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A causal theory of 'about'

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A CAUSAL THEORY OF 'ABOUT'

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

DOCTOR OF PHILOSOPHY

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ABSTRACT

Whenever we make a claim about a fictional entity, we seem to embroil ourselves in familiar problems of reference. This appearance is misleading, because what a sentence is about bears a greater resemblance to a Fregean sense than to a reference. All previous attempts to define 'about' consist of two approaches: (1) "metalinguistic" theories of 'about', proposed by Ryle and Carnap, which fail to counterexamples wherein transparent contexts generate paradoxical consequences; and (2) "semantic" theories of 'about' proposed by Putnam and by Goodman, which fail to counterexamples wherein no term refers to that which the sentence is about.

An untried alternative is to replace 'S is about k' with 'S is about k for person p'. Clearly, such a definition need not confine itself to sentences, but may apply to works of art as well. A detailed examination of how one actually goes about arguing to an audience that some work of art W is about some topic, yields a definition that approximates normal usage, yet avoids many problematic notions, such as 'beliefs', 'ideas', and 'intentional states'. Necessary and sufficient truth conditions for 'W is about k for p at time T' turn out to include as major elements (1) a causal chain leading from W to a set of "explicit thoughts" and dispositions, and (2) the lack of an "aesthetic environment" which excludes W.
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# TABLE OF CONTENTS

**INTRODUCTION** .......................... 1

Overview .................................. 1
Natural Languages and Natural Objects ... 5

**PART I. THE HISTORY OF 'ABOUT'**

Chapter

**I. METALINGUISTIC THEORIES** ............ 18

Introduction .............................. 18
Gilbert Ryle ............................ 19
   The Paradox of Fictional Discourse .... 19
   Some Objections ...................... 20
   Further Observations ................. 23
   Ryle's Solution ...................... 25
Discussion: Aboutness and Reference .... 32
Rudolf Carnap .......................... 38
   The Theory .......................... 38
   The Refutation ...................... 39
Conclusions ............................ 41

**II. SEMANTIC THEORIES** .................. 45

Introduction ............................ 45
Hilary Putnam ........................... 47
   Putnam's Paradox ..................... 47
   Some Objections .................... 47
   Putnam's Solution: an Overview .... 49
Information Theory ...................... 51
State Descriptions ..................... 60
   'Information About' ................. 64
Translations ............................ 65
Discussion ............................. 66
Nelson Goodman .......................... 72
   Introduction ........................ 72
Goodman's Paradox ...................... 74
   Preliminary Discussion .............. 77
   'About' in Natural Language ....... 78
   Introduction to 'Absolutely About' .. 81
Preliminary Definitions and Examples ... 82
Some Modifications .................... 85
   'Absolutely About' .................. 89
   Introduction to 'Relatively About' .. 91
Preliminary Definitions ................. 92
   'Relatively About' ................. 98
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goodman's Solution</td>
<td>100</td>
</tr>
<tr>
<td>Some Observations</td>
<td>101</td>
</tr>
<tr>
<td>The EUC and the PCS</td>
<td>103</td>
</tr>
<tr>
<td>Introduction to 'Rhetorically About'</td>
<td>106</td>
</tr>
<tr>
<td>Definitions</td>
<td>108</td>
</tr>
<tr>
<td>Discussion</td>
<td>110</td>
</tr>
<tr>
<td>Critics of Goodman's Theory</td>
<td>113</td>
</tr>
<tr>
<td>Introduction</td>
<td>113</td>
</tr>
<tr>
<td>Nicholas Rescher</td>
<td>113</td>
</tr>
<tr>
<td>Mitchell Ginsberg</td>
<td>114</td>
</tr>
<tr>
<td>Thomas Patton</td>
<td>119</td>
</tr>
<tr>
<td>Criticism of Goodman's Theory</td>
<td>124</td>
</tr>
<tr>
<td>Discussion and Challenge</td>
<td>128</td>
</tr>
</tbody>
</table>

**PART II. A CAUSAL THEORY OF 'ABOUT'**

**Chapter**

**III. FIRST STEPS TOWARD A NEW THEORY**

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four Sample Arguments</td>
<td>131</td>
</tr>
<tr>
<td>Introduction</td>
<td>131</td>
</tr>
<tr>
<td>Argument (1): Animal Farm</td>
<td>134</td>
</tr>
<tr>
<td>Argument (2): Treasure of the Sierra Madre</td>
<td>139</td>
</tr>
<tr>
<td>Argument (3): &quot;In Another Country&quot;</td>
<td>147</td>
</tr>
<tr>
<td>Argument (4): Subliminal Seduction</td>
<td>153</td>
</tr>
<tr>
<td>Discussion and Summary</td>
<td>157</td>
</tr>
<tr>
<td>What a Theory Should Accomplish</td>
<td>163</td>
</tr>
<tr>
<td>Four Demands</td>
<td>163</td>
</tr>
<tr>
<td>Discussion</td>
<td>164</td>
</tr>
<tr>
<td>Explicit Thought and Thought-Tokens</td>
<td>171</td>
</tr>
<tr>
<td>'About De Dicto'</td>
<td>181</td>
</tr>
<tr>
<td>Introduction</td>
<td>181</td>
</tr>
<tr>
<td>Definitions</td>
<td>186</td>
</tr>
<tr>
<td>'About De Re'</td>
<td>195</td>
</tr>
</tbody>
</table>

**IV. A CAUSAL THEORY OF 'ABOUT'**

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>198</td>
</tr>
<tr>
<td>'Is About For G'</td>
<td>199</td>
</tr>
<tr>
<td>Existence and Belief</td>
<td>199</td>
</tr>
<tr>
<td>Explicit Thoughts and 'About'</td>
<td>205</td>
</tr>
<tr>
<td>'Reminds'</td>
<td>215</td>
</tr>
<tr>
<td>An Alternative Approach That Fails</td>
<td>226</td>
</tr>
<tr>
<td>A Problem With Clause (4)</td>
<td>231</td>
</tr>
<tr>
<td>Consequences</td>
<td>243</td>
</tr>
<tr>
<td>'Is About For G'</td>
<td>243</td>
</tr>
<tr>
<td>'Is Really About'</td>
<td>243</td>
</tr>
<tr>
<td>Loose Ends</td>
<td>247</td>
</tr>
<tr>
<td>Conclusion</td>
<td>257</td>
</tr>
<tr>
<td>Coda</td>
<td>262</td>
</tr>
</tbody>
</table>
APPENDIX A .............................................. 264
APPENDIX B .............................................. 269
NOTES ..................................................... 274
BIBLIOGRAPHY .......................................... 279
INTRODUCTION

Overview

The original impetus for producing a causal theory of 'about' came from an unexpected source: the study of metaphor.

