap between what the Hempelian model tells us and what we are actually informed of. Let us recall the application of the Hempelian model to Bill's case, (5)-(8).

(5) Bill remembers that the capital city of Togo is Lome at t_1 .

(6) For any time t , if Bill remembers at t that the capital city of Togo is Lome, then if Bill were to be asked whether the capital city of Togo is Lome at $t-\epsilon$, then Bill would accept at t that the capital city of Togo is Lome.

(7) Bill was asked whether the capital city of Togo is Lome at $t_1-\epsilon$.

(8) Bill accepted at t_1 that the capital city of Togo is Lome.

Line (8) is certainly explained by line (5). How? According to this model, it is by way of line (6) and line (7). But recall the explanatory context of Bill's case. What comes to mind immediately when we are told that Bill remembered that the capital city of Togo is Lome? We can agree with Russell in this passage.

From time to time we remember things that have happened to us, because something in the present reminds us of them. Exactly the same present fact would not call up the same memory if our past experience had been different. Thus our remembering is caused by—

- (1) The present stimulus,
- (2) The past occurrence. (1921, 47)

In Bill's case particularly, we would think that one of the proximate events, including reading the question, trying to find the answer, etc. is the immediate cause of the explanandum event. True, this is conveyed by line (6) and line (7). Nonetheless, it is just a part of the information provided by the explanation. And in fact, this is the less valuable information in most contexts provided by such a DR-explanation. Russell must be right when he says, "The same stimulus will not produce the same recollection in another man who did not share your former experience" (1921, 45). What is more important is the information that the explanandum is, in a certain way, causally grounded in the (remote) past, rather than only in the immediate trigger. Citing one's propositional memory must convey this information, and it must be the primary value of a DR-explanation.

This evidently throws a serious doubt upon the straightforward application of the Hempelian scheme to our scenario. Why? Because lines (5)-(7) say nothing about anything in the past. Our intuition suggests that the primary information conveyed by (5) is about the relevant causal connection between Bill's (remote) past and the explanandum event. But it is not very clear how we can modify line (6) and line (7) to adopt the model to this intuition. As we will discuss in the next chapter, this is essentially because of a fatal misconception contained in the traditional approach to dispositional concepts, which is presupposed by the Hempelian model. A virtue of applying the Hempelian model to a DR-explanations is to make it clear that an event's being a manifestation implies its being caused by a trigger. And to this extent, the application goes along with our intuition that the explanation is a causal explanation. But the apparent insufficiency of the straightforward application of the Hempelian model suggests that this fails to give a satisfactory answer to this question: "What is really explanatory about citing Bill's dispositional propositional memory?"

In the rest of this chapter, I will tackle this question. First, I will go back to this fundamental question, “what is it to explain something?” Following van Fraassen’s pragmatic approach, I will characterize a causal explanation as a good answer to a why-question requesting causal information. And then I will examine a context in which citing a disposition is explanatory with regard to its manifestation event. The upshot is that citing a disposition may explain the explanandum event which is a manifestation of the very disposition, because it conveys certain information about a standing condition for the triggering event to cause the explanandum event. To that extent, in my approach, a dispositional explanation is characterized as a kind of causal explanation.

2.5 Explanation as an Answer to a Why-question

The verb, ‘explain’, takes various different types of subject. Think of an open sentence, ‘...explains the eclipse of the Moon’. There any noun phrase can fit grammatically in the subject position: ‘John’, ‘Ptolemy’s theory’, ‘the movement of the Sun’, etc. Among them, when the verb takes a noun phrase referring to a person in its subject place, in a normal context, it expresses an action, i.e., an act of explaining. In the following, unless I make a special remark, when I say, “Someone (John, She, or the President of the U.S., etc.) explains such and such,” or “Someone’s explaining such and such,” I mean this act of explaining.

Acts of explaining are typically executed by using linguistic expressions: we explain something by saying or writing something.⁹ The aim is to convey information to explainees. For instance, suppose John explains Johnson’s assumption of the presidency by saying, “Johnson’s assumption of the presidency occurred because of Kennedy’s assassination.” If one receives

⁹ There may be cases in which one explains something in a non-linguistic way. But as Achinstein (1983, 22) argues, it seems that a linguistic way of explaining is fundamental. For the sake of simplicity, let us focus on cases of explaining by linguistic expressions in this section. Such a focus does, I believe, no essential bearing on my argument in the following.

John's explanation (hears what he says or writes), she may be informed of something. And, in fact, if the recipient understands John's explanation as given by his words, she must be informed of something significant (if she doesn't know it already), namely, why Johnson assumed the presidency. Evidently, there are various pieces of information conveyed by John's words, but only some of these are relevant to his explaining Johnson's assumption of the presidency. Let's call the information relevant to the explanation 'explanatory information'.

What is it for one to be provided with explanatory information? Providing a satisfactory theory of explanatory information is far beyond our present task, and in fact I do not have too much to say about this large question. Instead I just quote Peter Railton's sharp, succinct characterization of the notion. He says, "information is a kind of selection power over possibilities" (1981, 171).¹⁰ For instance, suppose I'm thinking about asking my wife whether I can buy a new car. But one day, she says to me, "You spent too much money on the car." What she says enables me to judge that it is not a good idea to ask her the question right now, given other available possibilities, such as that it is a great opportunity to ask it right now. Likewise, in some situations, someone's use of an expression would enable one who asks a why-question to pick out a certain set of possibilities over others. That is, the information narrows the range of possibilities open for one with respect to how things are. For instance, when I'm wondering why my baseball cap is in a shoebox, my wife's saying, "Nao was playing with the cap," would enable me to choose the possibility that my son hid the cap in a shoebox, rather than I did misplaced it when I was drunk. Suppose an explainee, *E*, wants an explanation of an event, *p*. Among all coherently possible stories involving the occurrence of *p*, let Γ be the set of those which *E* can accept given his explanatory context *e*. Suppose *E* would be unable to accept a

¹⁰ See also Lewis 1986.

proper subset of Γ , say Δ , if he came to understand and accept the content expressed by a sentence, S , uttered in e , because accepting any of Δ is incompatible, given everything else he believes, with the truth of S . In such a case, the utterance of S can convey explanatory information about why p to E in e , to the extent that the possible stories involving it's being the case that p E could choose are narrowed down from Γ to $\Gamma-\Delta$. I take carrying explanatory information so characterized to be a necessary factor of an act of explaining: if one's linguistic act is an act of explaining x , it is possible that for some recipient of the explanation, the possible coherent stories involving x narrows down the set of possible stories involving its being the case that p he could accept before the explanation is given to a proper subset of that original set.

An act of explaining why S is an act of answering the question, "Why S ?" in a normal context, by using a (token) sentence to convey explanatory information.¹¹ And when and only when one reasonably satisfies the questioner by a token—normally uttering or writing—expression carrying explanatory information, he is providing a good answer to the why-question, and hence performing an act of explaining why S . For instance, suppose you teach a philosophy course, and find that many biology students are taking your course. You wonder why, and so ask your friend, a biology professor, "Why are a lot of biology students taking a philosophy course?" He says, "It's a requirement." In such a case, his utterance of that sentence conveys certain explanatory information which seems to you to be correct, so his utterance provides a good answer to your question and constitutes an act of explaining.¹²

¹¹ An explanation is not restricted to an answer to an explicitly presented why-question. Questions are not always explicitly presented, as topic questions of philosophy papers are not always or even usually explicitly stated. But in most cases, what is asked is implicitly clear enough to answer to it.

¹² Here I suppose that a 'good' answer to a why-question does not guarantee its correctness. Admittedly, correct explanations satisfy other conditions, including relevancy and veridicality, but one is performing an act of explaining when one offers a false explanation. Even when taking a philosophy course is not a requirement for biology majors, or the fact that it is a requirement has nothing to do with your having so many biology students, in that explanatory context, you (and your friend) would deem your friend's answer as a good one, to the extent that it

What is a why-question? Bas van Fraasen (1980, chapter 5, §4.3) elegantly explains the pragmatic (contextual) theory of a why-question. For the purpose of this paper, let us avoid being involved in all its detail, but take up principally one important idea, namely, a why-question should be individuated partly in terms of the type of information it requests, what corresponds to what Van Fraasen calls the relevance relation.¹³ Think of your question, “Why are a lot of biology students taking a philosophy course?” Depending on your epistemic situation and your interest in asking the question, what kind of answer you expect may vary. For instance, consider these two cases. In one case, you expect an answer which is about what caused a lot of biology students to take a philosophy course. In another case, you expect an answer which is about the purpose that they had in taking a philosophy course. Thus, in each case, you request a different type of answer in asking a why-question using the same sentence. Since an explanation is a good answer to a why-question, and what fails to meet your expectation would not count as a good answer to a question, this seems to be a plausible claim: an explanation is what satisfies the request issued by a why-question. If so, a good answer to each why-question (i.e., an explanation) varies relative to the request made in each scenario. Saying, “Because the undergrad advisor of the biology department told students to take a philosophy course,” would answer your question in the former case, and saying, “Because they want to fulfill a requirement,” would do so in the latter case. But neither need be an explanation in other cases. To characterize the notion of the request which individuates a why-question, and thereby to provide an explanation of it, we can introduce the notion of the relevant type of answer, *T* in this way:

appears to provide prima facie relevant and true explanatory information. See van Fraasen (1980, 98-100) and Achinstein (1983, 116-117).

¹³ According to his theory, a why-question is a three-place relation $\langle P_k, X, R \rangle$, consisting of these three factors: The topic P_k , the contrast class $X = \{P_1, \dots, P_k, \dots\}$, and the relevance relation R (Van Fraasen 1980, 142-143). The idea I grant here is only the relevance relation R . The main reason I do not fully adopt van Fraasen's theory here is simply that the full use of it is unnecessary.

If a why-question requests an answer of the type *T*, then every good answer to it is of the type *T*.

Since a good answer satisfies the questioner by its explanatory information, *T* may be interpreted as a type of explanatory information. Hence, putting this together with our previous remarks, a use of an expression, like an utterance, answers a why-question, “Why *S*?,” making a particular request by way of enabling a recipient of the information to select some possibilities over others relevant to the requested aspect of the truth of *S*. For instance, suppose you ask a fireman why your house caught a fire, expecting an answer about how the fire was caused. Then, he says to you, “A lightning strike caused the fire.” If you understand him correctly, his words enable you to select the possibility that a lightning strike caused the fire on your house, over others, such as that a short circuit caused the fire or that arson caused the fire. In this case, the information conveyed by the fireman’s words seems to satisfy your request, since that possibility you select is about the causal history of the fire in your house.

The present approach gives us a promising way of classifying different types of explanation in terms of types of explanatory information; namely, types of information requested by a why-question. As we saw already, most explanations of contingent facts and events inform us about some causal aspect of them, so that if we characterize explanations only in terms of information conveyed by each explanation, it may be true that all empirical explanations are causal explanations. Nevertheless, we have strong intuition that some ways of explanation is more typically causal than others; e.g., an explanation suggesting a functional aspect of the explanandum event seems to convey causal information less straightforwardly than an explanation citing a singular cause of the explanandum event does. However, the notion of the type of explanatory information provided gives us a way of drawing a line between different

kinds of causal explanation, e.g., singular causal, functional, etc., by distinguishing kinds of why-question in terms of the type of request it makes.

According to our definition, explanatory information is information relevant to an act of explaining. Now it is time to explicate the notion of ‘information relevant to an act of explaining’. It is information which satisfies to the request made by the why-question. For instance, think of a teleological explanation. In a context c , I am wondering about the purpose of attacking Iraq, and ask someone, “Why did the U.S. attack Iraq?” Suppose my epistemic situation in c is such that listening to a type expression, ‘It is for the purpose of democratizing the whole world’, enables me to select, among others, these two possibilities: the possibility, P_1 , that the U.S. attacked Iraq for the purpose of democratizing the whole world and the possibility, P_2 , that the U.S. president’s deciding to send troops to Baghdad. Answering my why-question, he says, “It is for the purpose of democratizing the whole world.” His answer satisfies my request, and, hence, constitutes a good explanation, since it enables me to select P_1 . Meanwhile, understanding his utterance also enables me to select P_2 . To this extent, I would be informed of something about what (type of) event caused the U.S. to attack Iraq. Thus, if one characterizes causal explanation simply in terms of what information is conveyed (e.g., as explanation conveying information about what event caused the explanandum event), then this is also a (singular) causal explanation. But that shouldn’t be, since this piece of information is not what satisfies my original request. This is evident, if we think of a counterfactual context, c^* , which is the same as c except that my epistemic situation is such that a use of that sentence conveys only P_1 . Even in c^* , the same utterance would satisfactorily answer my question. If his utterance is a good answer to my question in c in virtue of carrying P_2 , then the same utterance cannot

constitutes a good answer in c^* . Hence, P_2 cannot play any significant role in the explanation in c , and thus is not relevant to explanatory information in c .

What makes a use of an expression an explanation in a context is its conveying explanatory information (information satisfying the request made by a why-question). And what explanatory information is conveyed varies from context to context. Hence, we need to classify explanations relative to their explanatory information in each context. For instance, if the request made by my why-question in c is about information of type T_1 , a use of the sentence type, ‘It is for the purpose of democratizing the whole world’, is an explanation in c in so far as that utterance constitutes an explanation of why the U.S. attacked Iraq in virtue of its conveying information of type T_1 . We may call an explanation conveying type T_1 information a type T_1 explanation.

One important remark, though. This principle does not provide us any basis for a theory of explanation with regard to types of expressions. In fact, it does not draw any explicit line between two different kinds of type expressions, say ‘It is for the purpose of democratizing the whole world’ and ‘The U.S. President decided to remove Hussein’, with regard to their explanatory power concerning why the U.S. attacked Iraq. Suppose a questioner asking “Why did they attack Iraq?” knows everything as to the U.S. attack on Iraq except for the purpose of the attack, and he believes that if the U.S. president decided to remove Hussein, then the attack is for the purpose of democratizing the whole world. In such a context, use of each sentence would satisfy the questioner in virtue of conveying exactly the same explanatory information, i.e., enabling him to select the same story involving the attack. Hence, each explanation must convey explanatory information of the same type, and thereby, according to the present principle, each explanation should be legitimately considered to be of the same type. This may still sound perplexing, but has no important bearing on my project here.

2.6 The Structure of Dispositional Explanations

Following the present approach, there are at least as many ways of grouping explanation as ways of characterizing the request made by a why-question. Of course, some of traditional categories of explanation may be distinguished in terms of different interests. For instance, singular causal explanations may be characterized purely in terms of the semantic structure of its explanans (i.e., a token sentence used to answer a why-question), namely, one such that the explanans cites an individual event as a cause of the explanandum event (e.g., “Kennedy’s assassination caused Johnson’s assumption of the presidency”).

However, such a type may be characterized following the present approach. How does a singular causal explanation explain an event? As Hempel correctly pointed out, a crucial point is that citing an event can answer a why-question only insofar as it is specified as a cause of the explanandum event. For instance, when you wonder why your house caught a fire, a fireman’s saying, “There was a lightning strike around when your house caught the fire,” would not give you a straightforwardly satisfactory answer. Probably, you would respond, “So, are you saying that the lightning strike caused the fire?” As your response shows, citing an event can answer your question only if it is cited as a cause of the house fire in the context. In other words, citing the lightning strike can answer your why-question in that context only by enabling you (i.e., the explaine) to select a certain set of possible stories as to causal history of the house fire, namely, stories in which a particular event, the lightning strike, caused the fire. If information of this type characterizes a singular causal explanation, a singular causal explanation can be characterized in terms of the type of information: specifying a particular event causing the explanandum event.

Likewise, it seems that we may use the same approach to characterize a dispositional explanation. So what is the primary value of such an explanation? In other words, what information is really requested in a why-question which can be satisfied by citing a disposition?

Let me describe a couple of such explanatory contexts. Suppose my wife played tennis in the backyard. A shot hit a window of my house, and then a pane of window glass broke. I was inside my house, and heard the sound, so I ran out to the backyard. Then I saw the broken pieces of the window. It was evident to me that a shot hit the window, so the glass broke. But, I was surprised, since I thought that her shot could not be very strong, and the glass was hard enough for a weak hit by a tennis ball to bounce back. So, I asked her, “Why did the glass break when it was struck by the ball?” She got the point of my question immediately, for I often ridiculed her weak shot, and said that it could not break even window glass. Thus, she sarcastically said, “Well, because the glass is brittle, evidently.” So I understood what happened very well. Her shot was very weak as usual. Nevertheless, the hit by such a weak shot caused the glass to break because of a feature of the glass.

Another typical case in which citing a disposition satisfactorily answers a why-question is a case of explaining one’s behaviour. Think of this story. Suppose I got enraged and yelled at my son when he fretted and refused to eat a piece of carrot. Seeing the scene, my wife’s friend was surprised, since she thought that it was typical of small children, and did not deserve such a response. So she asked my wife, after I left the room, “Why did he get so furious when the kid didn’t eat a carrot?” So, my wife says, “Oh, it’s just because he is irritable.” This answer satisfies her, since she now understands what happened very well. It is not, for instance, that I have a strong belief that fretting and refusing to eat a carrot is a serious problem in a small child, so that the appropriate response is to yell, but rather that I am in a state such that even a so trifling matter as this tends to trigger irritability and misdirected anger. Before this answer was given, she was open to the possibility that my son’s fretting and disliking a piece of carrot caused me to

be furious because of some belief I had about the matter. But my wife's answer enables her to discard the former possibility, and leads her to the latter.

As Hempel pointed out and we agreed, when an explanation by appeal to a dispositional concept is given, quite typically, the questioners have some idea about what event caused the explanandum event.¹⁴ In addition, as these scenarios clearly indicate, a questioner asks a why-question in such a context primarily because he needs something more than his knowledge of the simple causal connection. What does he need? What does he not know? The crucial point here seems to be this. The knowledge that a singular event, *c*, caused another singular event, *e*, does not provide us the knowledge of how *c* caused *e*. For, the truth of 'x caused y' does not always imply the truth of this law-like statement: if a type x event occurred, then a type y event would occur. Davidson gives us a good example:

What is partial in the sentence, 'The cause of this match's lighting is that it was struck' is the description of the cause; as we add to the description of the cause, we may approach the point where we can deduce, from this description and laws, that an effect of the kind described would follow. (1967b, 156)

Even when it is true that the match's being struck causes its lighting, it does not follow that if the match were struck, then it would light. There are many different types of causal events which may be described by using the sentence type, 'The match's being struck causes its lighting'. Hence, even when we know that particular causation—the match's being struck causing it to light—we may not know what kind of causal event it is. It may be an ordinary case, as when all the relevant materials are dry enough. In such a case, the match's being struck may cause friction between KCLO_3 contained in the head of the match and phosphorus in the side of a match-box

¹⁴ Ryle, for example, says, "We ask *why the glass shivered when struck by the stone* and we get the answer that it was because the glass was brittle. Now 'brittle' is a dispositional adjective; that is to say, to describe the glass as brittle is to assert a general hypothetical proposition about the glass. So when we say that the glass broke when struck because it was brittle, the 'because' clause does not report a happening or cause; it states a law-like proposition" (1949, 88-89). [Emphasis Added]

sufficient for lighting, in the presence of oxygen. But even when the side of the match-box is damp, if the head of the match contains enough Mg, striking the match may cause it to light. Evidently, two causal events are of different kinds. And even when one knows that the match's being struck causes it to light, he might wonder which type of event that particular causation is. Thus, in this kind of scenario, we may ask, "Why did the match light when it was struck?," for knowing (believing) that the match's being struck caused it to light does not enable us to tell which type of causal connection exists between match's being struck and its being lit. Returning to the previous examples, when they ask those why-questions, the epistemic situations of the questioners are exactly like that. They allegedly know that a particular singular event caused the explanandum event, while having no idea about how the putative cause caused the explanandum event.

Van Fraassen suggests that in such a case, "the request is likely to be for the standing conditions that made it possible for those events to lead to" (1980, 142) the explanandum event. Indeed, citing standing conditions of an event's functioning as a cause conveys information that enables us to determine which type of causal connection is between the putative cause and explanandum event. For instance, one may say, "It is because the head of the match and the side of the match-box are dry enough and contained the relevant chemical material." This answer evidently informs us that the causal connection is of the first type. How does information about a standing condition enable us to determine the kind of causal connection? Hempel's D-N model gives us a good insight.¹⁵ Different types of causation may be described in terms of different causal laws (or law-like statements). A standing condition, *S*, of an event of the type *C* causing an event of the type *E* could be indicated in a statement, for instance, in this way: for any event,

¹⁵ Davidson's argument assumes the Hempelian D-N model in its background.

e , of the type C , and any time t , if e occurred at t in the condition S , then e and its being in S would cause an event of the type E to occur at $t^* > t$. Given this, we may deduce the explanandum event (a type E event), e , from the occurrence of a type C event, c , on one relevant condition for c to cause e , namely, the standing condition S indicating a type of causal connection.

Ascribing a disposition to someone is to take him to exhibit specific type regularity in behavior. Hence, by citing a disposition, we may explain something by conveying information about what type of regularity is manifested in such an explanandum event. Specifying the type of regularity in many cases tells us what triggers the explanandum event and on what condition it triggers the explanandum event. If saying, "Because the match is disposed to light reacting to a certain amount of phosphorus," explains the match's lighting, it must be because the explanans informs us of certain regularity in the match's behavior. And this information about the regularity informs us of two things: what event type causes the explanandum and on what condition it is caused, for instance, the match's being struck is the trigger of its lighting and it suffices on condition that relevant materials are sufficiently dry. Just as in the previous examples, in an ordinary explanatory context, when citing such a disposition satisfies the request in asking this why-question, "Why does this match light?," the causal connection between the match's being struck and its lighting is already acknowledged. Therefore, in such a context, citing a disposition explains an event in virtue of conveying explanatory information about on what condition the explanandum event is caused by its trigger. Evidently this is what the straightforward application of the Hempelian model to a dispositional explanation misses. And, in the next chapter, we will see a fundamental trouble with the original model. A regularity statement expressed by a dispositional concept cannot be specified purely by means of a subjunctive conditional statement.

The present approach might still fall short of defining a dispositional explanation, for a standing condition indicated by an explanation is not necessarily a disposition. For instance, citing a soccer ball's being round specifies a standing condition of the ball's rolling, so that it may explain (relative to other information already possessed) the ball's rolling. Nevertheless, it is not clear whether we should classify this explanation as a dispositional explanation. Thus, I do not propose to define dispositional explanation only in terms of explanatory information of the type, standing causal condition. For the present purpose, we may be satisfied with saying that a use of an expression is a dispositional explanation iff it makes use of a dispositional concept and the use of the dispositional concept conveys explanatory information specifying a standing condition for triggering the explanandum event. This provisional characterization makes sufficiently clear how a dispositional explanation is a causal explanation, and how it is different from other causal explanations, like singular causal explanations.

2.7 Explanatory Information by Dispositional Memory Explanation

The final, and primary task, of this chapter is to elucidate the explanatory relevance of a DR-explanation, and to show that a DR-explanation is a dispositional explanation in the sense we have characterized. No matter what we may find in such an explanation, it must work by means of the concept of dispositional propositional memory. Scrutinizing the concept is the main task of this project, and the fuller, general picture will be provided in due course. But for now, let me give a rough, intuitive account of the DR-explanation of Bill's accepting the proposition in light of our intuitive understanding of the concept of dispositional propositional memory.

So let us examine our intuition about the DR-explanation of Bill's accepting the proposition given the details of the story—Bill was taking the geography course, and learned that the capital city of Togo is Lome, and accepted that in the final exam upon reaching the question about what the capital city of Togo is. Now, suppose someone appropriately asks, "Why did Bill

accept that the capital city of Togo is Lome?” As we agreed, saying, “Because Bill remembered it,” gives an appropriate answer to this why-question. But what is the request the question makes and is satisfied by the explanation, i.e., what explanatory information is conveyed by citing Bill’s dispositional memory?

According to our picture of explanation, an explanans conveys information by enabling us to narrow down the possible scenarios to just a proper subset of the original ones epistemically open for us. Clearly the explanation enables us to select certain possibilities from the original set. Once we grant the explanation, we are forced to eliminate some of possible scenarios involving the explanandum event because they are not consistent with what we grant, i.e., Bill’s acceptance was due to his remembering. Let us think of possible scenarios with regard to the explanandum event with no further presuppositions. These are possible stories. Maybe it groundlessly occurs to Bill that the capital city of Togo is Lome. Or maybe Bill thought that ‘Lome’ sounded like a French word, and since Togo is a French speaking country, it was likely that Lome is the capital city of Togo. None of those possibilities would be available, if we grant the explanation. Because those possible scenarios entail that Bill newly acquired that belief when he came to the question. As Russell (1921, 47) correctly suggested, if an event manifests one’s dispositional propositional memory, the event must be causally grounded in a past occurrence.¹⁶ Hence, Bill’s newly acquiring the belief cannot be consistent with the story told by the explanation, for if he newly acquired the belief, it is not because of his dispositional propositional memory.

But what scenario would we be enabled to select from among possibilities? According to the explanation, Bill accepted the proposition without newly acquiring the belief. But if one accepts that *p* without newly acquiring the belief that *p*, then there was an antecedent point when

¹⁶ See the quote on page 40.

he was newly coming to believe that *p*. Hence, given the explanation, any possible scenario is one in which Bill had come to acquire the belief that the capital city of Togo is Lome at an antecedent point, and he had been holding the very same (dispositional) belief when he saw the question ever since. Together with our background knowledge of the actual story, we are led to this plausible picture: when Bill accepted the proposition, Bill still knew what he learned earlier in the course, i.e., that the capital city of Togo is Lome, and this was the standing condition for triggering his occurrently accepting that Lome is the capital of Togo.

In this way, citing Bill's dispositional propositional memory can add something new to the information one previously possessed with regard to Bill's accepting the proposition, and thus surely can satisfy some type of request made by asking the why-question. If this is the explanatory information conveyed by citing Bill's dispositional propositional, it is a dispositional explanation in our sense. For citing a dispositional concept conveys explanatory information about how the explanandum event is triggered, i.e., Bill's acceptance was triggered on the condition of his previously acquired knowledge.

If I am correct, to cite one's dispositional propositional memory is to cite a certain regularity he would exhibit. But what regularity? To answer this question, the concept of dispositional propositional memory needs to be further explained, and that is the main task of my project. But before entering into this task, we need one more preliminary step. The Hempelian model provides us with an unsatisfactory picture, at best. As I indicated, it is primarily because the model assumes the traditional approach to dispositional concepts; namely, the view that to cite a dispositional concept is to cite a simple subjunctive (law-like) conditional statement. In the next chapter, we will see there is a fundamental problem with this traditional approach. The regularity expressed by the concept of dispositional propositional memory cannot be captured by

a simple subjunctive statement. And I will propose a revision of the traditional approach which can provide a good foundation of our analysis of the concept, and hence of the structure of a DR-explanation.