Metaphor is a topic which has witnessed a recent surge of attention. In much, but by no means all of the literature, there is a presumed distinction between two sorts of "meanings" a word, sentence, or passage might have, namely, a literal or a metaphoric meaning. When this issue is pressed, it becomes clear that there are thought to be occasions in which the same statement can be taken to "say" literally about some $x$ that $S$, but to say metaphorically about $y$ that $R$ where $x \neq y$ and $S \neq R$. This clearly presupposes a distinction between being literally and being metaphorically about. Thus as a first step to resolving some of the debates in this area, it is obvious that something must be said about 'about'. Unfortunately, there is hardly any material available in this area for the potential theory-builder.

Therefore, an underlying purpose of this paper is to propose a definition of 'about' which is suitable for grounding a discussion of metaphor. This might perhaps explain some of the unexpected twists and turns along the
way. For example, since metaphor is not confined to the written word, but extends to film, sculpture, and other visual arts at least (wherein an $x$ may be "represented as" a $y$), an adequate theory of 'about' would need to deal with more than just sentences within a language.

Furthermore, the intended goal behind proposing the theory is not to introduce a new notion of 'about' into the language, but simply to approximate the way we normally use the word in discourse, and particularly in aesthetic discourse. In the historical review sections (chapters I and II) it is hoped that the inadequacy of previous theories as approximations to natural language usage will become apparent. It is not expected that the theory offered will be the last word on the matter, loose ends and counterexamples are sure to abound, but our goal will be reached if our theory can come closer than others to capturing something of the "spirit" with which the word is normally used.

In chapter I all efforts prior to that of Hilary Putnam are discussed. The theorizing done by Gilbert Ryle in the papers, "'About'" and "Imaginary Objects" is examined as well as what little bit Carnap has to say in his book, The Logical Syntax of Language. Together, these three works make up the sum total of literature in the category I have labelled "metalinguistic theories" of 'about'. Criticisms of these authors are given.
In chapter II, two "semantic theories" of 'about' are discussed. The first is that of Hilary Putnam in his paper, "Formalization of the Concept 'About'". In order to provide a relatively self-contained exposition of this theory, a brief discussion of some crucial concepts of information theory are included. An argument is presented to the effect that Putnam's theory fails to accomplish the purposes for which it was intended. The second semantic theory of 'about' is that presented by Nelson Goodman in his paper, "About," and the subsequent critics of this work. This theory turns out to be the most effective of all the theories discussed, whether metalinguistic or semantic, but there are certain objections that it is not able to meet in its present incarnation.

In chapter III the preliminary material is presented for a different category of theories, specifically, causal theories of 'about'. First, four examples of "aboutness arguments" are presented. These arguments are intended to be representative of the way an arguer would normally proceed when trying to convince another person that some work is about some object. It is expected that even if the reader of these arguments disputes the results of any of them, the fact that people do in fact argue this way is hopefully beyond controversy. Second, an immediate goal of defining the expression, 'is about for p', is established, and some basic terminology
for achieving this goal offered. It is intended that use of this terminology will require a minimal ontological commitment and will thus be satisfactory to a wide range of potential users of the theory. In particular, any reference to mental states has been avoided in terms of the more neutral notions of occurrent behaviors and dispositions to behave. Third, somewhat modified versions of two Goodmanian definitions of 'about' are presented in the guise of two fundamental technical notions 'about de dicto' and 'about de re'.

In chapter IV, armed with these examples and definitions, a causal theory of 'about' is offered. Objections are offered at various points, with the resulting refinements being incorporated into the final definition of the expression '(work) W is about (object) K for (person) P at (time) t'. The definition of 'is really about' is not discussed in any detail, as it is felt that the definition of this concept is a matter of determining a particular group, G, of individuals and a time span t for which it can be claimed that W is really about K iff W is about K for G during t. Since the choice of an authoritative G and an appropriate t is a matter of some dispute, and is perhaps a decision which must vary for differing contexts, the establishment of this definition is left for future development.
Natural Languages and Natural Objects

'About' is said in many ways. Examples of some of the more common uses are:

(S1) I was just about to leave.
(S2) What sort of mischief are you about?
(S3) He will be up and about shortly.
(S4) What was the movie about?
(S5) It was about two hours long.
(S6) Go on about your business.

Some of these uses are closely related, as are (S2) and (S6), while for others, the connection is remote, as in (S4) and (S5). Synonymous words may be substituted for 'about' in some cases (for example, "It was approximately two hours long") but these synonyms don't always translate across examples ("I was just approximately to leave"). The relation between (S1) and (S2) is fairly subtle, the meaning of 'about' in (S1) is along the lines of 'on the verge of', while that of (S2) is more like 'in the middle of', or 'involved in'.

It is only one special use with which the present thesis is concerned. This is the use exemplified in sentence (S4). We come across this term with great frequency in conversation or literature, especially in an aesthetic or critical context. Of a book we have not read, we may ask what it is about, hoping to hear details of its plot or major characters. After a campaign speech, members of the audience may disagree as to whether it was "really
about" economics or the speaker's opponent. We remind someone of what he "said about" \( x \), or we recall something we "read about" \( y \). Such uses as these encourage us to find synonyms for 'about' among such terms as 'refers to', 'mentions', 'names', or 'denotes'. This suggests that the sort of definition we seek is of a linguistic nature, and is best explored through a study of reference.

If we follow this approach, however, we are brought up short when we seriously consider sentences such as (S4). Paintings, movies, sculptures, musical works, and much else of a decidedly non-linguistic nature may be about something. Nevertheless, we must test the credulity of our audience if we try to stretch an analogy between pictures and language far enough to allow us to locate such presumably linguistic features as referring terms, direct and indirect quotation, and so forth, within the visual arts.

But of course there is a close relationship between truth conditions for 'W is about \( k \)' where W is a language-bound and where W is a non-language-bound work of art. When I say that Stanley Kubrick's movie, 2001: A Space Odyssey, and Arthur C. Clarke's novel of the same title are both about the evolution of man, I don't feel as if I have made a pun, nor do I feel as if I have expressed a complicated parallel in an elegant, if equivocal, fashion. I do not feel as if a proof of my claim would require some
sort of "Gestalt shift" as I switch back and forth between showing what the movie is about and showing what the book is about. What I do feel like, is just as if I have made a simple factual claim concerning two distinct works which can be backed up by evidence drawn from the film on the one hand and the novel on the other, with both sets of evidence being roughly of the same sort: citations of fictional events, actions, and characters, together with symbols and imagery. Furthermore, I do feel that any attempt at confining the evidence available in the movie entirely to the dialogue, or refusing to look at (unstated) structural evidence of the book (such as plot structure, division of chapters, suggestive omissions) is simply a crude sort of Philistinism.

To define 'is about' as essentially a semantic relation holding between sentences on the one hand, and objects on the other, is to turn 'is about' for non-linguistic artifacts into a metaphor. On this approach, to say of a symphony that it is "about the siege of Leningrad" is merely to speak suggestively, while in fact either asserting nothing literally or asserting a falsehood. Of course, this line has been taken on occasion, and we shall examine some of these attempts in detail.

We sometimes hear such phrases as 'the language of films', or 'the language of music', but (pace Goodman) such leading phrases are not usually followed by a serious
discussion of syntax and semantics. More often than not, we are told that "it is a language which speaks to the senses," or to the emotions, or the like, apparently without a structure at all. The very fact that information can be conveyed through a work of art, say a painting or a symphony, does not automatically suggest the existence of a language of the visual or aural arts, any more than the informativeness of a thermometer suggests the existence of a language of disease. Even though the coding and decoding of information is one function of language, it is not the sole function, and cannot be relied upon to support the supposed parallel between art and language for more than a superficial glance.

Nevertheless, works of art can indeed be about things, and can "say" things about things. To make matters even more difficult, the things art "says" do not even have to be true: artworks can "lie," as witnessed by the broad range of propaganda art. So if we are to take 'is about' as expressing something other than a purely semantic relation, we must be able to produce a theory which gives a uniform account of 'is about' for sentences yet does not depend entirely upon the fact that sentences are parts of language. Thus a question we must deal with is, "what sorts of things are ultimately about other things, and what sorts of things are not about anything else?"

Natural objects do not seem to be intrinsically
about anything at all. Rocks, cows, trees and oceans are not about anything. But we have to be careful, since we do not want to say that rocks cannot be used by someone to be about something. As for example, if a military commander were to shatter a rock with a hammer and proclaim, "this is what I shall do to my enemy!" In this instance the rock has come to be about an army. One could even wax eloquent on the analogy between the rock and the army.

As another example, we often find passages in literature wherein philosophers and theologians take a lesson from nature. Whether it be from the great religions of the East or those of the West, we find teachers suggesting that we look to nature for inspiration and understanding of our problems. We "learn about" society from the ants and the bees, we learn about inner strength from watching the reeds swaying in the wind, we learn about growing old gracefully from contemplating the mighty oak. Such examples abound.

But are these objects themselves about anything at all? For example, is this particular tree about getting old, and not the tree next to it, or are all old trees about getting old, even those which are never observed by humans? Is this beehive about society and another beehive about the benefits of efficient corporate management, and still another about the "selfish gene"?

This speculation seems rather farfetched, primarily
because bees and trees will go on living regardless of what lessons we may learn. But suppose that a friend of ours, named Fred, claims that he is going to write a book about the oppression of "small business" by "big business" in the early twentieth century. Upon completion of his book he shows it around, explaining that the book turned out to be about two young gadabouts and their hilarious adventures in Napoleonic France. We would naturally think, not that the book became more about one thing than another, but that Fred had written a completely different book from that which he had promised to write.

That which a book is about is such a significant feature, that if we try to imagine a book that is not about whatever this one is about, we must perforce imagine a different book. This is not so obviously the case with beehives, even though there clearly are certain topics which seem somehow more "fitting" for beehives to be about. For example, to imagine a beehive that is about Fermat's last theorem would be to imagine a very funny sort of beehive.

To anticipate part 2 somewhat, this confusing characteristic of natural objects is clearly due to the ease with which certain objects inspire thoughts along certain lines, and not along other lines. This feature is closely related to "being about," and might even be confused with it on occasion, but it is not the whole story.
To present yet another piece of the puzzle, let me take the discussion for the moment on what hopefully shall not prove to be a wild goose chase. Even within the narrow sense of 'about' we are studying, there are several highly unusual uses of 'about' which might shed some light on the more normal uses. First, that natural objects can be about something is presupposed for virtually all forms of divination or fortune telling. If tea leaves could not be about love affairs, no one could ever learn about their love affairs by reading tea leaves. If the entrails of pigs could not be about the future of the Roman State, then Roman statesmen could learn nothing about their state from consulting the oracles. Admittedly, tea leaves and pig entrails are not purely natural phenomena, since the leaves must be swirled in the cup and the pig must be opened, but they are close enough for the purposes of this discussion. Astrology is another, perhaps purer example of natural objects supposedly being about certain things, personalities, mundane events in the future, and so forth. The entire foundation of virtually all occult "science" seems to lie in the belief that "aboutness" is an intrinsic feature of certain objects.

Second, in moving from the occult to the insane, we find that a feature common to all forms of schizophrenia is what Arieti calls "ideas of reference," wherein the patient
... starts to think that certain things are related to him or have a special meaning. For instance, if he met a particular person on the street, it was because that person had to spy on him. Events seem to occur not by chance or at random, but because they are preordained. Thus, if he happened to think about a certain subject and then he sees that particular subject mentioned in the newspaper, on television or radio, or in the movies, he does not consider this fact as a mere coincidence, but something to be looked upon with suspicion.  