CHAPTER 3 CONDITIONAL ANALYSIS

3.1 Introduction

So far, we have found that citing Bill's dispositional propositional memory explains his accepting the proposition by conveying on what condition Bill's acceptance was caused. This is indeed informative as to what kind of causal event it was, and thus it qualifies as a causal explanation. But we have not fully clarified how citing Bill's disposition conveys this particular information. The final answer to this question has to wait for the analysis of the concept of dispositional propositional memory given in the subsequent chapters. But before moving on, we will explicate the structure of such a DR-explanation: how does citing a dispositional propositional memory specify not only the trigger of the explanandum event, but also standing conditions for it? For this will shed an important light on the structure of the concept of dispositional propositional memory.

The main topic of this chapter is the insufficiency of the traditional approach to dispositional concepts. In this chapter, I will argue that how explanatory information is provided by a dispositional explanation would remain inexplicable if we adopted the traditional approach, and hence we must depart from it.

I will start this chapter with a brief summary of the traditional approach to dispositional concepts. And then we will see how the approach is in conflict with our observation. This is a symptom of the well-known problem for the traditional approach. Of course, solving the puzzle of dispositional concepts in general is not our task here. Rather, I will simply defend an alternative approach originally proposed by David Lewis. Our approach takes the form of a revision to the traditional approach, in the sense that it just proposes to add a further condition to

those required by the traditional approach. This will be a key to the entire project, as we will see in the end.

3.2 Dispositional Concepts and Explanation by Dispositional Propositional Memory

Philosophical discussion regarding the analysis of dispositional concept is a product mainly of the middle of the 20th century. It was known, even then, that dispositional concepts express something conditional. But philosophers at that earlier stage, like Carnap, thought that the notion could be captured by means of a material conditional, and found that they faced intractable problems.¹ Philosophers discussing this trouble eventually came to realize that something stronger than the material conditional is needed, and identified subjunctive (counterfactual) conditionals as promising. For instance, Ryle says,

To say that it is brittle is to say that if it ever is, or ever had been, struck or strained, it would fly, or have flown, into fragments. To say that sugar is soluble is to say that it would dissolve, or would have dissolved, if immersed in water. (1949, 43)

The basic idea here is that the fact that something has a disposition is a matter of regularity in that thing's behavior (a law-like habit) in a particular kind of situation. If Ryle is correct, the fact that a grain of sugar is water-soluble consists solely in regularity in the behavior of a grain of sugar, namely, its dissolving when it is immersed in water. The reason why the subjunctive mood is so crucial is that such a regularity cannot be expressed by the material conditional, 'If x is immersed in water, then it dissolves', for well known reasons; namely, this could be true of something simply in virtue of its never being immersed in water. Yet we do not think a piece of lead that has never been put in water is water soluble. On the other hand, the regularity must be captured by the subjunctive conditional statement, ' x would dissolve if x were immersed in water'. Thus, according to this approach, the concept of 'being water-soluble' is explained in

¹ About Carnap's problem, see Mumford (1998, section 3.5).

terms of the truth of an appropriate subjunctive statement. Of course, there are divergent views of the structure of subjunctive statements characterizing dispositional concepts.² But hereafter I will take for granted that the traditional analysis of a dispositional concept supposes that to cite a disposition is to cite a subjunctive specifying what event manifests the disposition and how the manifestation is caused. In short, according to the traditional approach, x 's possession of a disposition, D , at time t is characterized by types of events, M and T , just in case x is D at t if and only if, if a type T event were to occur at t , then a type M event involving x would occur subsequently.³

As Ryle acknowledges, not all types of disposition can be characterized in the simple way that water-solubility is. Typically, for example, mental dispositions are characterized in terms of a set of conditional statements, rather than just one conditional statement. For typically mental dispositions are manifested in various different ways, so that the characterization needs to be specified in terms of various pairs of a trigger and manifestation. Such a disposition, called a multi-track disposition, is characterized in terms of a set of pairs of a trigger and manifestation event or condition. For instance, if we have a dispositional concept of belief, according to this approach, there is a conjunction of law-like statements each of which specifies a trigger (or triggers) and a manifestation such that the conjunction characterizes one's dispositionally believing that p .

According to this traditional approach, to cite Bill's dispositional propositional memory is to cite such a (set of) subjunctive statement(s). Thus, the explanans citing Bill's dispositional propositional memory can convey information sufficient to explain Bill's accepting the

² About the history of philosophical approaches to dispositional concepts, see Malzkorn 2001.

³ Although Hempel (1965, 459-462) does not use this exact scheme when he specifies a dispositional concept, he explicitly claims that citing a disposition is to cite a law-like statement.

proposition, thanks to the fact that the pair of the putative cause—Bill’s seeing the question—and his acceptance accord with the regularity specified by a subjunctive statement. But this application of the traditional analysis to the structure of dispositional explanation—for instance, Hempel’s scheme—confronts us with serious challenges.

In the following, I will illustrate the challenge to the traditional approach. First, I describe a scenario in which citing a dispositional propositional memory cannot be deemed equivalent to citing a simple subjunctive conditional statement. My argument is very simple. If citing a dispositional propositional memory is nothing but citing a subjunctive conditional statement, then in any explanatory context, an explanation citing the dispositional propositional memory can be replaced by one citing the subjunctive. But I describe an explanatory context in which citing a dispositional propositional memory conveys a piece of explanatory information different from what would be conveyed by citing the corresponding subjunctive. As we saw in the previous chapter, to explain an event is to narrow down the range of possible stories as to the occurrence of the explanandum event by appeal to the truth of the explanans. Thus, if citing a dispositional propositional memory in an explanatory context conveys the same information as citing a subjunctive does, then in any possible situation, s , relevant to that explanatory context, an ascription of the dispositional propositional memory is true in s if and only if the subjunctive is true in s . For otherwise, the set of possible stories an explainees can select in an explanatory context given the explanation citing the dispositional propositional memory would be different from the set of possible stories given the truth of the subjunctive. I will simply show that there is an explanatory context which leaves room for the possibility that one has a dispositional memory that p but the subjunctive is not true of him, so that explanatory information conveyed by citing the dispositional propositional memory and one by citing the subjunctive differ.

After describing the scenario, I will explain why this is a serious challenge to the traditional approach. In short, attributing a dispositional propositional memory to someone is essentially different from evaluation of the truth value of any simple-minded subjunctive conditional. Then I will discuss a promising way-out for the traditional approach and point out that it has fatal defects. This will show what the traditional approach misses essentially, and why the explanatory information we obtain from dispositional explanations cannot be explained by the account.

3.2.1 Deviant Causes

Let us imagine an explanatory context, *EC*, in which an event seems to be adequately explained both by citing a dispositional propositional memory and by citing a subjunctive conditional. Suppose at *t*, John accepts that *p* when he reads a question whether *p*. Suppose *M* is a description of John's accepting that *p*, and *T* is a description which specifies all aspect of John's reading the question. Thus, John is in *M* at *t*. In addition, neither of *M* and *T* conceptually implies that John has a dispositional propositional memory that *p*.⁴ Now, let us suppose John's being in *M* at *t* manifests the dispositional propositional memory that *p*. Moreover, suppose this subjunctive statement is true: if John were in *T*, then John would be in *M*. It is true that we can explain John's accepting that *p* by appeal to his dispositional propositional memory that *p*. If the traditional approach is correct, then citing the corresponding simple subjunctive also explains the event. Thus, we have no reason to resist an explanation of the same event by appeal to the subjunctive, 'If John were in *T*, then John would be in *M*'.

⁴ This is, of course, to avoid trivializing the subjunctive.

However, consider the following possible scenario.⁵ John is hit by a car, and he suffers a serious brain injury, and, in particular he loses his capacity to remember anything. However, quite fortunately, John was selected as a test subject for a newly invented machine, the memory simulator. The machine is under development, but it simulates all the function of human memory—reproducing a memory image, habit based upon memory, and etc.—by manipulating information which is copied from a human brain to a database system. The memory simulator itself is a laptop size machine, and it is connected to the super computer running the database system through the internet. Luckily, John had just finished having a record of his brain stored in the database system before the accident. Hence, even after the accident, he can utilize the simulator and all the information which it contains. When John is connected to the memory simulator, all his old habits, which used to be grounded in his memory before the accident, are simulated with great precision. Thus, whenever he is in T, he comes to be in M, and hence by being connected to the simulator, the subjunctive, ‘If John were in T, then John would be in M’, is true even after the car accident. However, John does not remember that *p*, since, *ex hypothesi*, he experiences mere simulations of the memories by means of the simulator.

The upshot here is simple. Unless we are already in a position to exclude the possibility that the subjunctive, ‘If John were in T, then John would be in M’, is true because he is connected to the memory simulator (or there is some other non-normal causal explanation), in an explanatory context, such a possibility must be relevant. In our explanatory context *EC*, John’s being in M is actually explained by the subjunctive, and we are not in a position to exclude such a possibility. Hence, in *EC*, an explanation by appeal to John’s satisfying the subjunctive cannot exclude this possibility. On the other hand, an explanation by appeal to John’s dispositional

⁵ This story is a modification of Martin 1994’s electro fink scenario.

propositional memory that p clearly excludes such a possibility. Therefore, their explanatory potential must differ in *EC* as one would exclude more possibilities than the other.⁶

Therefore, to cite John's dispositional propositional memory is not equivalent to citing the subjunctive in an explanation of John's being in M . This shows that the concept of dispositional propositional memory cannot be captured by that particular subjunctive. Is there any other subjunctive statement that accords with the traditional approach which would convey the same explanatory information as citing the dispositional propositional memory?

No, not really. Any arbitrary subjunctive conditional, say 'if John were in Φ , then he would be in Ψ ', is vulnerable to the same trouble, unless descriptions, Φ and Ψ , can make the subjunctive false in the memory simulator scenario. Of course, many descriptions can fulfill such a task. For instance, consider this: if John were to read a question whether p without being connected to the memory simulator, then he would accept that p . This subjunctive is probably false in the memory simulator scenario. But this is far from the satisfactory solution because, first, it is ad hoc, and, second, there still is another possible explanatory context which is relevant to a possible scenario in which John does not have the dispositional memory, but this subjunctive is still true of him; e.g. , a case in which John is not helped by the memory simulator, but by God in a similar way.

3.2.2 Semantic Difference

The trouble comes from the difference between how we evaluate the truth value of a subjunctive conditional claim and an attribution of a dispositional memory. According to the

⁶ It is worth describing a case in which the subjunctive is false, but John dispositionally remembers that p . For instance, suppose John dispositionally remembers that p . But for some reason, being M is very dangerous to John. So he takes a pill which keeps him from being M . Hence, when the medicine is effective, John would not be in M , even if he were in T . Therefore, John dispositionally remembers that p , but nonetheless, the subjunctive is not true of him.

standard interpretation of the subjunctive conditional, the truth of ‘If John were in Φ , then he would be in Ψ ’ depends upon what possibility is more likely and less likely, i.e., how things are with respect to the members of the set of the closest possible scenarios, if we may use ‘the distance between possibilities’ talk.⁷ So, the subjunctive is true just in case in each of the closest possible scenarios to the actual situation, if John *is* in Φ , then he *is* in Ψ . On the other hand, the attribution of dispositional propositional memory seems to be dependent upon how the actual world is. In fact, whatever the closest possibility is, if John actually does not have the capacity for memory, we cannot attribute a dispositional propositional memory to him. This is so, even if John recovers his memory function in the closet possible world.⁸

According to our picture of explanatory information, when citing John’s dispositional memory that p explains its seeming to him that p , John’s having the dispositional memory enables us to infer something about the actual world. Thus, suppose in an explanatory context, c , S_o is the set of all possible scenarios as to its seeming to John that p . If citing John’s dispositional memory that p in c truly explains its seeming to him that p , then there is a proper subset of S_o , S_e , such that citing John’s dispositional propositional memory in c enables us to narrow down S_o to S_e . Now, if there is a subjunctive statement, J , such that to cite J is equivalent to citing John’s dispositional propositional memory that p , then in any explanatory context citing J must enable us to infer exactly the same things as citing his dispositional memory does. Hence, for any explanatory context, ec , any set of possible scenarios, S , citing John’s dispositional memory that p in ec enables us to narrow down S to a proper subset, S^* , if and only if citing J in ec enables us to narrow down S to S^* .

⁷ See Lewis 1973. My talk about ‘world’ or ‘scenario’ is just metaphorical, and has no particular ontological commitment.

⁸ Probably, such a scenario must be somewhat like the finkish lack of disposition. See Martin 1994. Lewis (1997, 149-151) explains how the semantics of a subjunctive grounds the finkish cases.

The crucial point to focus on is how we are informed by someone's citing John's dispositional propositional memory, which seems to be quite different from how we are informed by someone's citing J . And this indicates a difference in the truth conditions of each kind of statement. On the one hand, J is true only in virtue of how things are in the closest scenarios to the actual scenario. Hence, when we are given the truth of J in a context, c , we are given information about the closest possible scenarios to c . Let the possibilities with respect to the closest possible scenarios to c before the truth of J is judged be O . The truth of J in c enables us to narrow down O to a proper subset, O^* . Thus, if citing J 's truth in c enables us to narrow down S to S^* , it is by way of narrowing down O to O^* . Thus, the truth of J in c can help us move from S to S^* only to the extent that we can move from O to O^* . But on the other hand, as was suggested above, the attribution of the dispositional propositional memory to John seems to depend upon some actual fact about John and not to depend solely upon how John is in the nearest possible scenarios to the actual. Hence, when we are informed of John's dispositional propositional memory that p in c , we may move from S to S^* not by way of the move from O to O^* . If so, then how citing John's dispositional propositional memory conveys its explanatory information is more straightforward than, and so different from, the how citing J conveys its explanatory information.

This is the source of the trouble. If to cite J is to cite John's dispositional propositional memory that p , it must be guaranteed that the move from O to O^* leads us from S to S^* . Hence, if to cite J is to cite John's dispositional memory that p , then for any explanatory context, ec , any set of possible scenarios, S , citing John's dispositional memory that p in ec enables us to narrow down S to a proper subset, S^* if and only if citing J in ec enables us to narrow down O to O^* . But this cannot be true, unless the truth of J in any ec would exclude the possibility that John

actually does not have the dispositional propositional memory. Ad hoc modifications of the subjunctive, ‘If John were in T then he would be in M’, cannot solve the problem, unless it can guarantee this exclusion in every explanatory context. In some explanatory contexts, we can exclude such a possibility, because we know how the actual world is in advance of the explanation. But we cannot do so in general. For an ad hoc adjustment of the subjunctive to those deviant possibilities requires us to know in advance what type of deviant case needs to be excluded. At the end of the day, we can complete the modification of the subjunctive in such an ad hoc manner only by enumerating every possible deviant case. But how can we accomplish such a task without appealing to any principled method? Thus, the subjunctive analysis, if possible, cannot be achieved by the ad hoc modification.

3.2.3 *Ceteris Paribus* Clause

If I am correct, the counterexamples to *J* utilize the fact that the truth of *J* informs us of how the actual world is only by way of conveying information about the closest possible scenarios. None of the ad hoc modifications can prevent new counterexamples from being concocted, but there is a systematic way to rule them out, or so it seems. It is to have recourse to a *ceteris paribus* clause, as follows: [*J*_{cp}] if John were such and such, then, *ceteris paribus*, John would be so and so. By way of the *ceteris paribus* clause, the truth of [*J*_{cp}] specifies a limited class of the closest possible scenarios, and, the idea is, the clause would limit the closest possible scenarios to ones excluding the deviant possible scenarios, like ones in which John’s accepting that *p* is due to the memory simulator. Hence, when the truth of [*J*_{cp}] truly explains its seeming to John that *p*, the clause guarantees that we narrow down the possible ways the world is to ones in which John indeed dispositionally remembers that *p*. If [*J*_{cp}] successfully does this job, it saves the traditional approach. However, it has fatal defects.

My first response to this approach follows that of C.B. Martin (1994, 5-6). The problem is that $[J_{cp}]$ fails to provide us with a good analysis of the concept of dispositional propositional memory. As Martin says, we should think about how this ‘ceteris paribus’ clause works. The condition is supposed to exclude not all possible scenarios from the class of the closest ones, but only specific possibilities. Which ones are to be excluded? The only compelling answer seems to be this: those in which the triggering and manifestation conditions are satisfied solely because of some factor *which is not dispositional memory* or the manifestation conditions is not satisfied when the triggering condition is satisfied because *some factor prevents the manifestation of dispositional memory*. Indeed, what else can the ceteris paribus clause be intended to mean? But if this is the content of the ceteris paribus clause, $[J_{cp}]$ really means, ‘If John were such and such and John had the dispositional propositional memory that p and nothing prevented John manifesting the dispositional propositional memory, then John would be so and so’. If this is really the only way to understand the ceteris paribus clause, this repair to the traditional approach would fail to offer any analysis of the concept of dispositional propositional memory.⁹

My second response comes from reflection on our practice. If adding the ceteris paribus clause is the only available solution, then the traditional approach would fail to explain our previous observation that a dispositional explanation by appeal to one’s dispositional propositional memory conveys a certain piece of information about the causal history of the agent. Let us go back to the explanatory information provided by citing a dispositional propositional memory. We saw that we were informed, in an ordinary context, of on what condition Bill was caused to accept the proposition simply by citing Bill’s dispositional

⁹ Evidently I exclude any Carnapian reduction sentences from good analyses.

propositional memory. Given only the subjunctive with the ceteris paribus clause, how can we be informed of this explanatory information? We cannot.¹⁰

The trouble is that even if a subjunctive conditional, like [J_{cp}], successfully excludes the deviant possible scenarios by way of the ceteris paribus clause, it still fails to clarify why we have to exclude such scenarios. When John's accepting that p is explained by citing a subjunctive, 'If John were in T, then, ceteris paribus, John would be in M', we might be informed that John's being in M is *appropriately* caused by his being in T.¹¹ But when John's accepting that p is explained by citing his dispositional propositional memory, we are informed of more than this. For recall the observation we reached in the last chapter; that is, citing Bill's dispositional memory informs us that his accepting the proposition was triggered on the basis of his knowledge he acquired previously. Evidently, we want to exclude the deviant possibilities for they might lead us to think John's being M is triggered by his being in T inappropriately, for example, by way of the memory simulator, so that it is not a genuine manifestation event of his dispositional propositional memory. The ceteris paribus clause can always keep us from such deviant worlds (if we give the right reading). It always leads us to a desirable view of the actual world according to which John's being M is triggered on the basis of an appropriate ground, so that it manifests his dispositional propositional memory that p . But this is not enough. For the ceteris paribus clause does not tell us what makes the deviant story inappropriate and what makes the desirable story appropriate. Citing the dispositional propositional memory as a matter of fact informs us of this distinction, i.e., the distinction between genuine manifestations and

¹⁰ The critical role of a ceteris paribus clause in analyses of dispositional concepts is pointed out by Quine (1960, section 46). The difference between a mere ceteris paribus clause and dispositional concepts is addressed by Levi and Morgenbesser (1964, 401).

¹¹ It is notable that we might not be informed of this much, since, for instance, there remains the possibility that John's being in M and being in T are brought about by a common cause.

deviant cases by suggesting particular standing conditions for manifesting the dispositional propositional memory. Since citing the dispositional propositional memory alone conveys this explanatory information, it must reside in the concept of dispositional propositional memory. Hence, if to cite John's dispositional propositional memory in an explanatory context is to cite a subjunctive true of John, the subjunctive must contain this missing information.

3.3 Causal Ground and Lewis's Scheme

Now our task becomes clearer. A good analysis of the concept of dispositional propositional memory must satisfy the following three conditions. First, the truth of a satisfactory analysans must not allow any deviant possibility. Second, a satisfactory analysis of the concept of dispositional propositional memory cannot presuppose the concept of dispositional propositional memory. Third, citing the truth of a satisfactory analysans must enable us to convey information about a standing condition necessary for manifesting one's dispositional propositional memory. We saw that the two of these three requirements are not satisfied even by the traditional approach's best effort, namely, the second and the third. Thus, we should depart from it.

Here is a plain solution. As we saw above, the fundamental trouble comes from the fact that attribution of a dispositional propositional memory to a subject may be determined solely on the basis of how things actually are with him. In other words, if we attribute a dispositional propositional memory to him, then there are some indicative statements true of him in the actual world. The traditional approach struggles to capture this in a subjunctive conditional. However, once we give up a purely subjunctive analysans, we can easily capture this aspect by employing a clause in the indicative mood in our analysans. If this new clause is properly specified, we can successfully limit the range of possibilities allowed by the explanans to ones where one indeed has the dispositional propositional memory. However, the question now is how we can specify

this indicative clause. For to meet our second requirement on a good analysis, the new clause must not presuppose the concept of dispositional propositional memory.

Prior et al. provide a promising approach. According to them, if we truly possess a disposition, some properties we actually possess causally ground the regularity the disposition involves. They say,

For each disposition we can specify a pair of antecedent circumstances and manifestation which together determine the disposition under discussion. In the case of fragility, the pair is (roughly) <knocking, breaking>, ... By “a causal basis” we mean the property or property-complex of the object that, together with the first member of the pair—the antecedent circumstances—is the causally operative sufficient condition for the manifestation in the case of ‘surefire’ dispositions...” (Prior et al 1982, 251).

The fundamental idea is that for a disposition, e.g., brittleness, there is a property whose possession constitutes a necessary condition for manifesting the brittleness. Without such a property, nothing manifests its brittleness even if it is caused to undergo a relevant type of change, breaking, e.g., by an appropriate triggering event, e.g., knocking. Moreover, possessing such a property is intrinsically sufficient for manifesting the disposition in appropriate conditions. If knocking takes place (provided that the disposition is surefire), no other conditions are required for the glass’s breaking to manifest the brittleness. Hence, given the glass’s possession of such a property, there is no worry about the deviant cases in which knocking triggers the glass’s breaking for some inappropriate reason. Such properties may be legitimately called ‘causal grounds (properties)’.¹² The importance of this is evident. If dispositional propositional memory requires a causal ground of the regularity it involves, then by adding a new clause specifying that ground or that there is such a ground, we can provide an analysis satisfying the first requirement. In addition, assuming that we can specify all causal grounds

¹² One might point out that the use of the notion of ‘ground’ here is not appropriate. ‘Grounding’ is an asymmetrical relation. But the ‘grounding’ property of a disposition may be identical the property of being in the disposition, hence the relation should not be asymmetrical, but symmetrical (since it is identity). This is just a terminological issue, and if one does not want to use ‘ground’, that would cause no practical trouble.

without presupposing the concept of dispositional propositional memory, we can satisfy the second requirement as well.

To capture the present idea, David Lewis proposes a scheme of the analysis of a dispositional concept in general:

Something x is disposed at time t to give response r to stimulus s iff, for some intrinsic property B that x *has* at t , for some time t' after t , if x were to undergo stimulus s at time t and retain property B until t' , s and x 's having of B would jointly be an x -complete¹³ cause of x 's giving response r . (157)¹⁴ [Emphasis Added]

The scheme incorporates the subjunctive which captures how the disposition is manifested with a clause specifying the causal ground, so that it states that a dispositional concept is true of someone if and only if not only some regularity involving him but also he actually possesses a certain type of property which causally grounds the regularity.

This does not yet satisfy our third requirement. Suppose specifying each element of the scheme yields a satisfactory analysis of the concept of propositional memory. Then, according to the third requirement, citing the analysis of such a satisfactory analysis, say A , conveys information about how a manifestation event of one's dispositional propositional memory is caused. A direct implication of the scheme is that all standing conditions of manifesting the dispositional propositional memory are reduced to possession of the causal ground B , and thus the relevant information must be about what it is to possess B . Nonetheless, the scheme requires A to be committed to the existential quantification of B *simpliciter*. As a result, knowing the truth

¹³ "We have the notion of a complete cause of an effect... We can introduce a restriction of that notion: a cause complete in so far as havings of properties intrinsic to x are concerned, though perhaps omitting some events extrinsic to x . For short, 'an x -complete cause'" (Lewis 1997, 156).

¹⁴ Evidently, the analysandum of this scheme as such cannot be applicable to the concept of dispositional propositional memory, since the scheme is to analyze the structure of a dispositional concept. Of course, this superficial difference gives rise to no practical problem in our analysis of dispositional propositional memory.

of A may fail to inform us of anything more than the satisfaction of some unspecified standing conditions. This is evidently inadequate.

The present worry is alleviated by an easy fix on the scheme. By specifying the type of B , the analysans can provide such explanatory information. Let us use the schematic letter G to refer to the type of causal ground. Then, we obtain this basic framework:

For any x, t , x dispositionally remembers that p at t iff for some intrinsic property, p , of type G that x has at t , for some time t' after t , if x were to be in a triggering event, T , at t and retain p until t' , T and x 's possessing p would jointly be an x -complete cause of a manifestation event, M , involving x .

Of course, specifying the content of each schematic letter, G , T , and M will be the main task of the rest of this project. But, given the truth of an analysans properly spelling out each content, it must guarantee that x would regularly manifest the dispositional propositional memory truly whenever M is triggered by T , for it guarantees that x possesses all of the intrinsically necessary and sufficient conditions for manifesting the disposition.

The present theory explains the previously discussed tension between the traditional analysis and the concept of dispositional propositional memory. We have the intuition that the claim, "John dispositionally remembers that p ," may be false simply because of how things are in the actual world, e.g., because John lost those brain functions that underlie memory. Why? According to our theory, it is because those functions are a part of the complete causal ground for manifesting dispositional propositional memory. If he has lost those functions, no event can be a manifestation of dispositional propositional memory, since it cannot be properly grounded. Therefore, John cannot have the dispositional propositional memory because he lacks a certain property. This is how the attribution of the dispositional memory is dependent upon the how things are with the actual world.

3.4 Ontological Questions versus Conceptual Questions

It is very important to remark here that the main purpose of introducing Lewis's scheme is to analyze a dispositional *concept*. It is broadly agreed now that for a certain term, f , knowledge of what concept is expressed by f does not automatically yield knowledge of what property is denoted by f . We know what concept is expressed by 'have the scent of roses', but we do not know what property is exactly denoted by that predicate. Likewise, Lewis's scheme gives us an insight into the conceptual question, 'what is a dispositional concept', but this does not settle the corresponding ontological question; i.e., 'what property is a disposition', as Lewis (1997, 151) explicitly notes.

In fact, asking the conceptual question about the concept of dispositionally remembering that p does not entail asking the ontological question about what the property of dispositional propositional memory is. Think of a glass's fragility. It is safe to say that most of us know, by and large, what it is for a glass to be fragile, namely, its breaking when sharply struck because of its having a certain physical composition. Do we know what the property of being fragile is? Those who advocate the traditional approach to a dispositional concept of fragility, often called phenomenologists, answer that we don't, for there is no such property as the fragility, although a glass may in fact be fragile.¹⁵ According to this view, what it is for a glass to be fragile is nothing but the fact that a subjunctive conditional (a law-like statement) is true of the glass, and no single property is the fragility. Thus, asking what is the fragility and asking what it is to be fragile are different questions on this approach. However, Martin's electro fink famously undercuts this view; a dispositional concept of liveness cannot be reduced to the truth of a simple

¹⁵ About the phenomenologist claim, see Mackie (1977, 103).

subjunctive.¹⁶ For having a disposition entails the actual possession of a certain property, a causal ground.

A natural move from this might appear to be the identity theory, i.e., the having of a disposition is nothing but the possessing of a certain physical property. For instance, Armstrong says,

The idea is this: given the state of the glass, including its microstructure, plus what is contrary to fact—that the glass is suitably struck—then, given the laws of nature are as they are, it follows that the glass shatters.... This is what it is for the glass to be brittle, and it does not involve anything but categorical properties of the glass. (Armstrong et al 1996, 17)¹⁷

According to this picture, if there is such a thing as a disposition property, it must be nothing but the (categorical) property causally grounding the truth of the relevant subjunctive. In other words, dispositional properties are simply reduced to the (categorical) causal ground. I do not ask here whether this type of view is ultimately tenable. But I just show that this move does not consequently deprive us of the reason to distinguish the conceptual question and the ontological question or of the ground for pursuing only the conceptual question in the current project.

Suppose, as Armstrong claims, having a dispositional propositional memory is nothing but possessing a certain property. As most psychological research presumes, it is a promising hypothesis that for a set of properties, *C*, possessing all properties belonging to *C* is intrinsically necessary and sufficient for causing manifestation events of one's dispositional propositional memory that *p*.¹⁸ In that case, we will obtain this biconditional:

¹⁶ Martin 1994.

¹⁷ Here Armstrong is talking about purely categorical state of the glass. A different type of realist approach can be found in Smith 1977.

¹⁸ Of course, I ignore the possibility that *C* contains relations here. If one claims that having a memory trace is necessary and sufficient for a propositional memory, it must be of this type. About the memory trace theory, see Chapter 5.

[AC] For all x , x dispositionally remembers that p at t iff x has the causal ground C at t . This [AC], if it is true, might give us an answer to the ontological question of what property, if any, is dispositionally remembering that p , as Armstrong claims. Of course, dispositional properties might not be reducible to their causal ground, as some other philosophers claim.¹⁹ But regardless of whether [AC] answers the ontological question, it certainly does not give us an adequate answer to the conceptual question—our primary question in this project: ‘What is it to dispositionally remember that p ?’

In order to show why [AC] is inadequate for our primary concern, it is worthwhile to refer to an intuitive motive for the traditional approach to dispositional concepts. Despite its failure, the traditional approach has attracted many philosophers. Why? It must be primarily because a dispositional concept seems to be individuated partly, at least, in terms of how it is manifested. To have a disposition is to be disposed to something. And indeed, an appeal to a subjunctive statement seems to be a handy, promising approach to capturing this aspect of such a concept.

We can underpin this intuition by scrutinizing how we individuate a dispositional concept. It seems to be quite uncontroversial to claim that two (single track) dispositional concepts are different if one is a disposition to n and the other is a disposition to m when ‘ n ’ and ‘ m ’ express to different event types. The concept of conductivity seems to be the same as the concept of liveness, since they are both a disposition to conduct electricity. But they seem to be different from the concept of thermal conductivity because thermal conductivity is a disposition to conduct heat. Such a conceptual difference would not be affected by the identity of their causal ground. Even if it turned out that one and the same categorical property causally grounded liveness (and electrical conductivity) and thermal conductivity, the two dispositional concepts

¹⁹ See Mumford 1998, especially chapter 5.

would remain distinct. This can be confirmed if we see how we would characterize those dispositional concepts in such a scenario. Evidently, we would not characterize liveness as a disposition to conduct heat, nor thermal conductivity as a disposition to conduct electricity, and conducting heat and conducting electricity are different event types. This is actually a common practice. Take, for instance, brittleness. A brittle thing normally resists being deformed when force is exerted on it. In other words, a brittle thing is disposed to resist being deformed in response to certain force. This disposition, if it counts, seems to be causally grounded by a certain physical property, chemical composition, and the very same property also grounds brittleness. Nonetheless, we do not characterize brittleness as a disposition to resist being deformed. A thing's brittleness is a disposition to break, not to resist being deformed, regardless of the fact that the same property causally grounds the two dispositions. If so, it is evident that citing the causal ground gives no satisfactory answer to this conceptual question, 'What is the concept of brittleness?' Likewise, there is no reason to expect that citing the causal ground of a dispositional propositional memory gives a satisfactory answer to our primary question.

Furthermore, our daily practice of DR-explanation seems to ask for something more than [AC]. Suppose [AC] gave the correct analysis of the concept of dispositional propositional memory. Then, citing one's dispositional propositional memory would be nothing more than citing Bill's possessing *C*. But as a matter of fact, we do not know much about what it is for Bill to possess *C*. Nonetheless, we actually explain Bill's accepting the proposition by appeal to the concept of dispositional memory. But if citing his dispositional propositional memory is nothing but citing *C*, how can such an explanation be possible if we don't know what *C* is? Evidently when we explain something by appeal to something else, we must be able to see an explanatory connection between the two. For instance, if one tries to explain the Iraq war by citing the

election in 2000, it is because he sees the causal connection between the two, and takes such a causal connection to be explanatorily informative. Likewise, we cannot explain Bill's accepting the proposition by appeal to his having the dispositional propositional memory, unless we see some explanatory relevant connection between them. However, under the present hypothesis, knowing $[AC]$ by itself tells only that if Bill dispositionally remembers that p , then Bill possesses C . Thus, if we are to explain Bill's accepting the proposition by appeal to his dispositional propositional memory, we must see an explanatory informative connection somehow between Bill's accepting the proposition and his possessing C . However, as a matter of fact, we do not know much about what it is for Bill to possess C . Then, how do we actually derive the explanatorily informative connection? It is far more natural, at least, to suppose that the connection is rather built into the concept of dispositional propositional memory itself—as a manifestation condition if I am correct—so that we can see an explanatorily informative connection between two events by understanding the concept of dispositional propositional memory itself.

Thus, even if we granted Armstrong's identity claim, it would not settle our primary question: 'what is it to dispositionally remember that p ?' We would still have a good reason to ask, beyond $[AC]$, the conceptual question as to dispositional propositional memory.

3.5 Tasks and Remarks

In the rest of this project, I try to fill out the content of our basic framework to offer an analysis of the concept of dispositional propositional memory. As is already clear, the two components of the analysis, the type of causal ground for manifesting dispositional propositional memory— G , and how the disposition is manifested in response to triggers— T and M , are conceptually independent of each other. Thus, I will split the task of the analysis into two parts corresponding to the two components and engage in each task in each of the next two chapters.

Because of practical troubles, I will have to leave a part of the analysis relatively indeterminate. Nonetheless, I believe that I will lay a firm foundation for the complete analysis, which will provide us with a satisfactory enough elucidation of the concept of dispositional propositional memory to illuminate our primary interest: the explanatory role of propositional memory in our ordinary practice and the conceptual connection between knowledge and memory. But before moving on, let me make a couple of preliminary remarks here.

3.5.1 Metaphysics of Causal Ground

In the next chapter, I will investigate the type of causal ground for dispositional propositional memory, *G*, and offer a theory. Although I will offer no substantial argument for it, granting a commonsensical picture, one natural consequence of my claim is that there is a property causally grounding dispositional propositional memory. Like Armstrong, one might lean toward the claim that this causal ground must be a ‘real’ property, like a categorical property. This might seem to be a natural move, just as one claims that the causal ground of a glass’s fragility is its categorical property, chemical composition. But, at the same time, this move involves him in a serious ontological commitment; he must make clear what property is causally potent, first order property.

Actually no such commitment is necessary as far as we exploit Lewis’s original scheme which leaves the type of causal ground of a disposition wide open. Lewis indeed says,

If we remain neutral in the disagreement between Armstrong and Prior, not only do we refuse to say which properties are dispositional; equally, we refuse to say which properties are non-dispositional, or ‘categorical’. So we would be unwise to speak, as many do, of ‘categorical bases’. Because if we then saw fit to go Armstrong’s way, and to identify the disposition itself with its causal basis (in a particular case), we would end up with claiming to identify dispositional with non-dispositional properties, and claiming that dispositions are their own categorical bases! Rather than risk such confusion, we do better to eschew the alleged distinction between dispositional and ‘categorical’ properties altogether. (1997, 152)

Thus, Lewis's original scheme postulates the existence of causal ground, but states nothing about what property is causally potent, first order property which grounds a disposition. However, our basic framework is committed to a little more than the Lewis's scheme. It claims that a property of a specific type, G, constitutes (part of) the ground of what causes a manifestation event of a dispositional propositional memory. This seems to imply that the type G property is causally potent, and thus, an analysis following our basic framework would require us to specify the 'real' causal ground, just as specifying that the causal ground of a glass's fragility is its chemical composition.²⁰

This does not reflect what I aim to achieve in the next chapter. The only reason we incorporate G into the framework is to capture the explanatory information we actually obtain. To that extent, G need not specify what property causally grounds dispositional propositional memory, but just the standing conditions for manifesting a dispositional propositional memory we are informed of. This makes an essential difference, since specifying the standing condition does not guarantee us the knowledge of what property is the causal ground of the dispositional propositional memory. In fact, we have no reason to suppose that the correct analysis of the concept of dispositional propositional memory fully uncovers the causal ground property of the disposition. Maybe the standing condition for manifesting a dispositional propositional memory should be specified in terms of another dispositional concept. Thus, our basic framework postulates too much in burdening us with the task of identifying the causal ground property, G.

Hence, I contrive to eschew any commitment as to identification of the causal ground property, as Lewis's original scheme does. So I will rather choose to quantify over states as causal grounds of the disposition.

²⁰ About the causal impotency of second order property like disposition, see Prior et al 1982.

For any x , t , x dispositionally remembers that p at t iff for some state, s , x is in at t , s is x 's possessing G , and for some time t' after t , if x were to be in a triggering event, T , at t and s subsists until t' , T and x 's being in s would jointly be an x -complete cause of a manifestation event, M , involving x .

A virtue of this approach is its neutrality. This can be endorsed by different approaches; G may identify the property type causally grounds dispositional propositional memory or G may cite just another dispositional property (or other non-first order property). In the next chapter, I will identify G —the standing condition of one's dispositional propositional memory that p —in terms of his retained knowledge that p . However, at any rate, I will not endorse any positive theory about the metaphysical relation between dispositional propositional memory and retained knowledge. This is due to the ontological neutrality of our approach, and thankfully, the approach keeps us from many intractable questions, e.g., what property causally grounds knowledge and memory? I believe that they deserve an independent study, larger than the present one, and are not within the range of the present project, which focuses on the conceptual analysis of dispositional propositional memory. What we want is simply a good analysis of the concept expressed by the dispositional use of 'remember'. The task of capturing this dispositional concept is independent of the task of identifying the property which is the having of any given dispositional propositional memory.

3.5.2 Concepts of Manifestation

In the final chapter, I will discuss the manifestation/trigger conditions— T and M . Following Lewis's scheme, this will be presented in terms of a subjunctive conditional which specifies what type of manifestation event is triggered by what type of event. An obvious worry about this task is that it is not very clear whether such subjunctives are really finitely specifiable. Famously, many mental dispositions are said to be multi-track, so that there is no single

subjunctive can characterize the disposition.²¹ Similarly, one might hold that dispositional propositional memory can be manifested in a variety of ways. Recalling something is not exactly the same event as reminiscing, but both events may, it seems, manifest a dispositional memory. Moreover, an event which by itself does not conceptually imply any memory sometimes manifests a dispositional memory. For example, my spelling ‘aardvark’ correctly might manifest my dispositional memory of the spelling. The same point goes for manifestation of dispositional propositional memory as well. Indeed, as soon as we start enumerating ways dispositional propositional memory is manifested, we come to realize the enormous varieties of it, and to start wondering about the possibility of its infinitude. Of course, one may be content even with such infinite varieties of manifestation.²² But as Armstrong (1973, 17) rightly says, unless we can find some (family of) characteristic features which enable us to specify all possible manifestation events of such a disposition, without referring back to the very dispositional concept (as when the manifestation of a disposition is specified by ‘any event which manifests the disposition’), we cannot find a reason to count the concept as a dispositional concept. Otherwise we can know of a disposition to anything, but this makes no sense at all. A disposition must be a disposition to specific type events.

As I will argue in the final chapter, dispositional propositional memory can be analyzed in terms of a single type of manifestation event. To this extent, I will not accept that it is a typical multi-track disposition, still less it is infinitely multi-track. I suspect that the present worry stems from confusion about the concept of manifestation. As a preliminary, it is worth clarifying the notion, since it tells us what is really the main task in the final chapter.

²¹ See, for instance, Ryle (1949, 44).

²² For instance, Martin seems to be happy with this consequence. He says, “For any disposition a property bears, it is ready for indefinitely many kinds (though not just any kind) of manifestation. This is so because of its reciprocity with an indefinite number of possible partners and the variety of alternative manifestation conditions” (1993, 184).

First, in my view, a subjunctive characterizes manifestation events of dispositional propositional memory by means of a description of those manifestation events.²³ One and the same event may be described in various different ways. For instance, a particular breaking of a glass may be described by ‘a waitress’s blunder’. Of course, the glass manifests its fragility in that event only because it breaks, not because a waitress makes a blunder. So if we enumerate all possible manifestation events, descriptions of those events must extend over enormous varieties. But it may also be the case that all manifestation events share one or a few characteristic features, so that they are all described in terms of one or a few particular descriptions.

Second, ‘manifestation’ expresses two different concepts. We already clarified the notion of manifestation relevant to our project. To have a disposition is to be disposed to undergo a manifestation event. On the other hand, when we speak of manifestation in ordinary discourse, we might mean something slightly different, roughly, ‘giving evidence for the existence of’. Typically we say, “Such and such an event manifests one’s being so and so,” we are not necessarily speaking of a manifestation relation between an event and a disposition, but rather may simply be citing an evidential connection between an event and a property. For example, when we say, “John’s face manifests his anger,” we commonly claim that John’s facial expression is good evidence for John’s anger. Likewise, even when we speak of a disposition, we sometimes mean this evidential connection. True, observation of a manifestation event of a disposition constitutes good evidence for a thing’s having the disposition. Seeing a glass’s breaking on being struck is good evidence for the glass’s fragility. Nonetheless, it is evident that not all evidence for a disposition is a manifestation event of that disposition in our sense. For

²³ Of course, some might disagree with me because they have a different notion of event. But I suppose that the disagreement does not amount to a rejection of my point, since essentially the same claim can be captured within such a different ontological framework.

instance, a fragile thing is normally treated very carefully, like being labeled with a picture of a broken wine glass when being shipped. But we do not think that to be fragile is to be disposed to be labeled with the picture of a broken wine glass when being shipped, even if the fact that a glass is labeled with the picture would constitute just as a good evidence for a thing's being fragile as its breaking when being struck. Thus, the two senses of 'manifesting a disposition' must be carefully distinguished. It is one thing to be evidence for a disposition, and a different thing to satisfy a manifestation condition of a disposition.

Now, it is evident that not all regularities from which we can infer dispositional propositional memory tell us what a manifestation of dispositional propositional memory is in our sense. This is so even when such regularity is underpinned by a genuine causal law. This consideration points to an important task for the final chapter: to select true manifestation conditions of dispositional propositional memory among all true subjunctives. The main reason we do not take just any evidence for a disposition to be a manifestation event of it is that not all subjunctive conditional statements are counted in the set of subjunctives characterizing that disposition. For instance, we do not take x 's being labeled with the picture of a broken wine glass when being shipped to be a manifestation event of x 's being fragile. This is so even if all and only fragile things are such that a (probabilistic) subjunctive conditional statement, as 'if x were packed by a man with an appropriate knowledge and equipment, then x would be (very likely) labeled with the picture of a broken wine glass', is true of them. For we understand the concept of fragility as a disposition only to break in a certain condition. Even if the intrinsic ground of the evidence is the same categorical property, like particular chemical composition, so that anything labeled with the picture is very likely to break in a certain condition, fragility is not a disposition to be labeled with that wine glass picture. And, hence, the concept of fragility should

not be characterized in terms of the subjunctive conditional statement whose consequent is specified in terms of the label. Of course, such a true subjunctive might characterize a different disposition (probably of people in the transport industry) for which we surely have no particular name yet. But, it does not belong to the set of subjunctives characterizing the concept of fragility. Meanwhile, the evidential connection between the label of a broken wine glass and a thing's being fragile cannot be clearer, since all and only fragile things satisfy the subjunctive. In the same way, there are a large number of, even infinite, true subjunctive conditional statements which are satisfied by all and only subjects having a dispositional propositional memory, but not all of those statements characterize the concept of dispositional propositional memory. Thus, we must identify a certain set of subjunctive statements as ones characterizing dispositional propositional memory that p among those subjunctives true of whoever dispositionally remembers that p .

CHAPTER 4 RETAINED KNOWLEDGE

4.1 Introduction

In the previous chapters, we have laid the basis for the analysis of propositional memory as a disposition. In the rest of this project, I will propose an analysis of the concept of dispositional propositional memory.

In the last chapter, we found that if one dispositionally remembers that p , he must be in a particular state causally grounding a manifestation of the dispositional memory. In this chapter, we will focus on this causal ground of dispositional propositional memory. We will start the investigation in this chapter with a traditional debate about a standing condition necessary for propositional memory. Virtually no contemporary philosophical theory of propositional memory denies that remembering that p entails that p .¹ But why is propositional memory always veridical? The traditional answer to this question is that to remember that p is to retain the knowledge that p .² The proposal we will discuss in this chapter is in line with this traditional approach, and the following two sections (sections 2 and 3) will be devoted to responding to counterexamples to this traditional view. In this chapter, in accordance with our basic framework, I will formulate my account by way of a revision to the traditional picture and examine the metaphysical implications of my view and how it fits with our intuition concerning DR-explanation.

¹ See Shoemaker (1967, 266). As Malcolm (1963, 189-190) points out, in a special context, ‘remember that p ’ may fail to be veridical, as when it is used in ‘As I remember that p , ...’ Malcolm distinguishes this type of memory from propositional (‘factual’) memory, and introduces the notion of incorrect memory. Urmson 1967 endorses a similar view with a different focus. A critical remark about this type of approach can be found in White 1989.

² This traditional approach to the concept of propositional memory can be found in, for instance, Malcolm (1963, 223), Squires (1969, section II), Annis (1980, 324), and Audi (1995, section IV).

4.2 The Implication of Knowledge

The first point to make is that truly remembering that p requires that it is true that p . Nobody can remember that the first president of the U.S. was Thomas Jefferson. Suppose someone says, “The first president of the U.S. was Thomas Jefferson.” Even if a reliable source taught him that the first president of the U.S. was Thomas Jefferson and he holds what he was taught exactly, nobody would respond, “Well, you remember that the first president of the U.S. was Thomas Jefferson, but what you remember is false.” Thus, it is not only that what he rehearses is false, but also that he does not remember that the first president of the U.S. was Thomas Jefferson. But why can’t we remember that p , when p is false?³

The traditional answer to that question is: if one remembers that p , he knows that p , and we cannot know that p unless it is the case that p . The correctness of this answer is supported by the apparent absurdity of a claim like “He remembers that the White Sox won the World Series, but he does not know that the White Sox won the World Series.” We simply cannot make sense of this claim at all.⁴ Notice that nothing is absurd about each of those claims independently. It is true that the White Sox won the World Series, and therefore the veridicality condition is satisfied. Hence, it is certainly possible for him to remember that the White Sox won the World Series. And, of course, he may fail to know a truth. Thus, the reason we cannot make sense of the conjunction of both claims must come from the conflict between them. If this is correct, the claim that he has a propositional memory that p is in conflict with his ignorance of the fact that p . In a nutshell, we cannot remember that p when we do not know that p .

³ See Hintikka’s example in Malcolm (1977, 26-27). Anscombe (1981, 123) describes similar examples.

⁴ There are cases in which we say things like, “I think I remember that p , but I’m not sure if I really know that p .” But the fact that if one says, “I remember that p , but I do not know that p ,” he sounds much less intelligible seems to indicate that we should not interpret such a locution literally. Audi (1995, 40-41) discusses this and offers interpretations of such a case in favor of the claim that remembering that p entails knowing that p .

I accept the conclusion of this simple argument for the traditional view. However, despite its apparent plausibility, challenges by way of counterexamples have been raised to the traditional view, and those counterexamples are the subject of this section. But I am not trying to defend the traditional view against all kinds of challenges. I will argue only that there is no *clear-cut* counterexample to the traditional view; namely, there is no case in which one clearly remembers that p but does not know that p . So I will argue just that no one can describe any such scenario, since he would be inevitably confronted with a serious trouble which cannot be overcome. I take this difficulty to be evidence that something is radically wrong with the idea of someone's remembering that p without knowing that p , and hence to suffice to show the credibility of the traditional view.

My strategy is to develop a dilemma for any attempts to describe a story in which one remembers that p without knowing that p . Thinking of how we know what we remember in ordinary practice, a constraint must be put on any such attempt to produce a counterexample. Because of this constraint, conceptually there are only two ways of describing such a scenario, but either way one takes leads to serious difficulties. In the following, I will first identify the constraint and the two conceptually possible ways of developing a counterexample compatible with it, and then show what difficulty arises on each horn of the dilemma.

4.2.1 Propositional Memory as Prima Facie Justified Belief

Let us think about how one might try to describe a scenario in which someone remembers that p but does not know that p . Any such attempt must confront a difficulty stemming from the justificatory status of what is remembered. For the sake of simplicity, here I assume that

knowledge is a justified true belief⁵ and that propositional memory is necessarily veridical—if one remembers that *p*, then it is true that *p*. Thus, if one's memory is a justified belief, then it must follow that he knows what he remembers. Hence, if there is to be a scenario in which a subject remembers without knowing that *p*, then the scenario must rule out that the subject has a justified belief that *p* in remembering that *p*. However, any attempt to describe such a scenario encounters a serious challenge because any belief that *p* which rests on remembering that *p* is *prima facie* justified.

One of the most discussed questions with regard to propositional memory is how we can know what we remember without retaining its original justification.⁶ Thinking of our ordinary practice, it is evident that one may know that *p* solely because he remembers that *p* without having any further justification for that belief. Otherwise, we face a grave skeptical challenge. If we can remember that *p* without ipso facto having justification for the belief that *p*, then we don't know that *p* thereby because we have no justification. It would follow that we do not know most of things we think we know. For we do not have justification for most of things which we knew before, e.g., that Lincoln was the president of U.S., that Mars is a planet, and so on, except for the justification somehow provided by remembering these things. Thus, philosophers agree that one can know that *p* when he remembers that *p* solely in virtue of a *prima facie* justificatory status of what he remembers.⁷ This raises a serious challenge for any attempt to describe a scenario in which one remembers that *p* without knowing it. Given this *prima facie* justification of what is remembered, the only possible cases in which one remembers that *p* without knowing

⁵ This may be a false assumption. However, it seems that any Gettier type worry about the traditional analysis will be classified as a special case of the defeater type scenario which is explained later. If so, the falsity of this assumption, for this reason, would do no harm on my argument below.

⁶ A good summary of the dispute is found in Huemer 1999.

⁷ See for instance, Pollock (1999, 45-55) and Burge 1993.

that p must be (1) cases in which one does not believe that p though he remembers that p , or (2) cases in which something undermines the prima facie justification for the memory based belief.

And the dilemma is that each route to a counterexample faces serious problems.

4.2.2 Remembering that p without Believing that p

The first route is a case in which one remembers that p without believing that p . The primary trouble this route encounters is that it is impossible to describe a case in which a subject clearly has no belief whose propositional content clearly is identical to the content of his propositional memory. As I will show below, this is because we have no plausible way to specify a propositional content which one remembers, but does not believe, and as a result, any attempt to describe such a case appears to be underdescribed.

Let us start the discussion by examining the most famous example of this type. Martin and Deutscher, in their seminal work, "Remembering," reject the claim that a propositional memory that p implies a belief that p by appeal to this example:

Suppose that someone asks a painter to paint an imaginary scene. The painter agrees to do this and, taking himself to be painting some purely imaginary scene, paints a detailed picture of a farmyard, including a certain colored and shaped house, various people with detailed features, particular items of clothing, and so on. His parents then recognize the picture as a very accurate representation of a scene which the painter saw just once in his childhood. The figures and colors are as the painter saw them only once on the farm which he now depicts. We may add more and more evidence to force the conclusion that the painter did his work by no mere accident. Although the painter sincerely believes that his work is purely imaginary, and represents no real scene, the amazed observers have all the evidence needed to establish that in fact he is remembering a scene from childhood. (1966, 167-8)

The crucial feature of this case seems to be that the painter is entertaining only the memory-based image of the scenery. Since he is entertaining the image alone, he does not notice himself that the image is based on his memory. Due to this, the painter can believe something inconsistent with the fact that he is painting scenery that he saw before without being irrational.

However, despite the authors' claim (Martin and Deutscher 1966, 192), it is not clear that this case really is one in which the painter does not believe that p and remembers that p . It is undeniable that the painter is remembering something in painting the picture. Nonetheless, as Shope (1973, 304) has pointed out, what we can confidently attribute to the painter is, at best, only the perceptual or imagistic memory of the scenery.⁸ If so, in no way does their story clearly constitute a case in which one remembers that p without believing that p . For we have no reason to believe that such a perceptual/imagistic memory, no matter what content it has, shares the same propositional content with any of the painter's beliefs. For instance, the painter clearly does not believe that he is painting scenery that he saw in the past. But this much, of course, does not suffice for the case they want, since what the painter remembers is how a scene looks, not that he is painting scenery he saw in the past. But what else does the painter not believe? After all, we have no reason to attribute to the painter any propositional memory whose content is what the painter fails to believe. Given the attribution of the perceptual/imagistic memory, nothing in that anecdote is left unexplained. The painter paints that picture because he experientially remembers the scenery he saw in his childhood, but he does not realize that he is painting the scenery that he experientially remembers. What else is needed to explain the story? Nothing. Hence, so far as Martin and Deutscher's description goes, we do not yet have a *clear-cut* counterexample to the traditional view.

An objector might respond that Martin and Deutscher simply fail to fully describe the story. He might say, for example, that if a more detailed background story were to be added, we would see that we had both a reason to attribute to the painter the propositional memory that he saw such and such scenery and a reason not to attribute the belief that he saw that scenery. This

⁸ In attacking a different example by Martin and Deutscher, Holland (1974, 357-358) raises the same point.

is not the case, though. For there is a fundamental reason why the story needs to be underdescribed. The original story avoids attributing inconsistent beliefs to the painter in virtue of the appeal to the memory-based image. But this result is obtained in exchange for forgoing decisive evidence for attributing the crucial propositional memory to the painter.

The fundamental trouble comes from the fact that one's entertaining a memory-based image entails remembering something or remembering doing something, but not necessarily a specific propositional memory. Consider this story. Jake had a realistic dream in which he visited the Smithsonian museum and saw the Hope diamond, but he has never visited there nor even seen a picture of the Hope. Now he is recalling the visual image of the Hope in his dream. What propositional memory does he have? Because of the veridicality condition, Jake cannot remember, for example, that he saw the Hope, that the Hope was bluer than he had thought, nor even that there was something blue. Of course, he might have some propositional memory, but it is hard to tell what it is in the absence of further evidence. Thus, Jake's having a certain visual image entails no specific propositional memory of his. Likewise, the painter's entertaining the visual image of the scenery entails no specific propositional memory of the painter's.