And later, in the same book, Arieti gives an example of "projection":

He develops the impression that people are laughing at him. The impression soon becomes certainty. He is sure they think he is no good and inadequate. But to be no good and inadequate means to be homosexual. That is why they refer to him as a "she". The patient, for instance, heard co-workers saying, "She is not doing her work as she should." They used the word she because they think the patient is not a man. 

In this example, we see the patient coming to believe that an overheard conversation is about himself, in spite of the fact that all the grammatical evidence points to the fact that the conversation could not possibly be referring to him.

In both cases, superstition and schizophrenia, we find that an unwarranted attribution of "aboutness" and/or meaning is made to some observed event, object, or pattern--unwarranted, that is, from the standpoint of the skeptic or the psychiatrist.

Much can be learned about 'about' from considering these two fringe concepts, that of the superstitious
believer and that of the schizophrenic. In fact, there need not be a notion of 'about' as used by these people, different from our own, to which we take exception. It could just as easily be the case that there is an uncomfortable assumption made by these people as to the way the world would have to be in order for tea leaves to actually be about anything. It could be that the unsettling nature of the more unusual uses of 'about' comes from the very fact that the schizophrenic means exactly the same thing as a sane person would mean were he to claim that such and such a conversation is about himself.

To anticipate part 2 yet once again, there is a hidden assumption in both of these "aboutness claims" to the effect that not only does the pattern of tea leaves remind one of some object, or the overheard conversation remind one of one's failure, but this might not be one's own doing, and might not be accidental, in other words, the resemblance or the reminder might have been intended. This aspect is seldom spoken of directly, by those making the aboutness claim, as the existence of an author of some of those works might be felt to be a discomfiting side issue, it is, however, a very natural point to which the skeptic will automatically address himself, arguing that it is unreasonable to think that this resemblance could have been intentional.

We will return to these issues in chapter III, but
for now, we may summarize our suspicions by recalling that
(1) 'is about' does not seem to be a language-bound term,
although it is applied to many sentences; (2) any sort of
object at all seems to be potentially about something, but
if an object is actually about something, we infer the
existence of an agent; (3) since it is not the
"sentencehood" of sentences which accounts for their being
about something, perhaps we should be considering sentence
tokens, rather than sentence types, as those things which
are fundamentally about other things; and finally, (4) the
notion of 'is intentional' seems to be closely linked to
the notion of 'is about'.

The foregoing remarks naturally suggest a possible
pitfall: it doesn't seem reasonable to claim that every
work of art must be about something, and even if all art
had to be about something, not every physical object is
about something, and therefore a theory of the sort we are
suggesting must avoid being so loose as to entail the
result that everything is about something. This is a
serious danger indeed, since the theory must (to capture
our natural language notions) tread the fine line between
preventing anything from being about anything, and forcing
everything to be about something. We shall need to show
that for any physical object w and for any topic or
object k it is possible for w to be about k, since any
theory which put restrictions on what an artist could and

could not utilize in constructing a work of art would, *ipso facto*, be a faulty theory. We do not want to rule out the possibility of certain works of art being about something simply by definition, but at the same time, there must exist at least one work W for which there must be at least one object k such that W is not about k. As weak as this latter claim may seem, not all the theories we examine shall accomplish this.

The justification for the approach we shall take may be summarized in a short argument. 'Is about' is said of many artworks, some of which contain no sentences from what we normally call a language. If being about some object k is a feature peculiar to statements within language, then to show what any work of art is about requires the elaboration of a grammar and semantics of the relevant artforms, and a unified theory of 'about' entails a universal grammar on a scale undreamed of by serious linguists. Such a project seems doomed from the start; hence we must try other alternatives first. The alternative proposed in part 2 is that 'is about' be considered as a function of certain physical characteristics of artworks as well as of sentence tokens, and consequently that whenever a proposition (if such a thing even exists) is about something, this should be considered as entirely parasitic upon the appropriate sentence tokens being about something.
This then shall be a notion running through our entire presentation: it is fundamentally instantiations of works of art and tokens of sentences which are about things, not their universal counterparts, nor their corresponding types. If a workable theory can be developed from this viewpoint, then this is some evidence for its plausibility. If nothing else, such a theory would help to clarify the relationship between the picture and the paragraph, by providing insight into the nature of representation.
PART 1

THE HISTORY OF 'ABOUT'
CHAPTER I

METALINGUISTIC THEORIES

Introduction

Before delving into the project of producing a unified theory of 'about', some relevant clues are to be found in the history of theorizing about 'about'.

The earliest efforts in this area were spinoffs from the so-called "linguistic turn" in philosophy. It was hoped that many of the problems which had bothered philosophers in the past could be shown to ultimately boil down to problems generated entirely by a faulty use of language. It was even thought (somewhat optimistically) that major areas of philosophy, such as metaphysics and ethics, could be entirely eliminated through a more scientific use of language. Until that happy day, however, specific topics would have to be dealt with in a piecemeal fashion.

One of these topics was the ontological status of fictional entities. According to the metalinguistic approach, as long as people continued to believe that talking about $k$ and referring to $k$ were one and the same activity, then puzzles would continue to arise from talking about fictional entities. If such puzzles could be seen as
puzzles of language, instead of as puzzles within ontology, another step towards the elimination of metaphysics (a euphemism for 'confused thinking') would have been taken.

I shall label this approach to defining 'about' as the "metalinguistic" approach, and offer the following definition. A theory T is a metalinguistic theory of 'about' if, and only if, T entails the following claim:

(S7) An aboutness claim is a metalinguistic claim which states a relation between words and other words, but does not state a relation between words in an object language and objects.

**Gilbert Ryle**

The Paradox of Fictional Discourse

The earliest attempts to define 'about' by means of a metalinguistic theory were made by Gilbert Ryle in two separate papers, "Imaginary Objects,"¹ and "'About'."² His interest in 'about' stems from ontological issues similar to those dealt with by Russell in "On Denoting"³ several years earlier.

For Russell, the problem was to articulate a theory of definite descriptions which did not have as a consequence the claim that fictional or impossible entities in any fashion exist. On Russell's solution, any sentence which contains an occurrence of an unsuccessful definite description outside the scope of a negation is simply false. The reason for this is that any definite
description, quite apart from its surface grammar, always contains a logical assertion to the effect that there exists a unique something picked out by that description. Names, furthermore, were treated by Russell as disguised definite descriptions.