Thus, in order to describe a clear-cut story in which the painter remembers what he does not believe, some extra evidence for identifying the specific propositional content of his memory (which he does not believe) is required. However, nothing can be decisive evidence for his memory with that particular propositional content if it contains no explicit specification of that content. And such specification is feasible only by way of citing a propositional attitude toward the content. Hence, if I am correct, we cannot provide any plausible story in which one remembers that p in entertaining a memory-based image without indicating any propositional attitude toward the propositional content that p . Therefore, if one tries to 'fully describe' the

story so that it shows clearly that the painter remembers what he does not believe, he must have recourse to, implicitly or explicitly, some of the painter's propositional attitudes toward the propositional content of his memory.

Here is essentially why any scenario in which the painter allegedly remembers what he does not believe must remain underdescribed to begin to seem plausible. The difficulty is: we know no propositional attitude which can be decisive evidence for one's remembering that *p* without being evidence for his believing that *p* as well. To see this, first consider a case which Malcolm describes which looks like it might be a counterexample:

But one can imagine cases in which we would be hard to put to know what to say. Suppose that a person had some strange, weird, improbable adventure as a child. In later life he comes to believe that the adventure was a fantasy; he believes that those events never took place, but yet he "remembers" them very well. He remembers that *p*, that *q*, that *r*, and so on: but he does not believe that *p*, that *q*, that *r*. (1977, 103)

Of course, it would be a decisive counterexample to the traditional view if there is someone like him. However, if one is trying to construct a counterexample to the traditional view, he cannot just stipulate that the man "remembers" that *p*, that *q*, and that *r* without believing them, as Malcolm does here.⁹ That begs the question. He must modify this story by inserting some extra material which convinces us that the man remembers that *p* and it must indicate some of the man's propositional attitudes toward the relevant propositional contents. However, for an obvious reason, he cannot make use of descriptions just like the following: 'It seems to the man that *p*, *q*, and *r*', 'It strikes the man as if *p*, *q*, and *r*' and so on. For those descriptions certainly suggest that the man both remembers and believes that *p*, *q*, and *r*. But what else do we conceive as evidence for a man's having a propositional memory?

⁹ In fairness to Malcolm, he is not trying to provide such a counterexample.

When Lehrer and Richard 1975 propose the following counterexample to the traditional view, they must acknowledge this trouble. As a result, they choose to make use of a mysterious description:

I am musing about my past and a vivid image occurs to me of an elderly woman standing by a stone well next to a red barn. I have no idea, initially, who the person is. Then suddenly *the thought occurs to me that the person is my grand mother, that my grandmother once stood by a stone well next to a red barn.* Moreover, the thought is not the result of conjecture or external suggestion; it occurs to me from memory. I have no idea, however, whether this thought that suddenly occurs to me is a true recollection of the past or a figment of my imagination. For all I know, the image I so vividly recall is of some quite different person, or is an image from a movie or dream. I do not know whether my grandmother ever stood by a stone well next to a barn or not. The thought just occurred to me that the woman in the image was my grandmother, and I do not know whether this is so. Suppose, however, in fact, the image is one recollected from a visit to my grandmother's home. *The thought has occurred to me from memory, and it is a true recollection.* Thus, I do remember that my grandmother once stood by a stone well next to a red barn, but I do not, by any means, know that this is so. (1975, 121) [Emphasis added.]

If I simply realize later that the lady in the image is my grandmother, and I thereby come to notice that my grandmother once stood by a stone well next to a red barn, we have no reason to suppose that I remember that my grandmother once stood by a stone well next to a red barn in entertaining that visual image. For such a belief may be newly acquired then. But the key notion here seems to be the 'thought' which is "from memory." Lehrer and Richard seem to infer that because the 'thought' that my grandmother once stood by a stone well next to a red barn occurs from memory, the 'thought' is not newly acquired, but rather I remember that my grandmother once stood by a stone well next to a red barn.¹⁰

However, on the other side, how can I not believe that my grandmother stood by a stone well next to a red barn while having the memory-based 'thought' having the same propositional content? They simply suppose that "I do not know, or even believe that" (1975, 124) my

¹⁰ They say, "The analysis we propose is based on the consideration that what some thought comes to a person from memory, and what is thought is true, then he remembers" (1975, 124-125).

grandmother stood by a stone well next to a red barn. But if what they mean by this word, ‘thought’, is what is ordinarily meant by the word, their story is simply that I suddenly come to think that my grandmother once stood by a stone well next to a red barn. But ‘think’ in our ordinary sense does not mean an attitude which is neutral with regard to the direction of fit. Rather, it indicates the mind-to-world direction of fit, and thus strongly suggests to us the existence of my belief that my grandmother once stood by a stone well next to a red barn. Provided that, if I have this ‘thought’ when I remember that my grandmother once stood by a stone well next to a red barn, the story fails to be a clear-cut case in which one remembers that p while he does not believe that p . For so long as the memory-based ‘thought’ occurs to me, it seems that I believe what I remember, i.e., that my grandmother once stood by a stone well next to a red barn. Notice that my suspicion that the image is from a movie or dream does not block my holding this belief. The suspicion might be in conflict with the belief (‘thought’) that my grandmother once stood by a stone well next to a red barn. But, of course, I may maintain, even occurrently, those two attitudes at the same time. Quite frequently when we are entertaining an occurrent belief, a conflicting belief strikes us, so we come to realize that those beliefs are in conflict with each other. However, this does not entail that we do not have one of those beliefs even before judging that to be false.

Hence, if the story is to constitute a true counterexample to the traditional view, the memory-based ‘thought’ as used in the description must mean something other than what we normally mean by that word. But what else could play the role it is supposed to? The first candidate would be simple ‘remembering’, namely, the sui generis occurrence of a manifestation of dispositional propositional memory. It might be claimed that a sui generis manifestation of one’s dispositional propositional memory does not imply a belief that p . If so, we may conclude

that the subject has such a sui generis occurrent propositional memory that p , and he does not believe that p . However, first of all, it is not clear that there really is such a sui generis occurrent propositional memory. Even if we concede its existence, we have no idea what it comes to. Thus, we are entitled to ask, “Why doesn’t a sui generis occurrent propositional memory that p imply the corresponding belief that p ?” I can see no plausible explanation forthcoming. In any case, we cannot simply stipulate that a sui generis occurrent propositional memory does not entail a corresponding belief. Indeed, it is not clear how one can appeal to such a sui generis occurrent propositional memory that p in an attempt of constructing a counterexample to the traditional view—remembering that p implies no knowledge that p —without begging the question. The existence of such a sui generis occurrent propositional memory ipso facto entails the possibility that one remembers that p without believing that p . Thus, an appeal to the notion provides us with a clear-cut counterexample to the traditional view. However, how can we assure ourselves that there are any such sui generis occurrent propositional memories implying no corresponding belief without finding in advance any clear-cut example in which one remembers that p without believing that p ?

Another possible response would be to claim that one can remember that p while having some propositional attitude implying no belief that p , for instance, imagining that p , guessing (having an arbitrary thought) that p , doubting that p , wishing that p , etc. Yes indeed. It is possible for one to have a dispositional propositional memory that p while, say, imagining that p . But insofar as one’s imagining that p does not manifest his dispositional propositional memory that p , such a case shows nothing interesting, since in imagining that p he does not occurrently remember that p . But can’t imagining that p manifest the dispositional memory that p ? Of course, it cannot simply be supposed, without no further remark, that imagining that p may be a

manifestation of one's dispositional propositional memory that p . This would again be question begging. Furthermore, as a matter of truth, a momentary reflection tells us that such a situation is simply very unlikely and counterintuitive. We never say that one occurrently remembers that p simply on the basis of his imagining or guessing that p .

Nonetheless, one might still insist that we could manage to describe an exceptional, but conceivable situation in which such a propositional attitude manifests his propositional memory. For instance, consider this case. A decade ago, when Kelly was in high school, he learned that Florida's population in 1990 was 12,937,926. Now, someone asks Kelly Florida's population in 1990. Kelly has no idea, but he just takes a guess and says, "It's 12,937,926." One might be inclined to say that Kelly actually remembers that Florida's population in 1990 was 12,937,926. For it is highly unlikely that Kelly got it accidentally right.¹¹ This may sound right. Nonetheless, if one claims this, he must imply that Kelly is in fact not guessing, but rather just mistakenly believes that he is taking a guess. Otherwise, he must be utterly confused. If one's guess is correct, it must be accidentally correct. So if one claims that Kelly remembers that Florida's population in 1990 was 12,937,926 on the ground that Kelly's guess is not accidentally correct, then that premise is incoherent. All similar cases in which one appears to remember that p in holding a propositional attitude entailing no belief—doubting, denying, wishing, etc.—can be explained away in a similar fashion, once the story is carefully examined. When one appears to remember that p in his imagining, doubting, denying, or wishing that p , either his remembering is a mere appearance or those propositional attitudes are mistakenly ascribed. After all, having any such propositional attitudes are conceptually inconsistent with manifesting the corresponding propositional memory.

¹¹ Pollock (1974, 189) proposes a similar case, and argues that remembering that p does not entail the belief that p .

Therefore, one horn of the dilemma is clear enough: any clear-cut description of a case in which one remembers that p without believing that p is self-defeating. We know no propositional attitudes clearly indicating one's propositional memory that p except for ones suggesting his belief that p . Hence, any attempt to describe such a case would remain unsatisfactory, if not self-defeating, and the description to the extent it seems plausible would seem as if it were underdescribed.

4.2.3 Defeaters

What about the other horn of the dilemma? The only alternative approach to a scenario in which one remembers that p without knowing that p is to provide a story in which one believes and remembers that p while something—a *defeater*, henceforth—undermines the prima facie justification for his belief that p . Philosophers have offered defeater scenarios. However, here I will argue that it is hardly a clear-cut counterexample to the traditional view, for no defeater can clearly undermine the knowledge without depriving the subject of the corresponding propositional memory.

Here is an example proposed by Lehrer and Richard:

I have an enemy, Hamish, who has a sister, Cleopatra, that I dearly love.... This conflict has brought on my severe depression. The doctors decide that the most effective therapy would be to eliminate all memory of the situation by using electroshock therapy. The doctor in charge asks his assistant, who examined me subsequent to the therapy, whether the treatment was successful. He replies, "Not entirely, he remembers that 'Cleopatra' is the name of somebody's sister, but he does not remember anything about her or about Hamish." He continues, "But he is pretty confused, and I don't think he knows that what he remembers is true." In my confusion, the thought occurs to me that 'Cleopatra' is the name of somebody's sister. I have no idea who she is or why this thought occurs to me. Thus, even if I feel confident that it is so, I do not know that 'Cleopatra' is the name of somebody's sister. I do not know why I think what I do, or even how to interpret my own thought. It does not fit in with other thoughts that I have. I have no reason to think this is something I remember, thought, in fact, it is. The thought occurs to me from memory, and it is perfectly correct. I remember that 'Cleopatra' is the name of somebody's sister, but I do not know that 'Cleopatra' is the name of somebody's sister. (1975, 121-122)

In this example, I believe that ‘Cleopatra’ is the name of somebody’s sister. However, Lehrer and Richard argue that I do not know that ‘Cleopatra’ is the name of somebody’s sister, for I am confused and “I have no idea who she is or why this thought occurs to me.” But does this really undermine my knowledge? Consider this case. I am not a morning person. In fact, often when I wake up early in the morning, I feel pretty confused. Suppose, for instance, ‘Shiho’ is my wife’s name, but one day when I wake up very early in the morning I cannot recall who Shiho is. Nevertheless, I am still confident that ‘Shiho’ is the name of somebody’s wife. Do I not know that ‘Shiho’ is the name of somebody’s wife? It seems to me that I do, and in any case it is hardly clear that I do not. Imagine that my mind clears and I suddenly recall that ‘Shiho’ is not just the name of somebody’s wife but the name of my wife! Do I now suddenly come to know that ‘Shiho’ is the name of someone’s name? No, intuitively I knew that before.

As we saw, we may know that p if we remember that p without any further justification for it. Thus, absent any defeater, I must be able to know that ‘Cleopatra’ is the name of somebody’s sister solely by remembering that. If so, since it is stipulated that I believe that ‘Cleopatra’ is the name of somebody’s sister, the only plausible situation in which I fail to know that must be one in which a defeater undermines the justification of my belief. The trouble here is that it is not clear that my confusion really undermines the prima facie justification of my belief. Why not? Confusion in particular seems a problematic source of defeaters for justification. If a belief is well-grounded, and I become momentarily confused in my conscious reflections does it cease to be well-grounded? How could my becoming confused cause a problem any more than my becoming inattentive to my reasons for something would or my drifting off momentarily? At any rate, my confusion by no means suffices for a clear-cut defeater in Lehrer and Richard’s scenario.

Of course, it could be responded that confusion is not the only source of defeaters, and another type of defeater could undermine one's knowledge without depriving him of the corresponding propositional memory. But what type of defeater could it be? After all, given any type of defeater which clearly undermines one's knowledge, it would become very unclear that he really remembers the corresponding propositional memory.

Consider a more convincing defeater scenario. Suppose John saw Greg driving a car, and knew that Greg was driving a car. But Greg's wife lies to John that Greg does not drive a car, and buying her lie, John becomes uncertain about his belief that Greg was driving a car. In consequence, John no longer knows that Greg was driving a car. In this case, John's lack of conviction seems to undermine the justification of his belief. Now, if the present approach to constructing a scenario in which one remembers that p without knowing that p by appeal to a defeater is feasible, we must be able to construct an analogous scenario in which John remembers that Greg was driving a car without knowing that simply by adding the same type defeater. Naylor expresses the same worry when he says, "I may remember that p and yet, if my memory lacks conviction or if I have conflicting evidence that is only somewhat credible, not know that p " (1983, 270).¹²

But the problem is that such a defeater cannot help presenting the story *also* as if John no longer remembers that Greg was driving a car. Imagine a scenario in which John knows that Greg was driving a car because there is no defeater. Moreover, suppose in light of a certain background story, we elicit from that scenario an impression that John remembers that Greg was driving a car. So in the scenario, John knows and remembers that Greg was driving a car. Now,

¹² A defeater may undermine one's knowledge although he is not aware of the defeater as in cases raised by Lehrer and Paxton (1969, 228) and Harman (1973, 142-143). My point is that any clear-cut defeater results in the same intuition.

consider this modified scenario. Suppose John is uncertain about whether Greg was driving a car because of Greg's wife's lie. In this case, because of this defeater, as we assume, it appears to us that John no longer knows that Greg was driving a car. But in the face of the defeater, is it clear that John remembers that Greg was driving a car? The answer to this question seems negative to me. However, absent the defeater, we clearly think that John remembers that Greg was driving a car. If that is right, then not only our intuition as to John's knowledge, but also as to John's propositional memory must have changed between the original story and the modified one. But how? After all, what we added to the original scenario is only the defeater. Thus, our intuition as to John's propositional memory must be affected by whether the defeater is absent or not.

This effect raises a serious concern about a scenario which is supposed to give us an impression that a subject remembers that p without knowing that p because of a defeater. If there is to be a scenario which legitimately gives one such an impression, that impression must be produced through appreciation of some episodes which suggest to him that the subject actually remembers that p . Indeed, Lehrer and Richard seem to think that the fact that "[t]he thought occurs to me from memory, and it is perfectly correct" (1975, 122) gives us the impression that I remember that 'Cleopatra' is the name of somebody's sister.¹³ But this cannot be the only factor at work, if the scenario constitutes a clear-cut counterexample to the traditional approach. Let us get back to the story of John and Greg. In the face of the extra defeater story, we are inclined to say that John does not remember that Greg was driving a car any longer. This shows that any story which is contained in the original setting and gives us an impression that John remembers that Greg was driving a car is cancelled by adding the defeater scenario. Now, this seems to be intuitively plausible: even if the original story were to mention to an analogous episode, i.e., that

¹³ See note 10.

the thought that Greg was driving a car is perfectly correct and occurs to John from memory, the impression we would obtain from that story would have been cancelled in the face of the defeater story as well. If so, why can't the same thing be said about Lehrer and Richard's scenario, i.e., why is the fact that the thought that 'Cleopatra' is the name of somebody's sister is true and occurs from memory not be cancelled in the face of the analogous defeater? Thus, if that is the only factor at work which gives us impression that I remember that 'Cleopatra' is the name of somebody's sister, thanks to the defeater story, we would no longer be sure about my having that propositional memory.

Hence, if someone is still confident that I have the propositional memory in spite of the defeater story, insofar as he correctly appreciates the entire scenario, there must be something else which enables him to be so confident. It must be an episode, if any, which can give us a clear impression that the subject remembers that p , and that impression would not be cancelled even in the face of the same defeater story. But what factor in Lehrer and Richard's scenario is it? It seems obvious that the scenario contains no such episode. Indeed, we have no idea what kind of episode it could be.

But it must also be true that their scenario might appear to someone, surely to Lehrer and Richard themselves, to tell a story in which someone remembers that p but does not know that p because of a defeater. How so? Here is an account of the source of misguided intuition. When a defeater does not clearly undermine knowledge, as in Lehrer and Richard's case, one might be inclined to think that the subject has the corresponding propositional memory. This is particularly likely when the subject clearly has the corresponding memory belief. For instance, imagine a case in which you know that p is true, and that Jack came to believe that p in the past, and he still believes that p . Then, you might be inclined to say that Jack remembers that p .

Surely, a couple of necessary conditions for a propositional memory are satisfied by Jack, but you are not yet in a position to know whether he really knows that. The same thing should be said about Lehrer and Richard's story. Despite the fact that my thought is perfectly correct and occurs to me from memory, if such a memory thought (memory belief) lacks good justification, we cannot confidently attribute the propositional memory or the knowledge to me. Suppose it turns out that Jack came to believe that p for no reason. Even so, do you think that Jack remembers that p then? No, you do not. Likewise, given that a good defeater clearly undermines my knowledge, we would not be inclined to say that I remember that 'Cleopatra' is the name of somebody's sister apart from being inclined to say that I know that.

The other horn of the dilemma has already become clear. No defeater can clearly undermine one's knowledge without depriving him of the corresponding propositional memory. At best, a scenario including a defeater presents a story as if a subject might or might not know that p , whereas he has a memory belief that p . Hence, there is no clear-cut case in which one remembers that p without knowing that p due to the existence of a defeater.

Therefore, we can safely conclude that both routes to constructing a clear-cut counterexample to the traditional view fail to be satisfactory. Neither a case in which one has no belief nor a case in which one's knowledge is undermined by a defeater can constitute a clear-cut example in which one remembers that p without knowing that p . If any scenario appears to tell such a story, it is either because the story is underdescribed or ambiguous.

4.2.4 Standing Condition?

So far, we have established that if one has a dispositional propositional memory that p , then he knows that p . But a necessary condition for having a disposition is not therefore a standing condition (in our sense) necessary for manifesting the disposition. For, although a standing condition is a necessary condition, not every necessary condition for manifesting a

dispositional propositional memory is thereby a standing condition of it, since it may not be a causal condition. If a snake is poisonous, then it is dangerous. But is a snake's being dangerous a standing condition for manifesting its being poisonous? Not really. Of course, some of the necessary conditions of a snake's being poisonous must be standing conditions for manifesting its being poisonous, such as its secreting venom.

Here I demonstrate that one's knowing that p is not just a necessary condition, but also a standing condition necessary for manifesting his dispositionally remembering that p . My argument is straightforward. If one's knowledge that p is not a necessary standing condition of his dispositional propositional memory that p , then one's possessing knowledge that p may suffice for manifesting his dispositional propositional memory that p without causally grounding the manifestation event. But it is implausible that there are any such cases.

Consider an ordinary way of manifesting a dispositional propositional memory. Suppose Bill learned that the capital city of Togo is Lome, and still knows that. And now he is taking the final exam. When he sees a question asking what the capital city of Togo is, he immediately comes to think that it is Lome. In so thinking, Bill surely manifests his dispositional propositional memory. Now, let us compare the story with this deviant scenario. Suppose Bill is in fact disposed to think that the capital city of Togo is Lome in response to a question asking what the capital city of Togo is *solely* because he is under the influence of hypnotism. Thus, in responding to the exam question, he comes to think that the capital city of Togo is Lome solely in virtue of the influence of hypnotism. It seems safe to suppose that one may retain all his knowledge even when he is under the influence of hypnotism. So Bill still knows that the capital city of Togo is Lome even under the influence of hypnotism. But his knowledge is not a part of what is causing Bill to think that it is. For even if he did not know that the capital city of Togo is

Lome, he would have responded in the same way. Is Bill's response then a manifestation of his dispositional propositional memory in this deviant case? Not really. But if possession of the corresponding knowledge suffices for manifesting a dispositional propositional memory, then why can't Bill's response manifest his dispositional memory just as in the original story? After all, the present story is different from the original only with regard to the fact that his knowledge does not causally ground his response.

Hence, if one dispositionally remembers that p , then he not only knows that p , but also when the disposition is manifested, his knowledge that p must be a part of what causes (in a broad sense) the memory manifestation.¹⁴ Let's call this principle the Concurrent Knowledge principle, CK, hereafter.

4.3 Having Known that p

The Concurrent Knowledge principle is not the only standing condition necessary for manifesting one's dispositional propositional memory that p . Consider this common sort of story. One who responds to the question, "Who was the last triple crown horse?," by saying that it was Affirmed would be, upon satisfying all the necessary conditions, legitimately said to manifest the dispositional propositional memory that the last triple crown horse was Affirmed. But suppose Jake is playing a little game with his friends. They have been giving Jake a lot of clues about the last triple crown horse, and then finally they ask him the question, "So, who was the last triple crown horse?" Now, suppose Jake responds that it was Affirmed because he has just come to realize that it was Affirmed. Does Jake remember that the last triple crown horse was Affirmed? No, he does not. But it seems that he knows that, and his knowledge is a cause of the response which is appropriately triggered.

¹⁴ Essentially the same point is made by examples in Malcolm (1977, 104-105).

Why does he not remember that? Here is a simple, compelling answer: because he newly comes to know that. The intuition behind this answer is simple. If one manifests a dispositional propositional memory that p at t , then he does not thereby newly come to know that p at t . Let us call this claim NNA, i.e., the No New Acquaintance principle. The No New Acquaintance principle suggests a further standing condition necessary for manifesting one's dispositional propositional memory. And, together with CK, NNA entails an important principle which may be called 'the precedent knowledge condition'; that is, if one manifests a dispositional propositional memory that p at t , then he must have known that p from some $t^* < t$.¹⁵ Here is a simple argument for this claim. Suppose S did not know that p until t , but nevertheless S recalls (occurently remembers) that p at t . Since S remembers that p at t , by CK, he must know that p at t . Thus, S did not know that p until t and knows that p at t . This means that S newly comes to know that p at t . Hence, a contradiction follows, since by NNA he cannot newly come to know that p at t simply by remembering it. Therefore, by reductio, the precedent knowledge condition follows.

Despite its prima facie credibility, NNA may not be thought entirely convincing. According to Martin and Deutscher, for instance, one might not accept "what he was taught, experienced, or worked out on the past occasion, but later may remember that it was the case. For instance, he may have been in a mood which made him irrationally reject what he was taught. Later, with no new information, he may simply remember it" (1966, 163). If this is a case in which one newly comes to know something when he occurently remembers it, the precedent knowledge condition must be rejected. To be fair to Martin and Deutscher, they probably would not take the story to show this. For they do not assume CK. For them, it could be

¹⁵ It is important to notice that the condition is not about acquisition of a dispositional propositional memory, but about manifestation of it. I will discuss the acquisition condition of propositional memory in the next section.

a case where one remembers something without knowing it. But as noted, I reject this, and assume that if he really remembers what he was taught, he must know it.

So is there any plausible case in which one newly acquires knowledge that p when he comes to occurrently remember that p ? In the following, for the sake of clarity, let us examine a slightly more elaborated story which is alleged to be such a case. I will demonstrate that the story cannot be plausibly interpreted as such. My argument relies on a simple conceptual truth. Given CK, it is undeniable that if one occurrently remembers that p at some point, he must have had the dispositional belief that p from an earlier point. If this is true, the only possible counterexample to NNA is a case in which the belief comes to be justified right when it is manifested. But I will show that this is implausible.

Here is the story. Suppose at t_1 , George was told by a reliable source, a history professor, that Kennedy was assassinated in 1963, but he irrationally rejected this. Later at t_2 , when he watches Kennedy's speech on the history channel, all of a sudden, it strikes him that Kennedy was assassinated in 1963. In fact, this is the first time he consciously accepted that Kennedy was assassinated in 1963. If this scenario is, as Martin and Deutscher allege, interpreted as describing a case in which when George is reminded at t_2 that Kennedy was assassinated in 1963, he comes to know that Kennedy was assassinated in 1963 without having known that previously, then the story amounts to a counterexample to NNA.

However, there is good reason not to construe the story in such a way. Consider why George at t_2 is struck by the thought that Kennedy was assassinated in 1963. It may be haphazard. But if so, we have no reason to suppose that he really remembers that Kennedy was assassinated in 1963. In being struck by the thought that Kennedy was assassinated in 1963, if George is really reminded of that, then it is because he manifests the dispositional propositional

memory that Kennedy was assassinated in 1963 in response to an appropriate trigger—watching the speech. Needless to say, if he has this disposition, he must have acquired it at some point earlier than t_2 , and plausibly after (or at) t_1 , say t^* .

It could be responded that George may have come to be disposed to be struck by that thought in the same way at t^* without coming to acquire the knowledge at the same time. This is a legitimate response. One might be disposed to be struck by the thought that Kennedy was assassinated in 1963 without knowing that Kennedy was assassinated in 1963. Nevertheless, George must have acquired the belief that Kennedy was assassinated in 1963 before t_2 , at least. Otherwise, how can George be disposed to come to have the occurrent thought in the way he was? If one is struck by a thought that p , it must appear to him that p is the case. If, for instance, it appears to one that p is doubtful, he is disposed to be struck by the thought that p is doubtful, rather than by the thought that p . Therefore, given CK, if he acquired the disposition at t^* , he must have come to believe then that Kennedy was assassinated in 1963. This acquisition of the belief may take place in various different ways. It may be the case that he simply forgot that he rejected the claim, or that he found that he had been irrational in rejecting it by some additional reasoning. But this seems to be a simple conceptual truth: once George came to believe at t^* that Kennedy was assassinated in 1963, no matter how he came to believe it, he no longer rejected the claim that Kennedy was assassinated in 1963.

Hence, if the present story is really a counterexample to NNA (given CK), this condition must be satisfied: at t^* George came to believe, and thus no longer rejected the claim, that Kennedy was assassinated in 1963, but he did not know that until t_2 . Given the presupposition that George is reminded (occurrently remembers) at t_2 that Kennedy was assassinated in 1963, a serious challenge to the possibility of such a case emerges. From the presupposition and CK, it

follows that at t_2 George knows that Kennedy was assassinated in 1963. Hence, at t_2 , his belief must be somehow justified enough for him to know that. But if the condition is satisfied, then this implies that the belief comes to be justified *right at t_2* . However, first of all, it is very hard to see how one comes to be justified in believing that p right at the moment when he comes to occurrently remember that p (e.g., when George is struck by a thought). Moreover, there is a reason to suspect that even if the case is really possible, it still does not constitute a desired case. For if one comes to be struck by a thought right at the moment when he comes to be justified, then he does not satisfy CK. The CK principle claims that if one manifests a dispositional propositional memory that p , his knowledge that p must be a part of what causes the manifestation. But if George comes to know that Kennedy was assassinated in 1963 at t_2 , how can this knowledge be a part of what causes him to be struck by the thought? Unless George comes to be justified before he is struck by the thought, even if he comes to know that Kennedy was assassinated in 1963 when he is struck, he does not manifest his dispositional propositional memory in being struck by the thought then.

Thus, if I am right, no scenario can be plausibly interpreted as a case in which George's belief comes to be justified right at the moment when he is reminded that Kennedy was assassinated in 1963. Hence, it is impossible for George to acquire the belief at t^* but not to know that Kennedy was assassinated in 1963 until he is reminded of that. Accordingly, no story can constitute a genuine counterexample to NNA (given CK).

Finally, let me briefly discuss how George could come to know that Kennedy was assassinated in 1963 before t_2 . A possible, but unlikely story is that at some point between t^* and t_2 George occurrently remembered that he was told by a reliable source that Kennedy was assassinated in 1963 but irrationally rejected that when told, and in consequence now comes to

correctly and justifiably believe that Kennedy was assassinated in 1963. In this case, he is said to acquire the knowledge at that point. But in most cases, George would not acquire the knowledge by reasoning, since he would not entertain any thought about it. But then, without any reasoning, how could George acquire the knowledge?

Here is a plausible answer: his belief comes to be justified simply by his dispositional propositional memory which is sufficient for justifying it. For instance, if he has the dispositional propositional memory that the history professor told it to him, absent any defeater, that would suffice for the justification. Justification provided through a dispositional memory must be quite common. If only occurrent memories can justify knowledge, it seems that many things we believe we know turn out to be unjustified. Indeed, we know many things without ever having occurrently justified them, but by holding justification for them merely dispositionally. Thus, when George regains the belief that Kennedy was assassinated in 1963 with sufficient strength, if he dispositionally remembers (and thereby knows—by CK) that he was told this by the history professor, that would suffice for good justification. Of course, he might not occurrently entertain any such memory. But, needless to say, that does not imply that he did not have the dispositional memory.

4.4 Retained Knowledge View

Now let us turn our attention from criticisms to positive theorizing. My proposal for the analysis of the concept of dispositional propositional memory is based on the traditional approach to the concept; that is, to remember that p is to retain the knowledge that p . Let us call this traditional view ‘the retained knowledge view’. The precedent knowledge condition is only a standing condition necessary for manifesting propositional memory, and it constitutes a major part of the retained knowledge view. But the view must require more than that, since simply having known that p for a certain period of time is insufficient for remembering that p . In this

section, first I will demonstrate that simply ‘having known’ does not suffice for propositional memory, and then discuss a particular way of ‘having known’ which suffices for propositional memory.

4.4.1 ‘Storing’ Knowledge

The primary concern stems from an apparent difference between how one remembers that p from some time t and at least some ways can have known that p since t . Locke (1997, Book II, Chapter X, §1), for instance, distinguishes two different ways of having known something: contemplation and memory. According to Locke, while consciously entertaining a thought (contemplating) which has been newly formed, one cannot be said to remember what one is thinking, even dispositionally. So when I come to learn that duckbills are venomous, so far as I am continuously and consciously entertaining that thought in my mind, I cannot be said to remember that duckbills are venomous. This makes an intuitive sense. On the other hand, this Lockean contemplation of newly acquired knowledge is an instance of one’s having known something since its first acquisition, even if for a short period of time. Hence, it follows that just having known that p for a certain period does not suffice for a propositional memory that p .

A natural response would be to suggest that the duration of the precedent knowledge matters. It might seem that how long one has known that p matters to whether one remembers that p . Indeed, when t^* is a 1/1000 second before t , in an ordinary context at least, having known that p from t^* to t does not suffice for remembering that p . Thus, a simple-minded attempt to distinguish propositional memory from mere Lockean contemplation would be to add an extra clause specifying the minimum difference between t and t^* required for the knowledge to count as memory. And one might claim that in the previous example, the duration of the contemplation of what one learns is not long enough for propositional memory.

However, such an approach seems to be hopeless because, for one thing, any attempt to articulate the minimum duration required for remembering faces an intuitive difficulty. Pick any arbitrary time of duration, d , and suppose it is the minimum. We just agreed that a 1/1000 second is not long enough for remembering something. So suppose that 11/10000 is d . Thus, even if one has known that p from t^* , given that the difference between t and t^* is less than 11/10000, then he does not remember that p . But right after 11/10000, he finally comes to remember that p . This is simply counterintuitive. What makes that cut off point the magical one? After all, we never say to someone, “You do not remember that because you have not known it long enough!”

Furthermore, even if one can escape from this intuitive difficulty, there is another reason to suspect that having known that p for a certain amount of time does not suffice for remembering that p . For it is at least conceptually possible that one can know something solely by virtue of contemplating it for any given period of time. For instance, think of a man, Mark, who comes to know at t that crocodiles live in Florida, because he sees a group of crocodiles in Florida at t . In addition, suppose after a while he stops thinking of the crocodiles, and later at t^* it once again occurs to Mark that crocodiles live in Florida. This time, he is not looking at a crocodile, but he simply recalls that crocodiles live in Florida. So far so good. On the other hand, consider another man, Nick, who has a special illness which causes malfunctions in his brain. Because of the illness, Nick cannot ‘store’ this belief in his ‘memory storage’ because once he stops thinking of something, he will be unable to repeat the same thought from memory. Despite this defect of memory, Nick can entertain ordinary perceptual beliefs and inferential beliefs just as other people do, as long as he is contemplating them. Thus, it seems safe to suppose that Nick can have knowledge inferred from a perceptual experience if he is contemplating it, just as others do. Now, suppose Nick comes to know at t that crocodiles live in Florida when he sees a group of

crocodiles in Florida at t . Nick wants to report this to his friend, but he knows that once he stops contemplating the thought, he will be unable to recall it. So he tries to keep contemplating until t^* the thought that crocodiles live in Florida since he saw some. In such a case, we are inclined to say that Nick knows even at t^* that crocodiles live in Florida but he does not remember that crocodiles live in Florida. Nevertheless, if Nick does not remember that crocodiles live in Florida at t^* , Nick's having known that crocodiles live in Florida fails to be an instance of remembering but not because he has not known it for a sufficiently long period of time. For Mark's having known that for the same amount of time does suffice for propositional memory. In fact, it seems clear that no matter how long Nick keeps consciously thinking of crocodiles we will not credit him with remembering that crocodiles live in Florida. If so, one's having known that p for an appropriately long period of time cannot be sufficient for his remembering that p .

The present consideration leads us to this moderate view. The capability of 'storing', in some appropriate sense, what is known is essential to one's having propositional memory. The point is that knowing that p does not entail this, but propositional memory does. If one remembers that p , it is not only that he has known that p from some earlier point, but the knowledge must also be 'stored'. Of course, this notion of 'storing' is so far a pure metaphor. It is a metaphor for something which is hidden somewhere we cannot consciously see but which can be retrieved by request or by accident and so be consciously seen again.

At this point, I propose to appeal to the dispositional aspect of propositional memory. Comparing Mark to Nick, we can see that they differ in dispositions and that these differences show what the difference is in how they have known the same thing over time. In knowing at t^* that crocodiles live in Florida, Mark is disposed to various things to which Nick is not disposed. As was noted above, at t^* it occurs to Mark that crocodiles live in Florida. Suppose that Mark is

disposed to the occurrence of this thought in response to a certain trigger. The same subjunctive cannot be true of Nick. For when one is consciously thinking of an idea, the same idea could not occur to him as a result of a trigger; its presence in thought precludes it being manifested again. Thus, at t^* , since Nick is contemplating the thought that crocodiles live in Florida, it cannot occur to him that crocodiles live in Florida. Moreover, *ex hypothesi*, once Nick stops contemplating the relevant proposition about crocodiles, he would not have it occur to him again under any circumstances, given the described defects in his capacity to remember things. Thus, even if he did think that crocodiles live in Florida, it would just be an accident relative to his having once known that. This indicates how Nick's way of having known that crocodiles live in Florida is different from Mark's, and something about what constitutes 'storing' knowledge in the way required for propositional memory. Nick does not 'store' the knowledge in the right way because he does not possess a suitable disposition.

4.4.2 Retention of Knowledge

There is more to what it is to have a dispositional propositional memory than to be disposed to an occurrent instance (manifestation) of knowledge. Let us examine one more, particularly illuminating counterexample to the claim that having known something for a long enough period of time suffices for the corresponding dispositional propositional memory. Everybody knows that $1=1$. In fact, we know that $1=1$, and we have known that $1=1$ by any measure for a long enough period of time, if time were all that mattered, to remember it. Now, suppose Mike is working on a formal proof. He starts the proof with a self-identity claim which arbitrarily occurs to him, " $1=1$." So the first line says, " $1=1$." Evidently, Mike knows that $1=1$, and has known that for a long enough period. On the other hand, nobody would say that Mike remembers that $1=1$. In fact, we cannot make very good sense of someone's saying, "Mike

remembers that $1=1$.” If this shows that Mike does not dispositionally remember that $1=1$, then he has known that $1=1$ but does not dispositionally remember that $1=1$.

Why doesn't Mike's knowledge count as a propositional memory despite his having known it for an adequately long period of time? The reason seems to lie in the particular manner in which Mike's knowledge that $1=1$ is justified. Consider what the primary justification is for his knowledge. It is that the proposition that $1=1$ is self-evident. Indeed, it is hardly imaginable that one could fail to know that $1=1$, if he has the concept of the number one and of identity, and so can entertain the thought at all. Thus, whereas it is true that Mike has known that $1=1$ over an adequately long period of time, justification for his knowledge that $1=1$ at each instant is not dependent upon that of its predecessor. In other words, the counterfactual claim, 'If Mike had not known that $1=1$ an instant before, he would not have known that $1=1$ ', is not true. For any instant, it is imaginable that Mike comes to exist as he is and then he would know that $1=1$. This supports the following condition: having known that p suffices for a propositional memory that p only if the present knowledge state depends appropriately on some proper past knowledge state.

Hence, to have a dispositional propositional memory involves a certain link to the justificatory status of some past knowledge state. Now, to capture this link, let me introduce a technical notion and call it the 'retention' of (retaining) knowledge. Following Malcolm (1963, 234) ¹⁶ I define the retention of knowledge in this way:

¹⁶ Malcolm says, "To say that A knows that p because he previously knew that p implies that A has not just now learned over again that p " (1963, 234). Annis (1980, 330-331) offers a similar approach to the notion of retained knowledge. But Malcolm seems to think that this is not sufficient for the full analysis of 'because'. He also offers an analysis of the idea by appeal to a counterfactual statement (1963, 236). But it is worth noting that their approach do not require the continuous possession of knowledge for a propositional memory. Holland offers a different approach by appeal to the identity of knowledge. He says, "...for a given piece of knowledge to be counted as the same as some original piece of knowledge, and thus as a case of memory-knowledge, it has to be re-identified as the knowledge arising from the very circumstances which gave rise to the original knowledge" (1974, 363). But the appeal to identity of knowledge might bring in unnecessary trouble. For seemingly it is possible that a piece of knowledge, say k , is overdetermined by two different sources of justification, q and r . According to Holland, k must be the same as knowledge arising from q and r . But it seems that even after r no longer grounds k , so far as q still

For any x , time t , x retains knowledge that p from $t^* < t$ to t iff_{def} x knows that p at t^* and at each instant from t^* to t , and at any instant t_i such that $t^* < t_i \leq t$ x knows that p at t_i in part because x knows that p immediately before t_i .¹⁷

The basic framework we discussed in the previous chapter enables us to combine these two aspects of propositional memory—(1) to remember that p is to be disposed to an occurrent instance of the knowledge that p , and (2) to remember that p is to sustain a link to a past instance of the knowledge that p . Let me tentatively formulate my proposal in this way:

For any x , time t , x dispositionally remembers that p at t if and only if for some state, s , x is in at t , s is x 's having knowledge that p retained from $t^* < t$, and for some time t' after t , if x were to undergo a triggering event, T , at t and s persists until t' , T and x 's being in s would jointly be an x -complete cause of a manifestation event, M , involving x .

However, this formulation is not yet a complete analysis of propositional memory. A relatively minor puzzle we have yet to solve is what the minimum length of duration is. A reasonable suggestion may be that it is vague, that is, that our concept of memory is not so precise as to specify some precise period. But I will not pursue this question further here. I will simply suppose that a plausible retained knowledge view requires that knowledge be retained for some appropriate period in order to count as propositional memory. More importantly, the formulation is incomplete because we have not specified the triggering event and manifestation condition. This is the main task of the next chapter.

Finally, it is important to remark on the significance of my approach. Clearly, I count my analysis as a version of the retained knowledge view. Nonetheless, it is not simply a defense of the traditional approach. It is rather a reformation of it. The traditional retained knowledge view

supports k , he would still have the same knowledge. However, it is not very clear how this piece of knowledge can still be the same as one arising from q and r .

¹⁷ The same definition is based upon a relatively simple view about time. In fact, it would not work if time is dense. But if so, this would be an alternative definition: For any x , time t , x retains knowledge that p from $t^* < t$ to t iff_{def} x knows that p at t^* and at each instant from t^* to t , and at any instant t_i such that $t^* < t_i \leq t$ for some $\varepsilon > 0$, for every t' in $t_i - \varepsilon$, x knows that p at t_i in part because x knows that p at t' .

entails that what it is to dispositionally remember that p is to retain the knowledge that p . In the final chapter, I will show that this conceptual confounding of two concepts confronts us with a perplexing result. My approach avoids this result by setting the notion in a more sophisticated conceptual framework. In the previous chapter, I argued that individuation of a dispositional concept is dependent upon its manifestation condition and a thing's possessing an identical property can ground its having two distinct dispositions. By exploiting this conceptual framework, we can connect the retained knowledge to the dispositional memory without confounding the retained knowledge with the disposition per se. This will provide us with a way of disentangling the tight, complicated connection between knowledge and propositional memory, as we will see in the final chapter.

4.5 Retained Knowledge versus Epistemic Ground

The retained knowledge view may worry some philosophers because of an apparent tension between a consequence of it and our ordinary use of the word, 'remember'. As a result, they claim that what needs to be retained in order for one to have a propositional memory is not knowledge, but rather epistemic grounds for the knowledge. In this section, first, I will sketch out the alleged tension between the retained knowledge view and our ordinary use of 'remember', and their alternative approach. And then I will argue that the tension is just apparent and discuss a false assumption from which the apparent tension stems.

Typically, when we talk about our own propositional memory that p , we have some idea about the origin of what we remember. Russell, speaking of "memory-images," says, "They must have some characteristic which makes us regard them as referring to more or less remote portions of the past" (1921, 96). Malcolm emphasizes the same intuition when he says, "I think that when we say 'A remembers that p ,' we refer more or less vaguely, to a more or less definite previous time when A knew that p . We are asserting that A remembers that p from that time.

This will imply that A has not learned over again that p since that time” (1963, 234). As Munsat (1967, 30) correctly points out, the issue here is not about whether one ‘refers’ to the time of acquiring what he remembers. Nonetheless, it is true that quite often we have a certain sense of the ‘source’ of what we remember, especially when we have an occurrent propositional memory.

This sense certainly plays an important role in our present tense first person ascription of a memory claim. We know that memory is, in an important sense, past directed.¹⁸ So when I ascribe a memory experience to myself, I usually find that the experience is past directed. In normal contexts, the present tense first person ascription of ‘remember’ is based upon self-awareness of one’s own occurrent memory. Hence, it is a natural assumption that I ascribe a memory experience to myself because I introspectively find the past directedness of my memory experience through the sense of its past source. Of course, this is not always the case. Quite often, we remember something, but we do not recall when we came to know. But when we have no idea when we came to know something, that provides some reason to question whether we remember it. Even when it appears to me that I remember the Pythagorean Theorem, if I still had no idea whatsoever about when I came to know it, even after long hard thinking, I would probably start wondering about whether I really remembered it.

Reflections of this sort must have led Malcolm to an analysis of propositional memory (‘factual’ memory’) as presupposing the ‘source’ of the memory. Malcolm (1963, 223) defines propositional memory in this way: a person, B, remembers that p if and only if B knows that p *because* he knew that p . And offering an analysis of ‘because’ in this definition in terms of the

¹⁸ Of course, I do not mean here that memory is about the past.

notion of “source”, he says, “Another expression we can use here is “source,” i.e., the source of A’s present knowledge that p is his previous knowledge of it” (Malcolm 1963, 234).¹⁹

But what is problematic for the retained knowledge view is the notion of ‘source’ of propositional memory. Given the retained knowledge view, it is natural to suppose that if one remembers that p from t , then he has known that p since t . Indeed, Munsat articulates the definition of ‘remember that p from t ’ in this way:

A person, B, remembers that p from a time t (where there is a reference to a time t) if and only if: (1) He knows that p , (2) He knew that p , (3) He did not know that p just before t , (4) There is no time between t and now (“now” being when he remembers that p) such that it was true of him that he did not know that p . (1967, 33)

However, Naylor (1971, 35-36) points out that sometimes we remember that p from t because he came to know that p at t , but we have not continuously known from t .²⁰ Consider a variation of George’s case. At t_1 George came to know that Kennedy was assassinated in 1963, but after a while he became uncertain about the belief for a bad reason. However, at t^* , George somehow came to be certain that Kennedy was assassinated in 1963 again. And now at t_2 he recalls that Kennedy was assassinated in 1963. From when, at t_2 , does George remember that Kennedy was assassinated in 1963? A natural answer is t_1 . If this is correct, Munsat’s definition is in trouble. Evidently, George’s knowledge at t_2 is not continuously retained from t_1 ; thus the knowledge at t_2 is not retained from t_1 . Hence, according to Munsat’s definition, George does not remember from t_1 that Kennedy was assassinated in 1963, since (4) is not satisfied. This is, of course, a

¹⁹ Another form of Malcolm’s definition is this: “A person, B, remembers that p from a time, t , if and only if B knows that p , and B knew that p at t , and if B had not known at t that p , he would not now know that p ” (1963, 236). Among various attacks this proposal is exposed to, a counterexample Zemach (1968, 527-528) raised seems to be fatal. Suppose one knew something, and told it to his wife. And then he completely forgot the knowledge, but later he came to know the same thing because the wife told it to him. In such a case, he does not remember it although he knew and knows it, and if he had not known it then he would not now know it. Needless to say, adding a continuity condition avoids this trouble, as in Munsat’s definition.

²⁰ It is worth noting that according to this definition, George does not remember that Kennedy was assassinated in 1963 even from t^* because of (3). For, evidently, George knew that Kennedy was assassinated in 1963 before t^* . But as Naylor correctly points out, (3) cannot simply be dropped.

challenge to any attempt of analyzing the notion of ‘source’ of a propositional memory in terms of conditions like (3) and (4). Thus, if this is a consequence of the retained knowledge view, it does not reflect our intuitions precisely.

Responding to this problem, one might propose to give up the idea of continuously retained knowledge—a temporally contiguous chain of knowledge states by which the present propositional memory is connected to the source knowledge—as Malcolm does in his 1963 article. He says,

A river has a source and stretches continuously from its source to its mouth. The imagery of this word might play some part in producing von Leyden’s inclination to postulate a “continuous connexion.” But when the word “source” is used in the analysis of memory it must, like “Because,” be understood in a negative sense. To say “His previous knowledge is the source of his present knowledge” implies that he has not just now learned over again that *p*. (234)

The most serious challenge which this proposal confronts is that it leaves the connection between a propositional memory and its source a total mystery. Malcolm and I agree that the connection is causal. According to my proposal, the source of a propositional memory constitutes a part of the causal ground of the memory. But if the source and the present instance of a propositional memory are not connected by a temporally contiguous causal chain, how can such a source in the remote past causally ground a current mental occurrence? Malcolm’s solution to this problem, given later in his 1977 book, is to appeal to the notorious notion of ‘memory causation’, which is a spatio-temporally noncontiguous causal connection.²¹ We will discuss this shortly, but that there is a deep problem with his approach should be clear.

²¹ See Malcolm (1977, chapter VII).

Philosophers like Shope try to remove the present worry in a more deliberate way, namely, by introducing a continuous chain of a subject's epistemic states, instead of retained knowledge per se.²² Shope says,

If a person does not retain the knowledge that he saw a bird of a certain kind all the while until he presently manifests that knowledge in remembering, I see no reason to say he has also retained a capacity for knowledge of the type which I have discussed. Likewise, if states of knowing various things overlap in the required way up to the present knowledge involved in remembering, as in our original example of the man who remembers that he once saw a *Cyanocitta cristata*, there is no need to speak of such capacities for knowledge. The conceptual need to speak of those capacities arises only in cases of amnesia or in examples which might not in common speech be called amnesia but where one completely forgets something and there is no temptation to say one knew it all along.... And this capacity for knowledge explains why, even in the case of a recovered amnesia victim, we can say that (to use Malcolm's expression, p. 234) the "source" of one's present knowledge was one's past knowledge, belief, or experience. (1973, 314)²³

How is a theory of this type, which claims that retaining the epistemic ground for knowing that *p* is necessary for remembering that *p*—henceforth, the retained epistemic ground view—, supposed to solve the present puzzle? Return to George's case. According to the retained epistemic ground view, when George truly remembers at t_2 , from t_1 , that Kennedy was assassinated in 1963, George must have retained to t_2 the same epistemic ground as that he had at t_1 . For instance, even while being uncertain, he may have been still disposed to the rejected belief in some sense.²⁴ Imagine a case in which George has dispositionally remembered from t_1 to now that he was told by a history professor that Kennedy was assassinated in 1963, but he never occurrently entertained that memory. It is true that if he at some point entertained the memory and reflected on its implications, he would have come to be certain that Kennedy was

²² Similar approaches can be found in Naylor (1985, 137-138)

²³ It is worth noting that for essentially the same reason, Annis 1980 proposes two meanings of 'remember'. He says, "Perhaps there is a weaker sense of remembering where all that is required is a retained belief. This would explain any inclination to classify the above example as a case of memory" (332).

²⁴ Like Audi's distinction between a disposition to believe and a dispositional belief. See Audi 1994.

assassinated in 1963, and thereby have come to know that. If so, it would be safe to say that he retained an epistemic ground sufficient for the knowledge that Kennedy was assassinated in 1963 throughout. In this way, according to the retained epistemic ground view, even when George has not (continuously) known that Kennedy was assassinated in 1963 from t_1 , the present instance of his knowledge and the source at t_1 is connected by a temporally contiguous chain of his epistemic states.

This is an attractive proposal, and I agree to a large extent. Having (a sequence of) retained epistemic grounds for knowledge that p is necessary for remembering that p . In addition, positing the epistemic grounds of George's propositional memory acquired at t_1 explains why we are inclined to say that George remembers that Kennedy was assassinated in 1963 from t_1 . Nonetheless, sometimes our intuitions about the relevant question—'From when does one remember that p ?'—are not explained by citing the retained epistemic ground in the same way. Here I describe two such cases.

The first case. At t_1 , George came to know that Kennedy was assassinated in 1963 because a history professor A told him so. But weeks later he was told by another history professor B that Kennedy was assassinated in 1964. This information confused George, so he came to be no longer confident that Kennedy was assassinated in 1963. Therefore, he no longer knew that Kennedy was assassinated in 1963. However, at t_2 , George started wondering who was correct. He recalled and compared what the professor A had said and what the professor B had said. Then, he came to remember that the professor B said that when they talked at a party, and realized that the professor B looked a little drunk then. So George came to conclude that the professor B made a mistake, and thus George once again came to be confident that and to know that Kennedy was assassinated in 1963. Now, suppose George recalls that Kennedy was

assassinated in 1963. From when? All the epistemic grounds for his knowledge that Kennedy was assassinated in 1963 seem to be acquired at t_1 . But is t_1 the only answer to the present question? It seems not.

The second case. Suppose Ben saw a sleek car at t_1 . Since he did not know what type of car it was, he looked up it on the internet later, and then he found that the car was an Alpha Romeo Spider. Thus, he came to know at this point, say t_2 , that he saw an Alpha Romeo Spider. Suppose he now recalls that he saw an Alpha Romeo Spider.²⁵ From when does he remember that he saw an Alpha Romeo Spider? A plausible answer seems to be both his seeing the car at t_1 and his coming to know at t_2 that the car was Alpha Romeo Spider. One may respond that there are two different epistemic grounds for his knowledge that he saw an Alpha Romeo Spider: the visual perception of a car in such and such a shape and the knowledge of what an Alpha Romeo Spider looks like. But consider a case in which Ben came to know that he saw an Alpha Romeo Spider when he saw the car since he already knew what an Alpha Romeo Spider looks like. In such a case, from when does Ben remember that he saw an Alpha Romeo Spider? It must be when he saw the car. But if Ben's seeing the car and his coming to know what an Alpha Romeo looks like are both epistemic grounds for his knowledge that he saw an Alpha Romeo Spider, this time, why don't we think that he remembers that from when he came to know what an Alpha Romeo Spider looks like?

If those cases vex us, it must be because we tacitly presuppose that there always is a determinate and unique answer to the question, 'From when does one remember that p ?' Given this presupposition, it is a natural move, on the one hand, for the retained knowledge view to

²⁵ This is basically a modified version of Shope's example. See Shope (1973, 308). A different type of scenario in which our intuition with regard to the source of a propositional memory is not explicit can be found in Naylor (1971, section IV). Naylor proposes a solution to the prima facie indeterminacy, but I do not agree with Naylor's way out.

commit us to the claim that one remembers that p from when he came to know that p (i.e., the starting point of the continuous retention of knowledge). On the other hand, the retained epistemic ground view maintains that one remembers that p from when he acquired the epistemic grounds for knowledge that p . However, given that there is a unique source of a propositional memory, the retained epistemic ground view, as well as the retained knowledge view, cannot explain those perplexing stories very well. But once we give up the presupposition, it seems that we have no reason to be perplexed by them.

A decent construal of those cases seems to be that different answers are equally good depending upon contexts of the question. In some cases we would say that Ben remembers that he saw an Alpha Romeo Spider from t_1 , but in other cases, we would say that it is from t_2 . After all, different things are talked about when we say, “ x remembers that p from t ,” in different contexts. Sometimes we are talking about the source of the epistemic grounds of what is remembered, and sometimes we are talking about the starting point of the continuously retained knowledge. ‘From t ’ in the expression ‘to remember that p from t ’ may mean different things: that t is the time from which the epistemic ground for the knowledge that p is retained or that t is the time from which the knowledge that p is retained. Therefore, there is no one unique ‘source’ of a propositional memory, and hence the retained epistemic ground view does not give a determinate analysis of the concept expressed by ‘ x remembers that p from t ’, and neither does the retained knowledge view. If so, the retained epistemic ground view would lose its putative advantage over the retained knowledge view.