Ryle's intuitions differed from Russell's on this matter. Ryle felt that in some sense,

(S8) Mr. Pickwick is a fictional entity

should come out true. Russell's puzzle arose partly from the assumption that the property of denoting x entails the existence of x, and his theory is an effort to show how some expressions which seem to denote do not in fact do so. Ryle's puzzle arises partly from the assumption that the property of being about x implies the existence of x, and his theory is an effort to show how some expressions can fail to be about objects which seem to be mentioned in them. But if (S8) is true, and if true sentences must be about something, and if 'S is about x' entails the existence of something, then Ryle must find something for (S8) to be about, other than Mr. Pickwick.

Some Objections

Before looking at Ryle's solution, it should be noted that the entire puzzle is based on two assumptions. Loosely stated, these assumptions are first, that aboutness entails existence, and second, that truth entails
aboutness. Let us examine both of these claims.

(1) Believing that 'is about x' entails 'x exists' is almost as naive as believing that 'is grammatical' entails 'is true'. If some science fiction pulp magazine prints a story "about" bug-eyed monsters that invade New York, we do not normally believe either that bug-eyed monsters invaded New York or that New-York-invading-bug-eyed-monsters exist. It is virtually the definition of "work of fiction" that it be a work about a fictional entity or event. In fact, it is difficult to think of any reason for someone to even entertain the notion that 'S is about x' implies 'x exists', except in pursuit of a misguided parallel between "aboutness" and (Russellian) denotation. The heart of this objection lies in the fact that we often utter false sentences, in such a way that our audience is aware of their falsity, yet our audience never infers the existence of anything as a consequence of these sentences. If such sentences are a common part of natural language, there surely cannot be a built-in implication of the sort suggested by Ryle.

(2) The second assumption, that 'is true' entails 'is about x, for some x' is somewhat more plausible. Surely, one might think, if sentence S is true, then S is a truth about something, since if there is nothing about which S is true, where is our evidence for the truth of S? Although this line of reasoning is somewhat persuasive at
first glance, it is by no means conclusive. For example, a logical truth, being true in virtue of its logical structure, does not entail the existence of anything. The sentence S, 'If snow is white then snow is white', is true in all possible worlds whether or not they contain snow. The evidence for the truth of S is not to be found empirically; hence there is no single thing or set of things one could point to and claim that S is about this.

Suppose for the moment, however, that the truth of any sentence actually does imply that it is about something. Even so, the characteristic Rylean solution, the recasting of 'about' into a metalinguistic term, is not a solution forced upon us for lack of anything better. To see this, consider the following sentence:

(S9) Unicorns do not exist.

A perfectly natural analysis of (S9) would assert that it is a true sentence, but not about particular objects, specifically, not about certain unicorns. Admittedly, (S9) could instruct us in proper usage of the term 'unicorn', but this didactic feature would then be what (S9) does, not what it says. In other words, if (S9) were to be asserted in a non-fiction article entitled "Mythical Beasts," any claims it makes are normally taken (and intended to be taken) as claims about things, not claims about words.
For example, (S9) might be saying, of those things previously referred to as unicorns (rhinoceroses), that they did not have all the properties ascribed to them in the legends. It might be saying, of all the evidence presented in the past for the claim that unicorns exist, that it is inconclusive or has a better explanation (narwhales' horns). It might even be saying, of every object in the universe, that it is not contained in the set of all unicorns. All of these rephrasings are possible, depending on the context of the sentence. Only in philosophical articles, where (S9) might be displayed as an example of a negative existential, rather than asserted as fact, might it serve the purpose of illustrating proper usage of the word 'unicorn'. As long as (S9) is asserted, it is about things, but only sometimes when it is exhibited is it about words.

The preceding remarks are merely intended to show that even if the truth of some sentence S actually were to imply that there exist something for S to be about, we still need not confine our search for something for S to be about to the actual letters appearing in S. For example, we need not conclude that since S cannot be about unicorns it must perforce be about 'unicorn's. 

Further Observations

Another odd feature of the second assumption is its specificity. Why say only that every true statement must
be true about something, why not say that all statements whatsoever are statements about something? After all, if $S$ is false, it must (one could claim) be false about something, and if a statement is ambiguous, undecidable, or equivocal, one would think it must be ambiguous, undecidable, or equivocal about something.

Suppose, on the contrary, that all true sentences are about something and no false sentences are about anything. Then logical truths are about something and contradictions are not about anything. If we make the plausible assumption that 'A is about a' entails '(A ∧ B) is about a', no matter what B is, then by conjoining a logical truth with a contradiction, we can produce a contradiction which is about something, contra our supposition. So it cannot simply be the truth of a sentence which determines whether or not it is about anything.

False sentences can be about things, for example, sentences that claim falsely about whales that they are fish. But such sentences also have the property of being closely related to those true sentences which claim that whales have the property of not-being-fish. A generalized version of this feature seems to be available to all false sentences, since the denial of a false sentence produces a true sentence.

Perhaps a more interesting claim would have been
that all sentences with a decidable truth value are about something, while sentences without decidable truth values might not be about anything.

A suspicious aura of circularity clings to any such claim in the context of Ryle’s discussion. How, after all, could anyone try to argue against it? What would a counterexample even look like? The obvious counterexamples, to Ryle’s more cautious claim (that true statements are about something) are true negative existentials. But these are taken by Ryle, not as evidence that some true sentences are not about anything, but as evidence for a need to discover what negative existentials are really about. These remarks are not intended to disprove Ryle’s claim, but merely to cast some doubts on their significance.

To summarize our reservations: the theory proposed by Ryle is an attempt to retain two preconceptions, which can be loosely phrased as (1) the entailment of existence by aboutness, and (2) the entailment of aboutness by truth in the face of all evidence to the contrary. The importance of retaining these preconceptions at all is not clear. But now, let us set aside these objections and look at Ryle’s actual theory.

Ryle’s Solution (Beginning)

In "‘About’," Ryle distinguishes between three "loose" senses of ‘about’ and a fourth "philosophical"
sense; the former three are metalinguistic senses and thus have no interesting ontological entailments, while the latter one is a referential sense, and thus does have ontological entailments.