But we have no reason to reject the notion of retained epistemic grounds; the retained knowledge view is in fact complemented by positing retained epistemic grounds for knowledge. Given the truism that knowledge must have some epistemic ground, any retained knowledge is

grounded in its own epistemic ground. Hence, if there is a chain of epistemic states grounding knowledge that p , given the retained knowledge view, it is natural to think that the same chain of epistemic states grounds a propositional memory that p as well. But the analysis of propositional memory need not refer to its retained epistemic ground. For if a chain of epistemic states grounding knowledge that p also grounds a propositional memory that p , it is solely because the notion of knowledge entails such a chain, and thus it is built in our analysis by way of the notion of retained knowledge.

4.6 Retention of Knowledge, Traces, Causal Explanation

The philosophical/metaphysical importance of my approach in part lies in its treatment of the retrospective link to the past which is an essential constituent of a propositional memory. As is already clear, my approach characterizes the link as causal by adopting the notion of causal ground. To that extent, it qualifies as a causal theory of propositional memory. In the rest of this chapter, I will discuss two issues related to the aspect of my approach as a causal theory. First, I remark its connection to the memory trace theory, and then fit my analysis into the structure of a DR-explanation as a causal explanation.

4.6.1 Memory Traces

As is well-known, there is a deep disagreement as to the nature of the causal ground of memory, represented in the opposition between the memory causation and memory trace views. On the one side, in the philosophical and psychological tradition, memory phenomena are commonly theorized in terms of a causally contiguous chain of states/events. When Martin and Deutscher embrace the contemporary philosophical memory trace theory, they famously proclaim the obviousness of the memory trace theory. They say, “Once we accept the causal model for memory we must also accept the existence of some sort of trace, or structural analogue of what was experienced” (1966, 189). According to this type of theory, if one dispositionally

remembers that p , there is a particular type of causal link, i.e., a memory trace, between the past knowledge and one's present state. Criticizing this notion of memory trace, Rosen introduces a thinner notion of memory trace, admittedly as thin as the notion could be, and she calls it "the logical notion of the memory trace"(1975, 3), and it is a "chain of causally related and spatio-temporally continuous events" which "causally mediates learning and subsequent remembering" (9).²⁶

Some philosophers, for instance Squires (1969, section I), allege that retaining a state has no causal implication, and neither does the retention of knowledge.²⁷ Hence, a dispositional propositional memory does not entail any causal link. But I simply dismiss this approach. Although it might be true that a retained state, e.g., the blueness of a curtain, is not explained by the curtain's being blue in a previous moment, a similar point cannot be made about the relation between retained knowledge and its source. Surely, we occurrently remember that p *because* we came to know that p at some earlier moment. I can see no reading of this 'because' which does not involve the conveyance of information, if not about particular cases, at best causally relevant factors.

Among those who reject the memory trace theory, advocates of the causal implication of the source of a memory hold that the source in the past must causally ground the present instance of the memory directly. Russell introduces the notion in this way: "I do not mean merely—what would always be the case—that past occurrences are part of a chain of causes leading to the present event. I mean that, in attempting to state the proximate cause of the present event, some past event or events must be included"(1921, 45). So far as it is claimed that in order to

²⁶ Philosophical criticisms of memory trace theory can be found, for instance, in Bursen 1978, Zemach 1983, and Heil 1978.

²⁷ A criticism against Squire's argument is found in Shoemaker (1970, 282), and Deutscher (1989, 59-60); Schumacher 1976 offers a defense of Squire.

dispositionally remember that p , one must have had knowledge that p causally responsible for the disposition, we have no reason to suppose that the claim conceptually entails a contiguous causal chain which constitutes an essential part of a memory trace. For, as Malcolm (1977, chapter VII) stresses, there is no conceptual implication that to retain knowledge is to have a spatio-temporally contiguous causal chain of states/events.²⁸ In fact, it does not seem to be conceptually incoherent to suppose, as Russell does, a special causal link, memory causation, between the past knowledge and the present which guarantees the retention of the knowledge. Nonetheless, the view seems intuitively absurd.

As Sutton (1998, 306) points out, it might be true that philosophers who are inclined to reject the existence of contiguous causal link are misguided by the phenomenalism of dispositional concepts.²⁹ Indeed, if one supposes that for someone to have a dispositional memory is just for a subjunctive statement to be true of him, and that this entails no grounding (categorical) state, then no causal link from the past to the present is necessary. Accordingly, one might conclude that the source of a propositional memory directly causes the present instance of it or that the source of a propositional memory has no causal bearing on the present instance of it. Those may be coherent positions. However, given our ontological commitment—the existence of the link from the source to the present instance by way of a contiguous chain of knowledge (or epistemically grounding) states—we have no reason to insist on such counterintuitive views.

To stay in a contiguous chain of knowledge states implies being in a series of contiguous mental states. To this extent, the retained knowledge view can agree with a central claim of the memory trace theory, namely, that there is a temporally contiguous chain of events/states

²⁸ A similar remark can be found in Anscombe (1981,130) and Ginet (1975, 166).

²⁹ See also Deutscher (1989, 60-62).

connecting “learning and subsequent remembering” (Rosen 1975, 9). But the retained knowledge view is neutral with regard to the other main claim of the trace theory, namely, the requirement of spatial contiguity. Of course, it may be true, as many philosophers and psychologists suppose, that a knowledge state is accompanied by some sort of memory trace. Granting the token identity between mental and physical states, the knowledge state is grounded, at least, in a token mental state which is token identical to a physical state. Hence, granting a commonsensical notion of a physical state, contiguity of physical states must sustain not only temporal but also spatial. However, this is not conceptually entailed by the theory of propositional memory per se, and lies beyond the project of analyzing the concept of propositional memory. After all, my project is not concerned with what it is to be in a knowledge state (or a state necessarily accompanied to a knowledge state). Here I am not claiming that memory trace theory is at best an empirical theory, as some philosophers claim.³⁰ Rather, it belongs to the realm of a broader epistemic concern, namely, the theory of knowledge. And, no specific type of causal connection is implied by the retained knowledge view unless it is committed to a particular type of theory of knowledge.

4.6.2 Dispositional Memory Explanation Again

We return at last to the chief concern of chapter 2, the explanatory information conveyed by a DR-explanation. In Bill’s case, the explanans, “Bill remembers that the capital city of Togo is Lome,” informs us of the causal history of his accepting the proposition, namely, the information that his learning that the capital city of Togo is Lome caused him to accept it. Nevertheless, we are left with the question of how we are so informed. Given my analysis, we are finally ready to explicate how this information is conveyed.

³⁰ See Shope (1973, 322). Bursen (1978, 108) opposes this type of view.

As was specified in my formulation, the appropriately retained knowledge that p is the standing condition of one's dispositional propositional memory that p . Hence, if one manifests his dispositional propositional memory that p at t , the manifestation must be causally grounded in his knowing that p at t , and this causal ground is continuously retained from some earlier point t^* to t . As a matter of course, retention of knowledge entails the existence of an event at t^* , explicitly or tacitly, in which one acquired the knowledge that p . Moreover, as I already remarked, the causal bearing of the source knowledge on the retained knowledge must be granted; namely, one's acquiring something must be a part of the causal history leading up to his holding that thing later. Hence, one's acquiring the knowledge that p at t^* must be a part of the causal history leading to the retained knowledge that p at t . By the transitivity of causality, one's acquiring the knowledge that p at t^* is a part of the causal history leading up to his manifesting the dispositional propositional memory that p at t .

Applying the same point to Bill's case, if Bill's accepting the proposition at t manifests his dispositional propositional memory that the capital city of Togo is Lome, then there is an event, e , occurring at $t^* < t$ such that e is Bill's coming to know that the capital city of Togo is Lome and e is a cause of his accepting the proposition. Of course, given the particular explanatory context, e is naturally identified as the event of Bill's learning that the capital city of Togo is Lome in the geography course. It is thereby also identified as a cause of his accepting the proposition. Of course, what an explainee could be informed of as to e may vary broadly depending upon each explanatory context. One would be far less informed, if he knows nothing about Bill's personal history. Or one may be informed of much more given a richer background.

CHAPTER 5 MANIFESTING PROPOSITIONAL MEMORY

5.1 Introduction

In the last chapter, we identified the causal ground of dispositional propositional memory. But as we found in preceding chapters, the concept of propositional memory has a dispositional aspect, and a concept is dispositional only in virtue of its commitment to the truth of a (set of) subjunctive conditional(s). What it is to have a disposition is to have a potential regularity, specifically, for one to be disposed to M is for it to be the case that if he were in a situation of the type T, he would be/do something of the type M. Thus, an analysis of the dispositional propositional memory requires specifying the true (set of) subjunctive(s) consisting of two essential parts: an antecedent that correctly identifies under what conditions the disposition is manifested, and a consequent that correctly identifies what the manifestation is. This is the final task of this project. Carrying out this task fills in the last piece of our analysis in accordance with the basic framework from chapter 3, and hence completes the main task of this dissertation.

After we finish the analysis of the concept of dispositional propositional memory, as was announced in the preliminary chapter, we will discuss further the primary motive for this project, the conceptual connection between knowledge and propositional memory. In the previous chapter, we have brought to light the tight connection between knowledge preserved in a particular fashion and propositional memory. But we refrain from identifying the concept of dispositional propositional memory with a kind of knowledge, unlike the traditional retained knowledge view. The very last part of the present project is devoted to the conceptual distinction between retained knowledge and memory. We will examine cases indicating the conceptual distinction between the two, and I will try to illuminate the difference in the light of those examples.

5.2 The Disposition to Remember

Most of our investigation in the previous chapters focused on the dispositional sense of ‘remember’. But dispositional propositional memory is not the only thing the word is used to mean. Some uses of the word are about an occurrent event, rather than a dispositional state. In short, occurrent propositional memory is an event described in terms of such uses of ‘remember that p ’.

What is it to occurrently remember that p ? In light of the task of this chapter, the importance of clarifying occurrent propositional memory is quite obvious. One’s occurrently remembering that p must be a manifestation event of his dispositional propositional memory that p . So the description, ‘ x occurrently remembers that p ’, must satisfy the manifestation condition of some subjunctives characterizing the dispositional propositional memory that p . But there seems to be more to the connection between the occurrent concept and the dispositional concept. A straightforward, intuitive approach to dispositional propositional memory is to claim that it is a disposition to remember that p . Here ‘remember’ must mean the occurrent concept. Hence, according to this intuition, a dispositional propositional memory is nothing but a disposition to have the corresponding occurrent propositional memory, just as solubility is a disposition to dissolve, and irritability is a disposition to be irritated.

This intuitive characterization of dispositional propositional memory—a disposition to an occurrent propositional memory—remains trivial, however, unless we characterize occurrent propositional memory in a substantial, non-circular way. The intuitive characterization of irritability, for instance, as a disposition to be irritated is not trivial, because we know what is to be irritated independently of the notion of irritability. But if someone characterizes a disposition, D , as a disposition to E while insisting that being E is nothing but a manifestation of D , then such a characterization is empty. In order for the intuitive characterization of dispositional

propositional memory as a disposition to occurrent propositional memory to avoid falling into triviality, a substantial, non-circular analysis of the concept of occurrent propositional memory is needed.¹

This is not my strategy in the following. I do not characterize the concept of dispositional propositional memory by appeal to the concept of occurrent propositional memory. Rather I characterize the concept of occurrent propositional memory by appeal to the concept of dispositional propositional memory. In short, the occurrent propositional memory that p is a manifestation event of the dispositional propositional memory that p . Nonetheless, I believe the intuitive characterization (i.e., to dispositionally remember that p is to be disposed to occurrently remember that p) captures an essential aspect of the concept of dispositional propositional memory, and thus, my approach will try to save the essence of the intuition.

My main contentions in this and next section is the following two. First, there is a feature common to all events of occurrent propositional memory which can be characterized without presupposing the notion of dispositional propositional memory. Second, any manifestation event of a dispositional propositional memory is an occurrent propositional memory. Given the truth of those two claims, we can appeal to the feature to specify the manifestation condition of any dispositional propositional memory. Accordingly we can characterize dispositional propositional memory as a disposition to this type of event without making the characterization trivial.

In this section, first, I will discuss various aspects of occurrent propositional memory. Then I will move on to the argument for a common feature of occurrent propositional memories. There I will not try to abstract anything common from various occurrent propositional memories, nor do I even try to offer a substantial characterization of it. I simply offer a transcendental

¹ Pollock's approach is of this kind. See Pollock (1974, chapter 7, section 4).

argument from an epistemological concern about occurrent propositional memory. As a matter of fact, we can self-reflectively know that we are remembering something, but how? I argue, transcendently, that the only plausible explanation requires positing a common characteristic feature of occurrent propositional memory.

5.2.1 Occurrent Use of ‘Remember’

Some uses of ‘*x* remembers that *p*’ are intended to cite an event of occurrently remembering that *p*, i.e., an occurrent propositional memory. A prominent example of an occurrent use of ‘remember’ is when it is used in the first person present tense. For instance, when one sincerely says, “I remember that George did it,” in a normal context, he introspectively reports what he is experiencing in his mind. In such a case, ‘remember’ is evidently used to cite such an occurrent experience in his mind, rather than a dispositional state.

Of course, the occurrent use of ‘remember’ is not restricted to a first person present tense report on one’s own mind. See the following examples:

- “From time to time we remember things that have happened to us, because something in the present reminds us of them” (Russell 1921, 47).
- “When we remember any past event, the idea of it flows in upon the mind in a forcible manner” (Hume 1978, Book I, Part I, Section III).

Although those instances of ‘remember’ have no particular syntactic marker, from the context it is clear that they are used to mean an occurrent event of remembering.

A practical difficulty of our present investigation is that we seem to have no specific criterion for determining whether a particular use of ‘remember’ is occurrent or not. Even in the first person present tense, ‘remember’ may be used to express a dispositional propositional memory. For instance, one may be convinced by someone else that he remembers that *p* without entertaining the thought that *p*. Asking whether the progressive form is appropriate might be

suggested as a good test.² Typically when a verb is used in the progressive form, it implies an occurrent event. Certainly when we say, “Jones is remembering that he went to Europe,” we use the word in the occurrent sense. But reflecting on how we use this expression, ‘one is remembering that *p*’, it is evident that not all occurrent uses of ‘remember’ can be so expressed. Criticizing Munsat’s claim that “we do not even have a locution of the form “I am remembering...”” (1967, 64), Shope (1973, 305-306) shows that we sometimes use the verb in the progressive form. But ‘remember’ used in the present tense progressive form is not quite ordinary, and, indeed, not every present tense report of propositional memory may be rephrased by the progressive form. For instance, when we say, “Now I remember that *p*,” typically, we cannot rephrase the report by saying, “Now I am remembering that *p*.” This is basically because of the role of the adverb ‘now’. Commonly ‘now’ used in this way indicates the present occurrence (culmination) of an event, whereas ‘remember’ used in the present progressive form indicates a present occurrent mental process.³ So if one concludes that the use of ‘remember’ in ‘Now I remember that *p*’ is dispositional simply because the sentence cannot be rephrased in the progressive form, he must be mistaken. Thus, it seems evident that not all occurrent use of ‘remember’ can be rephrased by the progressive form.⁴

The present observation leads us to a different, better test, modification of the verb.

Typically, when we say, “He remembers that he ate a sandwich last night,” it is hardly

² This is suggested, for instance, by Broad (1925, 223).

³ About the notion of ‘culmination’ see Parsons (1989, 220). Here I suppose that ‘remember’ used in the occurrent sense is an event verb, and follow Parson’s interpretation of the progressive form of an event verb. See Parsons (1989, section 4).

⁴ The test might work better in cases of the past tense. When we say, “Then I remembered that *p*,” we might be able to say instead, “Then I was remembering that *p*.” This would lead us to different options. Maybe the past progressive use of ‘remember’ means something different from what the present progressive or simply ‘now’ and ‘then’ mean different things. It is worth noting that ‘remember’ in the simple past tense is mostly used in the occurrent sense.

unequivocal that it means his occurrent propositional memory. But the way we can modify this sentence normally tells whether a use is occurrent or dispositional. For instance, if we can say, “He now remembers that he ate a sandwich,” but not “He still remembers that he ate a sandwich,” we very likely mean his occurrent propositional memory rather than dispositional. This test is better than the last one, yet not completely reliable. In some contexts, we may modify a verb which is used in the dispositional sense by those adverbs which usually indicate the occurrent use. It is unusual, but it seems possible for someone to suddenly come to have a dispositional propositional memory.

In connection with the present worry, here is an important fact to notice. Some use of ‘remember’ might be intended to be ambiguous. For instance, here is a passage from Reid:

Memory must have an object. Every man who remembers must remember something, and that which he remembers is called the object of his remembrance. In this, memory agrees with perception, but differs from sensation, which has no object but the feeling itself. (2002, 253)

Evidently any token of ‘remember’ in this passage can be modified in an arbitrary way, as far as the modification does not result in absurdity. For instance, we can make sense if we modify ‘remember’ in the second sentence in this way, “Every man who suddenly remembers must remember something.” Or we could say, “Every man who still remembers must remember something” as well. Of course, those two modifications result in different claims, if they are interpreted in an ordinary manner. Hence, we cannot tell whether Reid intends to use the term ambiguously or as meaning something definite in this passage.

So we should not expect a perfectly reliable test for determining whether a particular instance of ‘remember’ is used in either way. Nonetheless, this does not create a serious practical difficulty. In most cases, if we specify enough about the context, we can decide whether we should use the progressive or we can choose an appropriate modification. Thus, so far as we can

specify enough about the context, we can rely on our intuitions about how the verb is used. To this extent, we would not encounter any serious practical troubles in most ordinary contexts.

5.2.2 Occurrent Memory Expressions

‘Remember’ is a word which may be used to express both disposition and occurrence. But there is a class of words and phrases which are used to express only occurrent memories. When people ‘recall’, ‘are reminded’, ‘recollect’, or ‘reminisce about’ something, they are occurrently remembering that. Hence, those expressions belong to this class. Hereafter I call those expressions ‘occurrent memory expressions’, and the concepts expressed by those ‘occurrent memory concepts’.⁵

It is evident that not all occurrent memory concepts have the same intension. For instance, ‘Recalling that p ’ is clearly different from ‘being reminded that p ’. Let us compare these two cases:

(a) You and your wife are planning on this year’s vacation trip. You think that you wanted to go to a European city, but cannot come up with the name of that city. You ponder a while, and finally it occurs to you that you wanted to go to Barcelona. Then you say, “Now I recall that I wanted to go to Barcelona.”

(b) You and your wife are planning on this year’s vacation trip. Your wife asks you where you want to go, and you are wondering about where you want to go. When you happen to see the picture of Sagrada Familia on a wall, you are struck by the thought that you wanted to go to Barcelona. So you say, “This picture reminds me that I wanted to go to Barcelona.”

Clearly you are not reminded that you wanted to go to Barcelona in (a), and you do not recall that you wanted to go to Barcelona in (b). On the one hand, recalling consists in your trying to call a memory back to your mind and succeeding in doing so. Malcolm nicely illustrates the idea when he says, “‘Recalling’ is ‘calling to mind’. You can say that a dog remembered where he hid

⁵ In contrast, there is a class of expressions which are used to express only dispositional memory. ‘Keep in mind’ or ‘have a memory of’ seem to be of this type.

his bone, but it would sound funny to say that he ‘recalled’ where he hid it” (1977, 69).⁶ Hence, when you report that you recall that you wanted to go to Barcelona, you imply that you tried to remember and succeeded in occurrently remembering that you wanted to go to Barcelona. On the other hand, ‘be reminded’ has no such implication.⁷ The expression rather implies that a memory is brought back to one’s mind by something besides one’s own effort. In (b), you come to remember that you wanted to go to Barcelona not because you were trying and succeeded as a result, but because you saw the picture which independently triggered the memory.

Although I will not attempt a thorough examination of these occurrent memory concepts, I believe that the difference is intuitively well established.⁸ And despite this difference, it is also evident that the concept of occurrent propositional memory subsumes all those concepts. You occurrently remember that you wanted to go to Barcelona in both (a) and (b). It would be as natural to say, “Now I remember that I wanted to go to Barcelona,” instead in both cases. The same is true of other occurrent memory concepts. If one reminisces about something, or if one recollects something, then he is occurrently remembering that thing, although he might not have been reminded or have recalled that thing. To this extent, the concept of occurrent propositional memory does subsume those other occurrent memory concepts.

5.2.3 Various Descriptions of Occurrent Propositional Memory

A dispositional propositional memory is a disposition to recall, be reminded, recollect, etc., because these are essentially ways to have occurrent propositional memory. But quite often

⁶ It is worth noting that when we say, “The dog remembers where he hid his bone,” we might mean a dispositional memory, rather than an occurrent memory.

⁷ See Munsat (1967, 54). Munsat discusses the difference between some of those occurrent memory expressions. See Munsat (1967, chapters iii and v).

⁸ Deutscher (1989, 53-56) examines possible candidates for occurrent memory expressions.

dispositional propositional memory is suggested by a story making no use of any occurrent memory expressions. For instance, consider this story described by Audi:

When I look at the tree and notice its shape, it often occurs to me that I have pruned it, and when it does I have a sense of already believing the proposition that I have pruned the tree. This proposition does not seem to be either a discovery or a result of inference or a bit of wishful thinking but rather something I have had in mind before and now believe with some conviction. (1998, 54)

Audi does not use ‘remember’ or any other occurrent memory expressions to describe this scenario. But it is evident that Audi intends to describe himself in this scenario as dispositionally remembering that he has pruned the tree. But how? No occurrent memory expressions are used to describe this story, so that nothing is cited explicitly as a manifestation event of this dispositional propositional memory. But it is unnatural to suppose that the story mentions no manifestation event. Indeed, the passage, “When I look at the tree and notice its shape, it often occurs to me that I have pruned it...,” seems to cite multiple occurrences of manifestation events of his dispositional propositional memory. We are best able to make sense of the story by supposing that these events are explained as manifestations of dispositional propositional memory. In addition, it seems that we would be able to rephrase the passage by means of the occurrent memory expression ‘remind’ as follows: “When I look at the tree and notice its shape, I am often reminded that I have pruned the tree...” If this rephrase does not change the original connotation, the original description by means of an expression ‘it occurs that...’ must be intended to cite an occurrent propositional memory.

However, how can the event of its occurring to Audi that he pruned the tree be identical to an occurrent propositional memory? Malcolm addresses this question as follows.

When a person remembers something, nothing takes place which can be specified as *being the remembering*.... Let us consider just one case: he snapped his fingers and exclaimed with glad relief, “I put my coat in Tom’s car!” These were the only events, occurring at that moment, which were relevant to his remembering where he left his coat. Yet no single one of those events, nor any combination of them, was identical with the remembering.

Those very same events could have occurred when it was not an instance of his remembering where he had left his coat.... The phenomena of the snapping of the fingers or the feeling of relief or the exclamation can be expressions of remembering only within a special setting. This setting would have to include a variety of facts, such as that the speaker knows English, he has a topcoat, he has noticed its absence, he had left it in Tom's car. Given such a setting, the occurrence of those phenomena will provide us with a situation of which it is right to say, "He suddenly remembered." ... Yet they are what *occurred* at that moment....

... So we have the seeming paradox: at time *t* a person, S, remembered that *p*—yet nothing occurred at *t* which is identical with S's remembering that *p*. Of course one can say that it is trivially true that something did occur at *t* which was identical with S's remembering that *p*, namely, S's remembering that *p*! But my point is that the description, "at *t* S remembered that *p*," is true only because of the circumstances in which the phenomena of snapping the fingers, the sudden feeling of relief, and so on, occurred—and that those circumstances include things that did not occur at *t*, as well as things that did not occur at all. (1977, 75-76)

The 'seeming' paradox Malcolm points out here can be straightforwardly applied to our present discussion; that is, how can its occurring to Audi that he has pruned the tree be identical to his occurrently remembering that he has pruned the tree?⁹ It is absolutely true that if Audi occurrently remembered that he had pruned the tree, various conditions which are external to Audi must have been satisfied. In the absence of those external settings, e.g., his belief (knowledge) that he had pruned the tree, the belief's being grounded in memory, etc., no event can be 'the occurrent remembering' that he have pruned the tree. But satisfaction of those external conditions is not contained in the only occurrent event—its occurring to Audi that he has pruned the tree. So how can any occurrent event in the scenario be identical to an occurrent propositional memory?

A momentary reflection reveals the absurdity this worry. The argument is like this one.

When I talk to Shiho, I would not be speaking to my wife, had we not married. Thus, my

⁹ Malcolm does not take this to be a genuine paradox, when he says, "I see no objection to speaking of memory abilities and memory occurrences, provided this does not mislead one into confusedly assuming that an occurrence of remembering is intrinsically an occurrence of remembering" (1977, 77).

speaking to Shiho cannot be identical to my speaking to my wife, since my speaking to Shiho does not contain our marriage. Of course, this is not valid reasoning. My approach was already suggested in chapter 3; it is simply to follow a well-known argument by Davidson. Davidson convincingly argued that a sentence type, for instance, ‘It occurs to Audi that he has pruned the tree’, does not itself refer to any particular occurrence of an event, but rather there are various individual events of which token instances of the type sentence are made true (1967a, 117). There may be an actual token event, e^* , such that both a token use of that type sentence and a token use of this type sentence, ‘Audi is reminded that he has pruned the tree’, are made true by the occurrence of e^* . In such a case, various things must actually obtain, including satisfaction of those external conditions. However, this is not implied by the fact that e^* makes true a token use of the former type sentence, ‘It occurs to Audi that he pruned the tree’. Of course, many events might make a use of that type sentence true, but not make true a use of the type sentence, ‘Audi is reminded that he has pruned the tree’. But e^* is an event which is described by both descriptions as a matter of fact.

As we stipulated in chapter 3, our analysis of the concept of dispositional propositional memory specifies the manifestation condition in terms of the descriptions of manifestation events of the disposition. So, if to dispositionally remember that p is to be disposed to an occurrent propositional memory that p , then an event is a manifestation event of dispositional propositional memory that p only under one particular description: occurrently remember that p . Audi’s scenario describes the event of his occurrent memory in terms that don’t express occurrent memory concepts. Nonetheless, the event still manifests his dispositional propositional memory, to the extent that it can be described as Audi’s occurrent propositional memory that he has pruned the tree.

5.2.4 Phenomenology of Occurrent Memory

Now we turn our discussion to an epistemological concern about events of occurrent memory. Traditionally philosophers have been particularly interested in how we judge that we remember something when we occurrently remember something. It is true that quite often, typically when we self-ascribe an occurrent memory, we find ourselves occurrently remembering something. So we somehow distinguish experience of occurrent propositional memory from other kinds of mental experience. Indeed, even when the same idea occurs to you, we can tell whether or not you seem to remember that. Nonetheless, it is unclear how we can distinguish such mental episodes from others. Compare these two scenarios:

(c) Your wife asks you what city you want to go. You think that you have wanted to go to a European city, but cannot come up with the name of that city. You ponder a while, and suddenly the word, 'Madrid', occurs to your mind. So you say, "Now I remember that I wanted to go to Madrid."

(d) Your wife asks you what city you want to go. You say that you have no idea, but she asks you to take a guess. Then, the first city name occurs to your mind is 'Madrid'. So you says, "Well, I guess it's Madrid."

In (c), you take yourself to remember that you wanted to go to Madrid when the idea occurs to you. But in (d), you do not take yourself to remember that you wanted to go to Madrid. But how can you know in (c) but not in (d)? There must be something which leads you to judge whether what occurs to your mind is from memory. Nonetheless, it is difficult to identify any difference, for what happens seems to be simply the emergence of an idea in your mind.

To solve this puzzle, traditional philosophers famously postulate a certain phenomenology which helps us distinguish occurrent memory from other occurrent mental states and events. Hume claims, "When we remember any past event, the idea of it flows in upon the mind in a forcible manner, whereas in the imagination the perception is faint and languid, and cannot without difficulty be preserv'd by the mind steady and uniform for any considerable time"

(1978, Book I, Part I, Section III). Russell says, “We may say, then, that images are regarded by us as more or less accurate copies of past occurrences because they come to us with two sorts of feelings: (1) Those that may be called feelings of familiarity; (2) those that may be collected together as feelings giving a sense of pastness” (1921, 96). According to those theories, when you judge, “I (occurrently) remember that I wanted to go to Madrid,” the name occurs to you with a certain phenomenal quality, whereas when you judge that you guess it, the name occurs to you without that phenomenology.¹⁰

I do not endorse this picture. It remains a hypothesis at best. But it is a compelling hypothesis, since typically when we judge that we are occurrently remembering something, it seems that we do so only self-reflectively. In case (c), you judge that you have an occurrent propositional memory without checking anything external to you. In fact, we have no reason to believe that you infer the conclusion by appeal to a premise external to your own present mental state. That is palpably not a case like one in which you judge that you remember that you wanted to go to Madrid because somebody told you that you said that you wanted to go to Madrid. Nevertheless, your judgment on this matter cannot be based upon a sheer guess. It certainly appears to you that you remember something, rather than imagining it. Hence, it is natural to reason that your judgment is based upon some aspect of your own present mental episode, and you see that aspect only self-reflectively. But if so, the only probable candidate for a basis grounding such a self-reflective judgment seems to be a phenomenal aspect of the mental episode.¹¹

¹⁰ A good summary of traditional approaches to this puzzle is in Warnock (1987, chapter 2). The contemporary arguments about this epistemological concern about occurrent memory can be found in Pollock and Ginet. And critical assessment of those arguments is in Annis 1980, Naylor 1985, Senor 1993, and Owens 2000.

¹¹ To be fair, it is worth noting that not everybody accepts that there is a particular phenomenal experience accompanied by a memory experience. See, for example, Zemach (1983, 40).

However, I reserve my judgment on this hypothesis. The only claim I endorse now is that some feature of the event of one's occurrent memory grounds his self-reflective judgment that he occurrently remembers something. The same point must be applied to a sub-class of occurrent memory, occurrent propositional memory. I coin a new term, 'prima facie propositional memory attribute' (PFPPMA), for this feature of an event of occurrent propositional memory in virtue of which the subject can know self-reflectively that he is having an occurrent propositional memory. The prima facie propositional memory attribute is an aspect of the event of one's remembering that p which intrinsically grounds the self-reflective judgment. Hence, it might be a phenomenal aspect of the memory experience as many philosophers have supposed.¹² But it might be instead a subconscious cognitive process that grounds that self-reflective judgment. It might be even something else.¹³ In any case, when one seems to occurrently remember that p , and self-reflectively judges that he is occurrently remembering that p , in a normal case, it is, I maintain, thanks to the fact that such a prima facie occurrent propositional memory possesses the PFPPMA.

The aim of introducing the notion of PFPPMA is clear. I believe that all events of occurrent propositional memory share PFPPMA. Let us call events possessing a PFPPMA 'potentially prima facie occurrent propositional memory' (hereafter, PPF-occurrent propositional memory, for the sake of brevity). Thus, by definition, x is an occurrent propositional memory only if x is a PPF-occurrent propositional memory. My approach to the manifestation condition of dispositional

¹² For instance, Pollock's notion of 'recall' is introduced to capture only the phenomenal aspect of occurrent propositional memory. See Pollock (1974, 178).

¹³ One notable approach is proposed by Naylor 1985. He tries to characterize PPF-occurrent propositional memory in terms of its functional aspect. Naylor seems to agree that if S PPF-occurrently remembers that p , then "(a) S occurrently believes that p , and (b) S refers (or is disposed to refer) this belief to the past, but not solely on the basis of this belief or others that S has" (1985, 138). Naylor claims that the phenomenological feature of occurrent remembering stems from this deeper function (b). See Naylor (1985, 140).

propositional memory developed in terms of the concept of PPF-occurrent propositional memory. In brief, dispositional propositional memory is a disposition to PPF-occurrent propositional memory.

It is very important to make it clear that not all PPF-occurrent propositional memories are occurrent propositional memories. Quite often, we seem to remember something, but do not actually remember it. In most of these cases, except for when we are deeply confused, I assume that we are having PPF-occurrent memories.¹⁴ Think of the memory simulator exploited in chapter 4. What is simulated by a memory simulator is not supposed to make a subject actually remember something. Thus, it is possible for it to produce a false memory in a subject. But if such a machine is really conceivable, we accept that there is some common feature in actual occurrent memory experiences which makes (or could make) each experience like a memory experience and can be simulated without letting a subject truly remember something. Hence, the idea of PPF-occurrent propositional memory is conceptually detachable from the concept of occurrent propositional memory. Genuine occurrent propositional memories belong to a proper sub-class of PPF-occurrent propositional memories. And according to my theory, genuine occurrent propositional memories are those PPF-occurrent propositional memories which are manifestations of a dispositional propositional memory.

If someone finds my characterization of the manifestation condition to convey nothing more than what is conveyed by saying, “To dispositionally remember that p is to be disposed to occurrently remember that p ,” and hence to fall into triviality, he totally misses the point. The notion of PFPMA is not postulated in order to explicate what it is to occurrently remember

¹⁴ It is worth noting that this fact about our occasionally making mistakes is the primary source of the dispute as to how we know we actually remember something. As most contemporary philosophers agree, given this fact, it is very unlikely that a prima facie memory experience by itself can justify one’s self-reflective belief well enough to count as knowledge.

something. It is postulated in order to explicate rather one distinguishing, but not always fully appreciated, feature of occurrent propositional memories. When we occurrently remember that p , other things being equal, we *can* judge solely self-reflectively that we occurrently remember that p . Of course, specifying what PFPMA is will illuminate what it is to occurrently remember that p . But so far as we are concerned to characterize occurrent propositional memory as a manifestation event of dispositional propositional memory, we need no such specification. We do not know very much about the property of being irritated, except for its particular phenomenology. But this distinguishing feature gives us a non-trivial characterization of irritability, i.e., a disposition to be irritated. Likewise, we know—self-reflectively in most cases—what it is to have a PPF-occurrent propositional memory in virtue of some feature of the event, PFPMA. In order to identify PPF-occurrent propositional memories, we do not need to know what property is PFPMA exactly and how such a property grounds our self-reflective judgment that we are occurrent remembering that p . To this extent, this is sufficient for our non-trivial characterization of dispositional propositional memory, and it in turn specifies what it is to have an occurrent propositional memory.¹⁵

It is also very important to distinguish here PPF-occurrent propositional memory from self-reflectively prima facie occurrent propositional memory. In a case like (c), you realize that you seem to remember that you wanted to go to Madrid. We could call this type of memory experience ‘self-reflective’ in the sense that we are aware of and attending to the seeming to remember. Clearly self-reflectively prima facie occurrent propositional memory is just a

¹⁵ Thus, I do not commit myself to the claim that PFPMA is a categorical property. It is more likely that there are various different bases for PFPMA. In this regard, PFPMA is better deemed a functional property. Ginet seems to suggest essentially the same idea. He says, “...any thought that a subject could correctly express by saying ‘I recall that p ’ or ‘I seem to remember that p ’ is a manifestation of a memory impression. We can say that a person has a memory-impression that p , the dispositional state, if he would manifest it, at least in the sort of thought just mentioned, were he to consider and try to answer the question whether it seems to him that he remembers that p ” (1975, 157).

particular, conspicuous type of PPF-occurrent propositional memory, for quite frequently we are not attentively aware of occurrently remembering something while actually having an occurrent propositional memory.

Thus, my claim is not that a dispositional propositional memory is a disposition to a self-reflective *prima facie* occurrent propositional memory. Some may embrace this claim, for instance, Locke says:

And in this sense it is, that our ideas are said to be in our memories, when indeed, they are actually nowhere, but only there is an ability in the mind, when it will, to revive them again; and as it were paint them anew on itself, though some with more some less difficulty; some more lively, and others more obscurely. And thus it is, by the assistance of this faculty, that we are said to have all those ideas in our understandings, which though we do not actually contemplate, yet we can bring in sight, and make appear again, and be the objects of our thoughts, without the help of those sensible qualities, which first imprinted them there. (1997, book II, chapter X, §2)

If we read “can bring in sight” and “make appear again” here literally, his thesis seems to be that when we occurrently remember something, we intentionally and attentively fetch something from the memory, as when we recall something.¹⁶ If so, if we truly and occurrently remember that *p*, it follows that we are self-reflectively aware that we are remembering that *p*. But if this characterization amounts to the claim that dispositional propositional memory is a disposition to a self-reflective (PPF) occurrent propositional memory, then I disagree. This is at best a misleading way of characterizing manifestation events of dispositional propositional memory, and therefore a misleading way of characterizing dispositional propositional memory, since it contradicts our intuitions in the following ways.

First, the occurrent use of ‘remember that *p*’ does not entail the existence of a self-reflective occurrent propositional memory. Not every ascription of occurrent propositional memory works in the way that self-ascription of an occurrent memory works. We may truly and

¹⁶ Owens 1996 claims that the model is of experiential recalling, rather than propositional.

legitimately attribute occurrent propositional memories to someone else regardless of whether they recognize the occurrence of propositional memory. For example, think of this case:

(e) Your wife asks you what city you want to go. You think that you have wanted to go to a European city, but cannot come up with the name of that city. You ponder a while, and finally the word, 'Madrid', occurs to your mind. But you are still not sure that that is where you wanted to go weeks ago. So you tell your wife that you want to go to Madrid. Then, She says, "Madrid! That's where you said you wanted to go."

In this case, your wife thinks that when the name occurred to you, you in fact occurrently remembered that you had wanted to go to Madrid. But evidently she attributes the occurrent memory to you regardless of what type of introspective judgment you have. She would surely attribute the memory to you even if she knew that you were not aware that you are remembering that. This sounds perfectly legitimate. This must be because we presume that such attribution may be correct. We have no reason to resist a natural consequence of this: when such attribution is correct, an occurrent propositional memory is not self-reflective. You may occurrently remember that you wanted to go to Madrid, when you are not (attentively) aware of your remembering. Importantly, this is rather a typical ground for attributing occurrent propositional memory from the objective point of view.

If this is correct, then to the extent that we accept the intuition that to dispositionally remember that p is to be disposed to an occurrent propositional memory that p , we have no reason to restrict the range of manifestation events to self-reflective ones. If we take the intuition at face value, every PPF-occurrent propositional memory, whether it is self-reflectively known or not, should count as a manifestation event of its corresponding dispositional propositional memory.

This conclusion is underpinned by our intuitions about the concept of dispositional memory as well. Think of highly intelligent animals, like primates. Most will agree that a chimpanzee dispositionally remembers its handler's face when it can distinguish the handler's

face from others. But it is not clear whether we should think that a chimpanzee can be aware of his remembering the handler's face, when it recognizes the handler's face. The same point seems to be applicable to propositional memory. Consider this story. Because of brain surgery, Tom has lost his ability to self-reflectively find himself remembering something. Whenever an idea occurs to him, it strikes him as if he has newly come up with it. A psychologist is interested in this case, and so does research on Tom. First, Tom is told that Stalin's birthday was Dec 9, 1879. The next day, the psychologist asks Tom what Stalin's birthday is. Then, the thought that it is Dec 9, 1879 occurs to Tom, and so he reports that it seems to him that it is Dec 9, 1879. The day after, once again the psychologist asks Tom the same question, and Tom reports the same thing. In this case, we can agree both that Tom dispositionally remembers that Stalin's birthday is Dec 9, 1879 and that the disposition is manifested when it seems to him that Stalin's birthday is Dec 9, 1879. However, *ex hypothesi*, he is not disposed to the self-reflective propositional memory that Stalin's birthday is Dec 9, 1879.

Neither of the above points shows that an occurrent propositional memory is possible without accompanying a PFPMA. Quite often we fail to see that we are in fact occurrently remembering something, as in case (e). Worse, even when we are trying to self-reflectively judge whether we are actually remembering or not, our self-reflective judgment may fail to be reliable while actually remembering and attending to the experience of occurrent remembering. For instance, in the middle of an exam, when a seemingly correct answer occurs to us, it is very common that we are not very sure whether we are in fact remembering the answer. But when we later find that the correct answer indeed occurred, it is a natural conclusion that we indeed occurrently remembered the correct answer. Tom exemplifies an extreme scenario, i.e., one in which someone always suffers from the same baffling experience. But one might wonder how

those non-self-reflective occurrent propositional memories are possible, if all occurrent propositional memories share PFPMA, as I claim.

In fact, none of these cases is inconsistent to my claim. For we identify PFPMA only as a feature which *enables* one to be self-reflectively aware that he is remembering something. Hence, something's having a PFPMA does not entail that we cannot fail to appreciate the PFPMA correctly, and so be incapable of being wrong about the seeming of occurrent propositional memory. This is even true of Tom's case. Although Tom lost the ability for self-reflective occurrent propositional memory, there is no reason to assume that the event of his occurrently remembering that Stalin's birthday is Dec 9, 1879 does not possess a PFPMA.

Those points indicate something significant about what kind of property PFPMA can be, and thus will impose a certain restriction on the study of occurrent propositional memory. If there is to be a PFPMA, it must not be something which we cannot fail to appreciate correctly when we are entertaining an experience possessing it, nor something which cannot be missed as in the case of Tom who loses the ability to have self-reflective occurrent propositional memory. Given this restriction, for instance, an event of the PPF-occurrent memory that p cannot be characterized simply as an event in which if one were self-reflectively to attend to his own conscious state, he would be self-reflectively aware that he was remembering that p . For the cases I've discussed constitute counterexamples to this. Here I leave the question of what property is PFPMA open, but only posit the property and characterize PPF-occurrent propositional memory in this way: x PPF-occurrently remembers that p only if x would be self-reflectively aware of his prima facie occurrent remembering that p were x 's cognitive function soundly and fully in operation.¹⁷ According to this approach, Tom is still disposed to

¹⁷ See note 15.

PPF-occurrently remember that Stalin's birthday is Dec. 9, 1879, for though Tom lost the ability to self-reflectively appreciate PFMA, if he did not lose the ability, he would come to be aware of the seeming of his occurrent remembering.

5.3 Dispositional Memory Explanation and Occurrent Propositional Memory

As I have already stated, I hold that any manifestations of a dispositional propositional memory are occurrent propositional memories. Thus, we must be able to describe any single manifestation of a dispositional propositional memory by the occurrent use of 'remember'. On the other hand, when we examined the explanatory context in which an event is explained by appeal to one's dispositional propositional memory, we concluded that in such a context, citing a dispositional propositional memory explains the explanandum event in virtue of the fact that that event manifests the disposition. If this is true, this important principle follows: if an event (state) is genuinely DR-explained, it is a manifestation event (state) of a dispositional propositional memory.

The main topic of this section is a challenge to a consequence of those two claims. If they are true, this thesis must follow:

[Ds] For any event e , if e is genuinely DR-explained, then we can describe e by the occurrent use of 'remember'.

The cases we have examined so far accord with this [Ds]. Think of Audi's story again. Suppose somebody asks why it occurs to Audi that he has pruned the tree. Saying, "Because Audi remembers that he has pruned the tree," would be a good answer to that why-question. If my interpretation is correct, in this explanans, we cite Audi's dispositional propositional memory that he has pruned the tree, which is manifested by the explanandum event. Meanwhile, we can certainly describe the explanandum event as Audi's occurrently remembering that he has pruned the tree. Or, refer back to the case in which Bill's accepting that the capital city of Togo is Lome

is DR-explained. Instead of describing the explanandum event in terms of the non-memory expression ‘accept’, given the fact that Bill satisfied various relevant conditions, it is natural to suppose that we can describe the story in terms of an occurrent memory expression as, for instance, ‘Reading the question reminded Bill that the capital city of Togo is Lome’.

However, we can find *prima facie* counterexamples to [Ds], i.e., a context in which an event which is not describable as an occurrent remembering is explained by appeal to a propositional memory. We often explain what people do by appeal to their propositional memory. These contexts can seem just like the one in which Bill’s accepting the proposition that Lome is the capital city of Togo is DR-explained.

Compare these different types of scenarios which suggest the existence of propositional memory.

Suppose you called on a friend to take him for a drive and when the two of you left his house you saw him lock the front door. Subsequently you remembered him locking it. A prominent question in the philosophy of memory has always been, “Just exactly what happens when a person remembers something?”. Now a variety of different things could have happened. Consider the following cases:...

3) He asks, “Do you recall whether I locked the door?” You say, “Now let me think”, and you feel a twinge of anxiety. You try to picture his exit from the house. An image of him bending over the doorknob comes to you. You say, with a feeling of relief and satisfaction, “You locked it.”

4) There is a police investigation, and a police officer says to you, “I want you to act out for me the movement your friend made in leaving the house”. You comply by walking to your friend’s study and picking up his brief case, then walking to the hall closet and taking his coat. You go out the front door and lock it. You walk down the porch steps to the garage. While carrying out his performance you feel nervous and apprehensive. You think to yourself, “Will he be cleared?” In your mind’s eye you see your friend’s pale face behind bars. (Malcolm 1970, 65-66)¹⁸

In (3), evidently you remember that your friend locked the front door, and we can explain your mental episode—entertaining the image—by appeal to your propositional memory that your

¹⁸ The same type of example is found in (Malcolm 1977, 61-62).

friend locked the front door. Likewise, (4) also appears to us to be a case in which you remember that your friend locked the front door. And it also appears that we can explain your act in (4)—your going out and locking the front door—by appeal to your remembering that your friend locked the front door. Suppose someone asks, “Why does he (i.e., you) go out and lock the front door?” Saying, “Well, it’s because he remembers that his friend locked the front door,” would sound quite convincing.

But there is an important difference between the two scenarios. What is the event of your occurrently remembering that your friend locked the front door? In (3), it must be your entertaining the image. Hence, you occurrently (and hence dispositionally) remember that your friend locked the front door. On the other hand, the same question asked about (4) baffles us. The truth of “You remember that your friend locked the front door” seems to be undeniable even in (4), as we take the explanation to be convincing. However, we have no intuitive reason to interpret ‘remember’ in this sentence in the occurrent sense. Can we say, “You immediately remembered that your friend locked the front door,” or “You are remembering that your friend locked the front door,” or “You recall that your friend locked the front door”? At best, we do not know. The story indicates nothing in favor of the occurrent reading of ‘remember’ in (4). As a matter of fact, no event explicitly mentioned in (4) appears to be describable in terms of any occurrent memory expressions. Your walking? Your locking the front door? We do not want to describe any of those events as your occurrently having the propositional memory. Therefore, a modest reading of ‘remember’ in the explanans appears to be dispositional, and thus, in (4), it might be concluded that you dispositionally remember that your friend locked the door, but do not occurrently remember it.

However, if ‘remember’ in that explanans is used in the dispositional sense, the conclusion that the explanation in (4) is a DR-explanation, just as in Bill’s case, seems ineluctable. Prima facie, we can apply the exact same argument given in chapter 2 which led us to the conclusion that Bill’s accepting the proposition is DR-explained. There I argued that so far as the explanation of Bill’s acceptance is given by citing Bill’s concurrent propositional memory, it is hard to resist the claim that the explanans cites his dispositional propositional memory, and hence it accords with the standard structure of a DR-explanation. Likewise, if your going out and locking the front door is explained by citing your dispositional memory that your friend locked the front door, it must be due to the fact that your act is a manifestation event of your dispositional propositional memory. But we feel strong resistance to identifying your act as an event of occurrent remembering, as we agreed. Hence, we seem to have a counterexample to [Ds]: although your going out and locking the front door is genuinely DR-explained, we cannot describe the event as your having an occurrent propositional memory.

The challenge here is clear. If our ordinary practice of explaining actions as in these sorts of cases by appeal to propositional memory constitutes a genuine DR-explanation, then there are counterexamples to [Ds]. But if [Ds] is false, this shows that there is a serious defect of the picture I have depicted so far. In this section, I will propose a response to this challenge.

5.3.1 Essential Ambiguity

My diagnosis of the present problem is quite simple; the explanation of your act by appeal to your propositional memory is not a DR-explanation, unlike the explanation of Bill’s acceptance of Lome as the capital city of Togo by appeal to his propositional memory.

To begin with, it is very important to remind ourselves of a potential ambiguity in ‘remember’ in this explanation, [E]:

[E] You go out and lock the front door because you remember that your friend locked the front door.

I argued above that we have no specific intuition in favor of the occurrent reading of ‘remember’ in [E] if it is given in the context of (4). But this is simply because we find no particular indication that ‘remember’ is used in a specific way in that context. Hence, for the same reason, we have no specific intuition in favor of the dispositional reading either. Indeed, as I suggested earlier, until we start wondering about what episode is your occurrent remembering, or until we start wondering about what kind of explanation is given by [E], we find no specific worry about the occurrent use of ‘remember’ in that context. This observation reveals that the present challenge is not grounded by our intuition that ‘remember’ in such a context is used in the dispositional sense, but rather from this crucial inference.

In (4), since we see no occurrent event which can be identified as your occurrent propositional memory, ‘remember’ is used to cite something other than an occurrent propositional memory. Therefore, the explanation is given in terms of the dispositional sense of ‘remember’.

Hence, if this crucial argument is discredited, we have no further reason to resist the idea that we use ‘remember’ in that context in the occurrent sense. This is my main argument in the following, namely, given the full story in (4), we can find a good candidate for an occurrent propositional memory. So this undermines the above argument, and also favors the occurrent reading of ‘remember’ in [E]. Hence, I will argue, when we use [E] to explain your act, we tacitly suppose an occurrent event of remembering which explains the act.

5.3.2 Action and Motivation

No plausible theory of action can accept an action in the absence of the agent’s having an intention to act and executing it in the course of his acting. The agent’s intention to act is a

necessary condition for his acting.¹⁹ In the present story, your going out and locking the front door is an intentional action of yours, because you intended to go out and lock the front door. Probably, this mental episode is not explicitly attended to by you. Nonetheless, whether it is explicitly attended to or not, the existence of your intention has a critical bearing on our present concern. For if you did not intend to go out and lock the front door, we would not be able to explain what you did by using [E]. For instance, suppose that when you move to the front door, you are in fact moved by the unseen hands of a mischievous elf, so that you do not intend to do anything whatsoever. In such a case, we do not want to use [E].

Nonetheless, the existence of this occurrent mental episode has not yet solved the present puzzle. The challenge is that there is no occurrent event in the story which can be an occurrent propositional memory. But your intending the act does not improve the situation, since it is hardly defensible to claim that your intending can be an event of your occurrently remembering that your friend locked the front door. Evidently the propositional content of your intention cannot be exactly the same as the content of your propositional memory. For instance, when your going out and locking the front door is your act so intended, the propositional content of your intention would be that you go out and lock the front door.²⁰ Your intending that you go out and lock the front door cannot be the same mental episode as your remembering that your friend locked the front door, since they have two different contents.²¹ Therefore, although your intention of the act should be added to the list of occurrent events in the story, still no occurrent

¹⁹ Of course, as Harman's sniper alerts the enemy to his presence, one's action, A, might not entail the subject's intention to do A (Harman 1976, 48). But this does not affect the present discussion.

²⁰ Searle (1983, Chapter 3, section iii) shows that this cannot be the full content of his intention. But for the sake of simplicity, I ignore his worry here.

²¹ Furthermore, even if the propositional content of your intending is identical to that of your propositional memory, the intentional contents of those two attitudes cannot be the same. As Searle (1983, 97) correctly points out, in the case of remembering that *p*, the direction of fit is mind-to-world, whereas in the case of intending that *p*, it is world-to-mind.

event in the story so far identified can be an event of occurrent propositional memory. Hence, we need to seek for another contender.

When we look back carefully upon in what scenario we find [*E*] credible, we will immediately notice that it is not your intention of going out and locking the front door *per se* which determines the credibility of [*E*]. Nonetheless, your intention plays a critical role, and attention to it points the way to an important clue. Let us compare the following case with the original story in (4). Suppose when you walk out of the front door and lock it, you intend to go out and lock the front door. However, you intend to do so because you want to escape from the house. If your intention in going out and locking the front door *per se* suffices for the credibility of [*E*], then even in this modified scenario we would be able to as credibly explain your act by using [*E*], as we can explain the same event by [*E*] in the original scenario of (4). But as a matter of fact, nobody would find such an explanation credible given this modified scenario. Therefore, some factor in the modified scenario undermines the suitability of [*E*]. This factor seems to lie in the motive for the intention. In the modified scenario, your intention to go out and lock the front door is motivated by your desire to escape from the house. But we do not want to explain an act so motivated by appeal to your memory, for no element in the story suggests an explanatory role for your propositional memory.

On the other side, in the original scenario, the same intention is motivated in a different way, so that your propositional memory seems to play a certain role in the act. How so? Probably the intention is motivated by way of practical reasoning like this: you desire to comply with the officer's instruction to show how your friend acted, and you believe that he locked the front door, and, therefore, you intend to go out and lock the front door, and hence actually do so. Now we find this key: your belief that your friend locked the front door.

One might worry here whether the belief was occurrent. Of course, it is likely that such practical reasoning would be quick and very unremarkable, so that you do not explicitly attend to the belief that your friend locked the front door. Nevertheless, it must be an occurrent mental episode insofar as it is one step of the actual reasoning. When we make a calculation including multiple steps, the fact that the calculation is processed very quickly and each step is very unremarkable does not make each step non-occurrent. If there is such an occurrent mental episode, we have no reason to hesitate to attribute to you an occurrent belief that your friend locked the front door. Hence, we have finally found a suitable candidate for your occurrent propositional memory: the occurrent belief that your friend locked the front door.

5.3.3 Concurrence

Still, we have not solved the puzzle fully. If your belief occurs only in your practical reasoning in favor of the act, then it cannot be concurrent with the act. On the other hand, it seems that the tense structure of $[E]$, although it is not explicit, should be read in this way:

$[Et]$ You go out and lock the front door at t because you remember at t that your friend locked the front door.