The first of these three looser versions is suggested by the following remark:

(S10) 'The sentence S is about Q' often means 'Q is the grammatical subject or nominative to the verb (or main verb)'.

In other words, when we think we are referring to things, we are sometimes only referring to words. Ryle's formulation leaves something to be desired, since the variable 'Q' is used equivocally in each half of (S10). In the first half it stands for an expression, while in the second half it stands for the name of an expression. Perhaps a less confusing way of putting it would be

(S10*) 'S is about k' often means 'the term "k" is the grammatical subject of S'.

By this means, Ryle hoped to avoid problems involving discourse on fictional entities. By embedding the functional equivalent of quotation marks inside the word 'about', the indicated expression is rendered referentially opaque, and the problem should thereby be resolved, since opaque expressions need not refer in order to perform their grammatical role within a sentence.
Objection

Consider the following sentence, used as an example by Ryle himself:

(S11) I climbed Helvellyn.5

If we are to accept Ryle’s theory, then (S11) is about I (sic), and it is not the case that (S11) is about Ryle, since the expression ‘I’ is the grammatical subject of (S11), and ‘Ryle’ is not. Clearly, some adjustments must be made for Ryle’s theory to work. If the context created by the word ‘about’ were truly opaque, then no transformations could be performed on any expressions falling within it, since such expressions would be treated as if they had no structure.

On rare occasions we do say something of the sort suggested by (S10*), as for instance, if upon hearing (S11) without knowing the context, we were to say "(S11) is about ‘I’, whoever ‘I’ is." However, the very fact that we must embrace the pronoun in quotation marks seems sufficient to conclude that ‘about’ brings with it no embedded quotational context.

Possible Response 1

One try at meeting this objection might be to claim that (S11) expresses a proposition, whose import is that Gilbert Ryle climbs Mount Helvellyn before a certain time. Propositions, we can imagine to be unambiguous, non-
language-specific, divested of all indexicals, and thoroughly explicit, eternal linguistic entities. To claim that (S11) is about Gilbert Ryle, then, can be thought of as claiming that the proposition expressed by (S11) contains the expression 'Gilbert Ryle', even if (S11) itself contains no such expression. A major problem with this approach is that propositions, as indicated above, are not sentences, and therefore do not contain expressions like 'Gilbert Ryle'. If they do have a structure, however, they must contain something serving as a term which designates the person, Gilbert Ryle. But if we put all this together, we get something along the following lines: '[(S11) is about Ryle] means that (S11) expresses a proposition P which contains a term designating Ryle. This, however, only defeats the entire purpose of the theory, since '(S11) is about Ryle' still requires the existence of Ryle. This would not work for

(S11*) Pickwick climbed Helvellyn,

since there can be no term which designates Pickwick, yet '(S11*) is about Pickwick' is just as true as '(S11) is about Ryle.' Even if we were able to invent a proposition containing a non-designating term T, it could not be correlated with 'Pickwick' as distinct from 'Santa Claus', nor could the appropriate term from the proposition be quoted in a sentence. In other words, terms in
propositions are not in any language and therefore have no shape, size, or duration, features which seem to be disjunctively necessary for quotation to occur. In general, the nature of propositions here envisioned as non-language-specific entities precludes the existence of the sorts of quotational contexts that would prove helpful in getting Ryle's theory to work.

Possible Response 2

Another attempt at getting around our objection might be to transform (S11) into another sentence, containing no indexicals, or ambiguities of any sort. Call this disambiguated sentence D(S11). To say that (S11) is about Ryle would just be to say that D(S11) contains the expression 'Ryle'. But then Ryle himself could never make the claim, as he did in the article, '[S11] is about me', 6 unless he also were to disambiguate his aboutness claim itself. But once this is done, we meet the same problem as arose with propositions: the need of a referent. If such problems could be overcome, the rule for aboutness claims would run something like this:

(S10**) ‘Sentence S is about Q' is true if and only if there is a disambiguated translation of S, call it D(S), and a disambiguated translation of 'sentence S is about Q', call it D(C), and there is a term t such that t is synonymous with 'Q' and t appears in both D(S) and D(C).

The only task left would then be to supply a definition of
synonymy for non-denoting terms and for sentences containing non-denoting terms. But that is equivalent to the very problem we are trying to solve through a definition of 'about', since two sentences are perfectly synonymous if and only if they say exactly the same thing about all the same objects.

Ryle's Solution (conclusion)

Ryle describes two other non-philosophical senses of 'about', but they fall prey to similar objections, briefly, their definitions are as follows.

(S12) 'Sentence S is about Q' sometimes means 'the sentence S contains Q, and Q is a noun or pronoun or phrase equivalent to a noun or pronoun occurring in no matter what grammatical position in the sentence.'

(S13) 'S is about Q' sometimes means 'Sentence S is a part of a conversation or discourse and S or all or most of the other sentences in that conversation or discourse are alike in containing the noun or virtual noun Q and no other noun is common to them.'

There is little need to dwell on the deficiencies of these "observations," since they have little to do with normal English usage. (S12) is simply an extension of (S10) which fails to meet any of the objections already raised. (S13) is far too permissive in what it allows sentences to be about. For example, since the present discourse contains frequent mention of Ryle, (S8) and (S9) would be about Ryle in this sense of 'about', instead of
being about Mr. Pickwick and unicorns, respectively.

The final suggestion offered by Ryle is this,

(S14) 'Sentence S is about Q' means for philosophers,
'S contains the logically proper name N or else
the description D and Q is logically named N or
else the characteristics signified by D do
belong to Q and nothing else.'

More succinctly,

(S14') 'Sentence S is about $k$' means for philosophers,
'S contains an expression E which either denotes
$k$ and only $k$, or truthfully describes $k$ and only
$k$.'