If we can explain your act by using this $[Et]$, then you go out and lock the front door while you concurrently remember that your friend locked the front door. But since your belief is occurrent only in the practical reasoning prior to your action, in its nature, there is no occurrent event which ‘remember’ in $[Et]$ can cite. Of course, insofar as your intention is motivated by the occurrent propositional memory (i.e., occurrent memory belief) by way of the practical reasoning, we can explain your act by appeal to your propositional memory. But such an explanation should be given rather by using this:

$[Ep]$ You go out and lock the front door at t because you remember (remembered) at $t^* < t$ that your friend locked the front door.

The worry here is about the explanatory connection between the explanandum act and the explaining event. Evidently [*Et*] and [*Ep*] offer two different explanations. Quite frequently, the prior intention to do something is lost in the midst of the very action, not to mention the steps in the practical reasoning that led to the prior intention. For instance, it is quite common that I start a project because I intend to defend a thesis by means of a particular argument based upon several premises, but I end up rejecting one of those premises, say *P*, as a result of discussions in the course of the project. So I have lost an element of the original ground for the action, *P*. In such a case, one may still explain my working on the project by appeal to *P*. But if one says, “Shin is working on the project because he *holds P*,” that sounds misleading, at best. The correct explanation should be, “Shin is working on the project because he *held P*.” This would be a model for the explanation by [*E*], if the correct interpretation of it in the context of (4) is to be given by [*Ep*]. However, our intuition tells us that this is a wrong model.

Of course, there are cases in which the belief occupies only a step of the practical reasoning. But quite often a step of a practical reasoning for an action—particularly a crucial one—plays a decisive role even in execution of the very action. Considering why we are inclined to think that [*Et*] offers a good explanation in the original scenario, it is evident that we take the story to be a case in which a premise in the practical reasoning continues to play a role in supporting the action while it is undertaken. Think of another modification of (4). Suppose you start walking to the front door because you want to show that your friend locked the door. However, just after a couple of steps, it suddenly strikes you that your friend might be arrested unless you do something. Then, you realize that the officer will follow you to the outside to check on what you do, but your friend will remain inside. So if you lock the door, the officer cannot go back to inside if you keep the key, and thus you can give your friend a chance to

escape through the secret back door. But when you come up with this scheme, say at t_1 , you come to be preoccupied with the overwhelming fear that the officer might see through the scheme. Thus, at this point, the reason why you started walking to the front door is completely forgotten. What you are thinking now is only how you can keep the officer outside as long as possible. In this case, your belief that your friend locked the front door (or any such occurrent belief, at least) seems to play no role after t_1 . What would this change amount to? Suppose the time t is a few second after t_1 , and time t^* is when you have the original practical reason for the act. We would no longer find $[Et]$ a good explanation of your act, although $[Ep]$ remains as credible. The difference is obvious. In this scenario, what is to be cited by $[Et]$ is missing: the role of the belief which is originally a step of the practical reasoning for your act in the execution of the act. Thus, $[Ep]$ and $[Et]$ cite the same belief, but they assign different explanatory roles to the belief.²²

Hence, no matter which of $[Et]$ and $[Ep]$ is the correct interpretation, ‘remember’ in $[E]$ cites an occurrent event (i.e., the occurrent memory belief), rather than a dispositional propositional memory. Of course, we have no reason to resist the idea that this occurrent event may be described as an occurrent propositional memory. Therefore, the original challenge is undermined. When we explain your act by $[E]$, we are not citing a dispositional propositional memory, and hence such an explanation is not a genuine DR-explanation. Therefore, the explanandum act does not have to be a manifestation event of your dispositional propositional memory. The challenge can be dismissed.

²² One might wonder why we should take such a belief as occurrent. For the belief is very unlikely to be available in the sense that you are consciously and attentively accessing it. Nonetheless, while you are not explicitly attending to the belief, it is still in your mind and motivating the execution of your act. To this extent, it is certainly in operation, and hence occurrent.

We are still left with the question of how [Et] can offer a good explanation of your act in (4). My interpretation is straightforward. In the original story, you are having the occurrent propositional memory that your friend locked the front door while you are going out and locking the front door. Although this memory belief is concurrent with your act, the belief is also a part of what causes your act. Hence, the explanation of your act by [Et] is successful because it cites a cause of the explanandum event. One might wonder how such a causal explanation can be plausible. We can causally explain Bill's accepting the proposition about the capital city of Togo, for instance, by appeal to his seeing the question. But this is partly due to the fact that his seeing the question precedes his accepting the proposition. If they are concurrent, how can the same explanation be possible? For his seeing the question cannot cause his accepting the proposition in such a case. This fails to take account of the structure of the causal connection between your memory belief and the act. We often speak of causation when the immediate cause appears to be concurrent with the effect. When one moves a stone by pushing it, his pushing the stone causes the stone to move. Intuitively, his pushing is concurrent and continuous with the stone's moving. Here I do not claim that no further analysis of this causal story is impossible. But it is true that we can explain the stone's moving by appeal to his pushing it without any further detail. Likewise, your concurrent memory belief constantly causes (or contributes to the total cause of) each of your moves in the action: one step forward and a movement of your finger to lock the front door, etc. Thus, nothing is unusual if one says that your propositional memory causes you to go out and lock the front door although it is, like pushing the stone and the stone's movement, conceived as concurrent with the act. Hence, the structure of the explanation of your act by appeal to your concurrent propositional memory must be the same as that of the explanation of the stone's moving by appeal to your pushing the stone. Of course, this is a form of causal

explanation which will admit of further analysis. But that is beyond the scope of the present project.

5.4 Triggering Dispositional Propositional Memory

We have accomplished the task of specifying the characteristic feature of manifestation events of dispositional propositional memory, which Lewis's scheme presumes. However, a dispositional concept is not fully explicated by its manifestation condition alone. Indeed, if we cannot specify the triggering condition for dispositional propositional memory, one might suspect that the concept is not dispositional, just as Armstrong questions whether the concept of belief is dispositional on the same ground. When Armstrong claims that the concept of belief is not dispositional, one of his main worries is that we have no idea about how a dispositional belief is triggered so as to bring about an occurrent belief. He says,

One point of distinction between dispositions such as brittleness, and beliefs, is that the concept of the former involves the notion of an initiating cause of a certain sort which triggers off the manifestation.... But the concept of beliefs seems to involve no notion of a class of initiating causes which in turn bring about the manifestation or expression of the belief. (1973, 16)

Armstrong's claim sounds compelling, since if we have no idea what the triggering condition is, we are less confident that the concept is dispositional.

However, here I cannot offer any substantial theory which identifies the class of triggering events of occurrent propositional memories. There is an enormous practical difficulty in such an attempt, as in the case of many other mental dispositions. But I do not take this to be a fatal trouble to the idea of the dispositional concept of propositional memory for the following reasons.

First, it does not seem obvious that for any dispositional concept, we must be able to identify a class of triggering events of that disposition. Some of our dispositional concepts, for

some reason, may be necessarily non-committal to some extent with regard to their triggering condition(s).

Second, we must notice here that it is not that we know nothing about how those mental and behavioral dispositions, including dispositional propositional memory, are triggered. At least, we know paradigmatic cases of manifesting those dispositions. For example, we can tell when we have a paradigmatic situation in which a manifestation of one's irritability is triggered, such as when someone gets furious because he was made fun of. In such a case, we suppose that his being made fun of somehow triggered his getting furious, although this falls short of a good characterization of the triggering condition of irritability. Likewise, we know that when you recall that you wanted to go to Madrid when you are trying to remember what European city you wanted to go to, your trying somehow triggers your recalling. And we know that when your wife's call successfully reminds you that you have to pick up laundry from a dry cleaner, the call somehow triggers your occurrent memory, etc.

Although we know something about the triggering conditions for dispositional propositional memory, we cannot specify them. However, this seems to be rather because the concept of dispositional propositional memory *per se* leaves somewhat open-ended the range of triggering conditions for it. Hence, since my project is focused on the analysis of the *concept* of dispositional propositional memory, in my analysis I will simply quantify over types of triggering events.

One might claim that this sort of understanding does not vindicate the dispositional concept of propositional memory. One might be led to reject any mental and behavioral dispositions. Indeed, there seems to be a conspicuous dissimilarity between many typical physical dispositional concepts and these psychological dispositional concepts. However, while

it is true that we know far more about the triggering conditions of many physical dispositions, such as inflammability, fragility, malleability, and etc. than what we know about those psychological dispositions, the difference might be simply accidental. We know a lot about the triggering conditions of, for instance, inflammability nowadays. But in ancient times, what did we know about it? Didn't we know of paradigmatic triggers, like setting fire to a thing? This shows that the actual poverty of knowledge about the triggering condition cannot be a decisive factor. And I believe that we have a good reason to expect that the future scientific investigation will deliver fruit as rich for our understanding of the triggering conditions of dispositional propositional memory as we have achieved in the case of the triggering conditions of many physical dispositions.

5.5 Propositional Memory and Retained Knowledge

Finally, it is time to formulate my analysis of dispositional propositional memory in this full-dress form.

For any x , proposition p , time t , x dispositionally remembers that p if and only if for some state, s , x is in at t , s is x 's having knowledge that p retained for an adequately long period of time, and there is a type of event, T , such that if there obtained an event, e , of type T at t which involves x , then x 's being involved in e and x 's being in s would jointly be an x -complete cause of x 's PPF-occurrently remembering that p at $t + \varepsilon$ for some ε .

This analysis leaves something out, but I believe that it accomplishes the original purpose of this project to a large extent. It illuminates the explanatory information we obtain in DR-explanations and explains the tight connection between dispositional propositional memory and retained knowledge.

The final topic of our project is one aspect of the analysis which marks my approach in particular. Thus far, while addressing the tight connection between knowledge and propositional memory, we have not inquired into the difference between those two concepts. In this final section, first, we discuss the extensional equivalence of those two concepts. I do not demonstrate

their extensional equivalence, but I believe that it can be well supported. Nonetheless, as I will argue in the second part, what it is to dispositionally remember that p is not simply what it is to retain knowledge that p . Indeed I will argue that there is a reason not to confound those two concepts. This will highlight an important advantage of my approach; i.e., how aptly the analysis deals with their conceptual difference.

5.5.1 Knowledge without Memory

I demonstrated in the last chapter that if one remembers that p , he must retain knowledge that p . However, on the other hand, we did not discuss the implication in the other direction. Does one remember that p if he retains knowledge that p for an adequately long period of time?²³ Munsat gives some very interesting examples which lead to the negative response to this question. He introduces a couple of cases in which seemingly we cannot attribute a propositional memory to a subject who has retained the corresponding knowledge for a long period of time. For instance, he says,

It seems to me that any memory statement of the form “I remember that” followed by a counterfactual is nonsensical, or perhaps better, a misuse of the term “remember.” For example, I do not think we can understand statements like “I remember that if we had offered him more money, he would have stayed,” or, “I remember that if the doctor had arrived on time, he would have lived.” Yet surely I may know that he would have stayed if we offered him more money; I may have known it at the time the offer was made (he told me), and, supposing he died after he told me, and had not told anyone else, if I had not known it then, I would not know it now. (1967, 37)

So if Munsat’s intuition is correct, we cannot remember that if we had offered him more money he would have stayed, even when we retained the same knowledge for what otherwise would be clearly a long enough period of time. Munsat’s intuition seems to have good grounds. Consider this story:

²³ I am speaking of the notion of ‘retaining knowledge’ defined in 4.2.2.

(1) Suppose Stanley was told by a man that he would stay if he was offered more money. But Stanley decided not to offer more money to him, so the man left. Of course, he knew that the man would have stayed if he had offered the man more money. Now Stanley is talking to his friend. The friend is asking Stanley whether there was any way he could keep the man. It occurs to Stanley that the man would have stayed if he had offered the man more money.

Now suppose you are the friend talking to Stanley. Stanley says, “I recall that the man would have stayed if he had offered the man more money.” It is natural for us to think that Stanley

retains the knowledge that the man would have stayed if he had offered the man more money.

All the same you would probably find something quite unusual about his answer; namely, why

does he not say instead, “I believe that the man would have stayed if he had offered the man

more money,” or simply “The man would have stayed if he had offered the man more money”?

Munsat’s intuition is correct to the extent that it does not seem to make much sense (to have a

point) to add memory expressions to this answer, such as ‘I recall’, ‘I remember’, ‘It reminds

me’, etc.²⁴

Nonetheless, claiming that Stanley does not remember that the man would have stayed if he had offered the man more money, while he retains the corresponding knowledge, is going overboard. For, it seems that we would want to attribute that propositional memory to Stanley in a setting like this,

(2) Suppose Stanley was told by a man that he would stay if he was offered more money. But Stanley decided not to offer more money to him, so the man left. Thus, Stanley knew that the man would have stayed if he had offered the man more money. Years later, now Stanley is thinking about the man. Stanley vaguely remembers him, but could not recall why he left. Stanley muses, “Well, I recall that he wanted more money, and that if we offered more money, then he would have stayed. So he must have left because we did not offer the amount of money he wanted!”

The point here is that Stanley self-reflectively recognizes himself as occurrently remembering that the man would have stayed if he had offered the man more money, and we have no reason to

²⁴ Tulving (1983, 49) suggests essentially the same point.

resist such self-attribution of the propositional memory. Hence, it seems plausible to suppose in a context like (2) that it is possible for Stanley to occurrently remember that the man would have stayed if he had offered the man more money. Moreover, the parallelism of (1) and (2) is undeniable; there seems to be no reason to suppose that in a context like (1), Stanley could not have experienced the same thing as he experiences in (2). If so, even in (1), Stanley is disposed to the same memory experience, and thereby, dispositionally remembers that the man would have stayed if he had offered the man more money.

Munsat here seems to be misled by how rare and sometimes puzzling it is to attribute an occurrent propositional memory whose propositional content is counterfactual. This construal can be supported by Munsat's second case.

A new man in the neighborhood assures me that he will be on time for a meeting, and I have good evidence for his trustworthiness. I may know that Jones will be on time, I may have known it, and it may be true that if I had not known it, I would not now know it. But, just given the story here, I could not understand the statement, "I remember that Jones is going to be on time for the meeting." (I may remember that he said he was going to be on time, but that is not the "p" I am considering.) On the other hand, if he had said he was going to be late, then I might know this, have known this at *t*, etc., and it would be perfectly reasonable to say that I remember that he is going to be late, if I have not forgotten it. (1967, 38)

Here, as Munsat himself points out, in this case, the crucial difference seems to lie in the "noteworthiness" (39) of what is known.²⁵ It is true that an utterly trite thought would rarely strike us as an occurrent memory. Let me exemplify the point. Your own name, say 'John', is too obvious to you, and so that you have almost never entertained the thought that you remember that your name is John. As a matter of fact, it would sound quite odd if you say, "I remember that my name is 'John'," when you are asked your name. However, inferring the absence of the (dispositional) propositional memory that your name is 'John' from the rarity or puzzling nature

²⁵ Munsat does not claim that the noteworthiness is the only factor which marks good attribution of propositional memory. See Munsat (1967, 39).

of attributing such an occurrent propositional memory is a naïve mistake. Even though it is rarely manifested, no one seriously denies that you remember that your name is ‘John’. Attributing to oneself memory when what one remembers is blindingly obvious to one makes no practical or conversational sense. However, one has a propositional memory in these cases regardless of whether we would say one does.

Hence, if I’m correct, those cases do not constitute genuine counterexamples to the claim that if one retains knowledge that p for an adequately long period of time, then he dispositionally remembers that p . Here I do not present any further positive argument for this claim, but rely on its prima facie plausibility together with this defense against apparent counterexamples. If it is true, then this important thesis follows:

One retains knowledge that p for an adequately long period of time if and only if he dispositionally remembers that p .²⁶

5.5.2 Conceptual Difference

This thesis entails the extensional equivalence of the concept of propositional memory and the concept of retained knowledge. To this extent, I can find no actual counterexample to the thesis. Yet, I do not construe the thesis as of an analysis of the concept of dispositional propositional memory. For if it were, it would follow that we do not understand what it is to retain knowledge that p and what it is to dispositionally remember that p very well.

Consider concepts, A and B, and suppose that $A = B$. Unless we misunderstand or only partially understand A and B, we subsume something under A if and only if we subsume the same thing under B. Otherwise, the attribution conditions for them must be different. This seems to be true, for instance, of the concept of a bachelor and an unmarried male. Whenever we think that one is a bachelor, the same man is recognized as an unmarried male, and vice versa, and

²⁶ Again, I’m speaking of ‘retaining knowledge’ defined in 4.2.2.

whoever fails to classify bachelors as unmarried males and vice versa does not understand one or the other or both of ‘bachelor’ or ‘unmarried male’. But it seems, as Munsat’s cases suggest, that there are cases in which we are willing to attribute retained knowledge that p to someone while we are reluctant to attribute a propositional memory that p . Hence, if the thesis offers an analysis of the concept of dispositional propositional memory, and, hence, the concept of retained knowledge and the concept of dispositional propositional memory are really identical, it follows that we do not fully grasp the concept.²⁷

Thus, the concept of dispositional propositional memory cannot be identical to the concept of retained knowledge. If this is correct, it must be at least conceptually possible for something to retain knowledge that p without dispositionally remembering that p . Indeed, it is very hard to see any conceptual reason to deny that a creature could retain knowledge that p but could not have any type of occurrent propositional memory that p . Such a creature surely cannot occurrently remember that p , and lacks a disposition to an occurrent propositional memory that p . Do we want to attribute a dispositional propositional memory that p to it? If we do, we must accept the conceptual possibility that one remembers that p but *cannot* occurrently remember that p . But this sounds like a plain contradiction.

The present discussion points to an important conceptual difference between retained knowledge and dispositional propositional memory. I suppose that our concept of retained knowledge, if any, implies nothing more than the concept as characterized in chapter 4: one retains knowledge that p at t from t^* iff he knows that p at t^* and at each instant from t^* to t , and at any instant t_i such that $t^* < t_i \leq t$ he knows that p in part because he knows that p immediately before t_i . If this characterization captures the concept, we have no reason to believe that

²⁷ The same point seems to be exemplified by discussions in 4.2. If those concepts are identical, how can so many philosophers suspect that one remembers that p without knowing that p ?

retaining knowledge that p presupposes a disposition to occurrent propositional memory that p . In fact, we have a reason to believe that the concept of retained knowledge *should not* be characterized, even partly, as a disposition to an occurrent propositional memory. It is not clear whether knowing that p is a dispositional state. But if we are to have a dispositional concept of knowledge, the manifestation condition of knowledge must be identified in terms of the concept of occurrent belief and not the concept of occurrent propositional memory. If to retain knowledge is to retain such a dispositional state, then retained knowledge must be manifested exactly in the same way as knowledge is manifested. Hence, the concept of retained knowledge should not be characterized as a disposition to an occurrent propositional memory.

If this is so, the difference between the concept of dispositional propositional memory and the concept of retained knowledge is clear. On the one hand, a knowledge state may be simply non-dispositional. If so, we can safely presume that the concept of retained knowledge is different from the concept of dispositional propositional memory. This may be the case if the relation between dispositional propositional memory and retained knowledge is nothing more than the relation between a disposition and its grounding (categorical) property. On the other hand, to retain knowledge may be to retain a dispositional state. Then, the relation between retained knowledge and dispositional propositional memory would be more complex. But even if both concepts are dispositional, they still are different, for they do not share the same manifestation condition. In chapter 3 (particularly 3.4), we reached the conclusion that a dispositional concept should be individuated partly, at least, in terms of a subjunctive conditional statement. And it is possible for two dispositional concepts share the same extension, or even the same causal ground, but nonetheless be distinct concepts because the subjunctives characterizing those two differ. Think of these two (artificial) dispositions: the disposition to drink watery stuff

(i.e. liquid with all and only the superficial features of water) and the disposition to drink H₂O. Upon being specified properly, anything which is disposed to one is disposed to the other, and moreover the causal ground of the two dispositions must be the same. Nonetheless, the two dispositional concepts are certainly different, since the manifestation conditions are identified differently. Indeed, many uneducated people in the 18th century did not—mistakenly, of course—attribute the disposition to drink H₂O to someone to whom they sure attributed the disposition to drink watery stuff. Because those two dispositional concepts are identified in terms of two different concepts (i.e., watery stuff and H₂O), the attribution conditions of the two dispositional concepts are different. Granting that the concept of retained knowledge should not be characterized as a disposition to an occurrent propositional memory, it follows that its manifestation condition must be different from the concept of dispositional propositional memory. Therefore, there is a conceptual difference between retained knowledge and dispositional propositional memory, and the difference is primarily marked by the fact that to dispositionally remember that *p* is to be disposed to an occurrent propositional memory that *p*. If this is right, my analysis correctly captures this conceptual difference. To have a dispositional propositional memory is to be disposed to a PPF-occurrent propositional memory causally grounded in the corresponding retained knowledge, but to have retained knowledge that *p*, even as a dispositional state, is not to be disposed ipso facto to a PPF-occurrent propositional memory that *p*.

Here is one last remark. If to retain knowledge is to have a disposition, then it is natural to suppose that all the manifestation events of a dispositional propositional memory—occurrent propositional memories—also manifest the retained knowledge. When one recalls that *p*, he not only manifests his dispositional memory that *p*, but also manifests his retained knowledge that *p*.

But one might wonder how this is consistent with the previous claim. The answer is simple.

When one and the same event manifests both one's retained knowledge that p and his dispositional propositional memory that p , that event makes true each of these token sentences: "One occurrently believes that p " and "One occurrently remembers that p ." Thus, despite the fact that the same event manifests both a propositional memory and the retained knowledge, that event is taken to manifest those two different dispositions under two different descriptions.

CHAPTER 6 SUMMARY

Propositional memory plays a crucial role in our intellectual lives. This dissertation started with this plain observation. Propositional knowledge is undoubtedly the centerpiece of our intellectual lives, and retaining knowledge constitutes a necessary condition for many of our intellectual activities. As propositional memory is necessary for most knowledge retention, it too is essential for many of our cognitive activities.

First I distinguished two concepts of propositional memory, occurrent and dispositional. The main purpose of this dissertation has been to address and clarify the importance of dispositional propositional memory.

Our investigation into the concept of dispositional propositional memory started with a form of psychological explanation whose explanans cites essentially dispositional propositional memory. I called such explanations DR-explanations. Many explanandum events/states in the case of DR-explanations manifest the subject's beliefs (e.g., one's accepting a claim, a thought occurring to one, etc.). I pointed out that often in DR-explanations, the explanatory relevant information conveyed by citing a dispositional propositional memory is not about a singular cause of the explanandum event. Rather, citing a dispositional propositional memory suggests that the explanandum event is caused under a specific condition—normally under the condition that subject came to acquire the corresponding knowledge in the past.

The specific information we obtain from such a DR-explanation directed our attention to the structure of the concept of dispositional propositional memory. The traditional approach to dispositional concepts (i.e., that to have a disposition is just to be poised to exhibit a regularity as expressed by an appropriate subjunctive) fails to explain how we obtain the kind of information we do by citing a dispositional propositional memory. Thus, we confirmed that to dispositionally

remember that p is not just to be poised to exhibit a regularity, but also to have some property which causally grounds the potential regularity. Following Lewis's analysis of dispositional concepts in general, we found that there are two essential features of the concept of dispositional propositional memory, namely, identification of types of manifestation and triggering events and identification of a property that causally grounds the manifestation events. An explanation citing a propositional memory conveys a standing condition of the explanandum event thanks to this latter feature.

What is the causal ground of dispositional propositional memory? We started the discussion with a defense of a traditional approach to propositional memory. It claims that if one remembers that p , then he retains the knowledge that p . I defended this intuitively plausible claim by showing that, despite the efforts of a number of philosophers, no one has succeeded in identifying any clear-cut counterexample to it. But I did not just accept the claim. I advanced the view by adapting it to my approach; that is, I argued that any manifestation event of a dispositional propositional memory that p is causally grounded by his retained knowledge that p . Given these claims, it follows that if one remembers that p , then he has known that p . However, the implication in the other direction does not go through; there are cases in which one has known that p , even for long enough time, although he does not remember that p . So we investigated what is involved in having known something for a while in a way sufficient for grounding a propositional memory, and called this 'retention of (retaining) knowledge'. Accordingly, we characterized the grounding condition of a dispositional propositional memory in terms of retention of knowledge for an adequately long period of time.

One important question is whether my approach supports the notion of a memory trace. My view may count as a modest kind of memory trace theory. If my approach is correct, then

one remembers that p only if there is a temporally continuous chain of the subject's states of knowing that p for the period during which he remembers that p . If no more need be involved in having a memory trace than this, then my approach counts as a sort of memory trace theory. But I basically reserved my opinion as to this entailment. For postulating the continuous chain of knowledge states by itself does not entail any spatio-temporally continuous physical causal chain inside one's head, and it may well be that the latter is something most self-professed memory trace theorists would think necessary for there to be a memory trace.

The final task of my project was to identify the manifestation and triggering condition for dispositional propositional memory. I claimed that there is one unique type of manifestation event for dispositional propositional memory that p , that is, occurrently remembering that p . But analyzing the dispositional concept of propositional memory by appeal to the concept of occurrent memory would seem to trivialize my approach. To avoid this, I argued for a property shared by all occurrent propositional memories but free from conceptual entanglement with propositional memory. I coined names for this property and an the event possessing it, PFPMA and PPF-occurrent propositional memory, and characterized dispositional propositional memory as a disposition to a PPF-occurrent propositional memory.

However, I failed to offer any positive characterization of the triggering condition(s) of dispositional propositional memory. But I argued that the actual ignorance of the triggering condition does not count against the concept of propositional memory being a disposition concept, like other psychological concepts, belief, desire, intention, fear, hope, and so on. I basically left the task of identifying the triggering condition for future, very likely scientific, investigations.

In the last part of chapter 5, we examined a counterexample to the claim that if one retains knowledge that p for an adequately long period of time, then he dispositionally remembers that p . I argued that the putative counterexample is not a true counterexample, and endorsed the extensional equivalence of retaining knowledge that p and having a propositional memory that p . Nonetheless, I refused to analyze the concept of dispositional propositional memory as retained knowledge. One's dispositional propositional memory that p must be causally grounded by his retained knowledge that p , and moreover, they are manifested by one event. Nonetheless, our daily practice shows a certain conceptual difference between the two concepts. My solution was simple. Their conceptual structures are different: to dispositionally remember that p is essentially to be disposed to an occurrent propositional memory that p , whereas to retain knowledge that p is not to be disposed to the same event type, but rather to an occurrent belief that p . And chiefly by appeal to this conceptual difference, I disentangled the connection between knowledge and propositional memory.

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Shin Sakuragi (formerly Sato) was born in 1972 in Tokyo, Japan. He is married to Shiho Sakuragi, with whom he has a 2 year-old son, Nao. Shin graduated from Waseda University Senior High School in Tokyo in 1992. He earned his B.A. in Japanese literature and his M.A. in philosophy from Waseda University in 1998 and 2000. The title of his master's thesis was "Donald Davidson's Truth Theoretic Approach to the Theory of Meaning" (in Japanese). Shin will receive his PhD from the University of Florida in 2007.