The senses of 'about' described in (S10), (S12),
and (S13) form the class of "linguistically-about" uses,
while (S14) suggests a class of "referentially-about" uses.
The problem, as Ryle sees it, is that people confuse the
two classes of 'about' thinking that just because $S$ is
"linguistically-about" $Q$, that it must therefore be
"referentially-about" $Q$. If $S$ is referentially-about $Q,
then $Q$ must exist in some sense, and therefore (so the
faulty reasoning goes, according to Ryle) we must cast
around for funny sorts of shadowy objects for our fictional
discourse to be about. By separating out the various
senses of 'about' and denying any entailment relation
between them, Ryle hoped to clear up much of our perplexity
concerning imaginary objects.
Discussion: Aboutness and Reference

Ryle's profuse disclaimers throughout both of his articles on this topic leave little doubt that he was merely toying with the theory, and to take him to task for inconsistencies or lack of rigor would be grossly unfair. Ryle's solution is little more than a collection of intuitions and speculations, the details of which he never returned to, even though the attitudes expressed therein remained present in his later writings. Nevertheless, there is enough material here to suggest the outline of a type of solution which seems to be accepted implicitly by several writers.

What Ryle is suggesting is that when we use an expression of the form 'is about ____' in normal, non-philosophical speech we really are meaning something closer to the expression 'mentions "____"', so that 'S is about Q' should be written as 'S mentions "Q"'. But surely it would be absurd to think that 'S mentions "Q"' comes anywhere near capturing what we mean when we say 'S is about Q'. If I were asked to say what Ryle's paper "Imaginary Objects" is about, I would unhesitatingly say that it is about the problem of negative existentials, yet the expression 'the problem of negative existentials' never occurs once therein. If I were asked what Lord Jim is about, I might say that it is about an incurable romantic who cannot live up to his ideals, or something like that.
I definitely would not say that it is about Jim, and if I answered by pointing out that it contains occurrences of the word 'Romanticism', it would be thought that I was avoiding the question. To fail to go beyond the terms already included in S when explaining what S is about, is usually considered cryptic, overly-cautious or even deliberately uninformative, although not actually false.

There is a familiar argument from the history of the theory of reference, which goes something like this. We often seem to talk about fictional beings or characters, or even about impossible entities: unicorns, Mr. Pickwick, square circles. Yet for a term to refer, there must be some existing thing to serve as its reference, otherwise, the term is not really a referring term. This is often perceived as a paradox in need of resolution. Ryle is presuming that there is at least some conflict in these two premisses, and sets himself the task of solving the matter in his paper on imaginary objects.

There are two general sorts of solutions that are usually offered for this paradox. The Meinongian approach is both to affirm that we do indeed talk meaningfully about non-existent entities, and also to deny that the referent of all denoting terms must exist. Instead, such referents may have a special status, subsistence. Some recent attempts at providing a logic of subsistence have been made, notably that of Terence
Parsons, in efforts to revitalize this approach.

In a more typical Russellian vein, it is agreed that reference entails existence, but any meaningful talk about non-existent entities is denied.

Both approaches are quite commonsensical in what they allow: meaningful talk about non-existent objects, for one approach, and reference entailing existence for the other. But they are both so unintuitive in what they disallow as to require lengthy persuasion to bring us around: some shadowy sort of existence, on one approach, and the meaningfulness of fictional discourse on the other.

Of course the "paradox" as stated is not really a contradiction, since one could simply argue that the two premises merely demonstrate that being about $x$ and referring to $x$ are not the same properties. This approach is interesting enough to follow through with. Let us therefore briefly review the Fregean notions of 'sense' and 'reference'.

Frege raises a puzzle in the nature of identity statements for which the sense/reference distinction provides a plausible solution. The puzzle is simply this: in true statements of the form '$a=b$', there must be a "cognitive difference" from statements of the form '$a=a$', since the former may carry surprising information, while the latter cannot. But, he goes on to wonder, what exactly
is this difference? If the terms 'a' and 'b' refer to the same object (and they must if the identity claim is true) then the references of the constituent terms in each sentence cannot provide the needed difference. Therefore, there must be something of cognitive significance going on in a sentence other than reference. Frege argues that it cannot simply be the shape of the symbols 'a' and 'b' either, since the shapes are purely arbitrary, and therefore of no cognitive significance at all. This mysterious something which explains the difference is called the "sense" of the sentences (or of the terms).

Frege then imposes some restrictions on what a sense cannot be (such as its not being language-specific), and suggests some properties that senses must have (for example, the sense of a sentence should be a function of the senses of the parts of the sentence). Unfortunately, Frege's argument is not constructive, because it is merely an existence argument from reductio ad absurdum. For this reason there is some debate as to exactly what sort of thing a sense might actually be.

The relevant feature for our discussion is that an expression may have a sense and not have a reference, as in Frege's own example, "the least rapidly convergent series." Judging simply from the similarity in origin of the two paradoxes, any solution to Frege's dilemma should also shed some light on a solution for Ryle's dilemma. The relation
between 'denotes' and 'is about' may thus be seen from the following consideration. When we claim that Dr. Watson is the friend of Sherlock Holmes, what we are denoting with the terms 'Dr. Watson' and 'the friend of Sherlock Holmes' is the empty set. In contrast, what we are talking about could be expected to be somehow related to the sense of the constituent expressions, because the claim is more informative than 'the empty set is identical with the empty set'.

This then is an interesting sidelight to our further investigations: any adequate theory of 'about' should at least provide us with some useful insights into the nature of the sense/reference distinction, even if this insight turns out to be only that the distinction is untenable or insufficient. More will be said in chapter IV.

Let us take one last look at the major distinction drawn by Ryle, that between referentially-about and linguistically-about. Ryle's claim is that people often mistakenly believe they are using the special philosophical sense when in fact they are using the other normal, more common one. What is the most puzzling aspect of all about this solution is the presumption that language is such a creature that this sort of matter can just slip away from us like that. According to Ryle, we can not tell from just looking at an aboutness claim which kind of 'about' is being used, since the existence of a referent is the
deciding factor, and this is seldom given with the sentence. Not even the speaker's intention can determine what sort of 'about' he is using since intentions to refer can always be misguided or erroneous. A funny sort of consequence is that in sentences of the form 'W is about \( k \)' we can never tell in principle whether we are using the expression \( k \) or mentioning it. This consequence should give us some pause.

Admittedly, sometimes we have trouble with the use/mention distinction, say if we mistakenly use a word when we should have mentioned it. But since there are conventions governing just this sort of problem, there is always a proper and an improper way of speaking. Any error can always be corrected, for example, by surrounding the troublesome term with quotation marks. But there is a great difference between speaking incorrectly and being unable in principle to determine what one has actually said. Yet this is exactly what Ryle claims to be the case. It is as if we must forever remain in doubt, for example, after claiming that The Day After is a move set in the near future and is about the end of civilization as we know it, whether we are claiming (1) that the end of civilization is in the near future or (2) the phrase 'the end of civilization as we know it' occurs at least once in the movie. To be sure, the movie raised questions in people's minds as to the likelihood of a full-scale nuclear war, and
for many viewers there was some doubt as to whether the movie was pure fiction or chilling prophesy, but these issues are distinct from the purely semantic concerns of what some aboutness claim actually entails. To make an aboutness claim of the sort given just now, we must surely have a certain set of truth conditions in mind, and be able to tell whether these truth conditions coincide with those of (1) or (2) above.

At this point there is a moral to be drawn: Whatever an aboutness claim may be with respect to a work, it does not entail an assertion as to the veracity of the work under consideration. We cannot conclude, however, that there is no connection at all between quotation and 'is about', only that quotation is not the long and the short of it. Aboutness might turn out to be, as we shall see Putnam and Goodman suggesting, a function of both quotation and logical entailment.

Rudolf Carnap

The Theory

Carnap's linguistic theory of 'about' runs along lines similar to those of Ryle, but the succinctness of his definition allows for a simpler refutation.

Carnap defines a term, which for the sake of clarity I shall call 'about*', and then claims that this term can replace the English term 'about' in all proper
uses, *salva veritate*. I will separate this into two
distinct claims.

(S15) 'S is about k' is equipollent to 'the
expression "k" or an expression synonymous with
"k" occurs in S'.

(S16) 'S is about k' is equipollent to 'S is about k'.

Carnap then goes on to claim that

(S17) The sentence, 'Yesterday's lecture was about
Babylon' is about the word 'Babylon' and not
about Babylon.

**The Refutation**

From (S15)-(S17) a contradiction follows. By (S15)
and (S16), "S is about k" is about j' is equipollent to
'the expression "j" or an expression synonymous with "j"
occurs within "S is about k"'. But since
'Babylon'='Babylon', and 'Babylon'≠'the word "Babylon"', it
follows that the sentence, 'Yesterday's lecture was about
Babylon' is about Babylon and not about the word 'Babylon'.
But this contradicts (S17).

To prove this, let us consider the two sentences,

(S18) The sentence, 'Yesterday's lecture was about
Babylon' is about the word 'Babylon'.

(S19) The sentence, 'Yesterday's lecture was about
Babylon' is about Babylon.

Clearly, (S17) is true if and only if (S18) is true
and (S19) is false. Suppose first that (S18) is true.

Then by (S16),

(S20) 'Yesterday's lecture was about Babylon' is about the word 'Babylon'.

But by (S15) and (S20), it follows that

(S21) The expression 'the word "Babylon"' or an expression synonymous with 'the word "Babylon"' occurs in 'Yesterday's lecture was about Babylon'.

But since no such expression occurs in 'Yesterday's lecture was about Babylon' the assumption (S18) is false.

Assuming (S19), on the other hand, leads us by the same process of substitution to the claim,

(S22) The expression 'Babylon' or an expression synonymous with 'Babylon' occurs in 'Yesterday's lecture was about Babylon',

which is true. Therefore, contrary to Carnap's apparent intentions, (S16) and (S17) lead to the conclusion that 'Yesterday's lecture was about Babylon' is about Babylon, and not about the word, 'Babylon'.

Carnap can escape this contradiction by omitting (S16) and rewriting (S17):

(S17*) The sentence 'Yesterday's lecture was about Babylon' is about the word 'Babylon' and not about Babylon.

but then Carnap would not have addressed himself to the
English word 'about'. The ease with which Carnap fell into this trap is proof enough that his proposal does not succeed in capturing the natural language usage of the term as he himself uses it in normal discourse.

Admittedly, Carnap is not concerned with the "meaning" of 'about' so much as he is concerned with its truth-conditions. Nevertheless, the fact that sentences deemed true by Carnap turn out false upon assuming his theory shows that he has not even succeeded in uncovering the proper truth-conditions for 'about'.

Conclusions

Both Ryle and Carnap have attempted to define 'about' in terms of direct quotation, and both attempts have failed. Perhaps there is reason to think that any such attempt will fail. If what a work is about is to be somehow tied up with an implicit quotation convention within the metalanguage (in our case, English), then the work itself must be capable of supporting such a convention if it can ever be said to be about anything at all. For literature, this is not terribly problematic (at least not any more problematic than the very notion of quotation). Difficulties arise when aboutness claims are made regarding works whose parts do not admit of quotation in English.

Admittedly, there are some works which we might be loathe to claim are about anything, such as the so-called "pure" music as distinguished from "program" music. But
the very existence of such a "pure"/"program" distinction hints that there is at least some music which is thought to be about something. If there were a convention for quoting music in English, and there were a metalinguistic theory of 'about' utilizing this convention, it would most likely dictate that music could only be said to be about '...' where '...' is some sequence of tones sung or written by the person making the aboutness claim.

In the case of program music, it could be argued that the leaflet containing the program notes which are written in explanation of the music are part of the work itself, and since these notes are written in a language, the appropriate quotation conventions are available. This argument, however, only succeeds in showing that the program notes are about something, and not that the music is about something.

The tone poem, "Verklarte Nacht," by Arnold Schoenberg, is based on a poem, "Weib und die Welt," by Richard Dehmel. The music, in turn, was the inspiration for Anthony Tudor's ballet, Pillar of Fire. In "Weib und die Welt," a woman confesses to her new-found lover that she is already pregnant, but by another man whom she does not love. Her lover forgives her and accepts the child as his own. The two figures, the unborn child, and the night itself are transformed through this forgiveness and acceptance. In general, program notes, when not written by
the composer himself, often differ from one performance to the next. In the case of "Verklarte Nacht," a text or a translation of Dehmel's poem is often included. If we assume that an English translation of the original poem is the only program note, then on a metalinguistic account, the music can only be about exactly the same things as the poem, and the same must be true of the ballet. But, in the ballet, there are four people—the man has been unfaithful as well. Surely, all three of these works cannot be about exactly the same things.

Since the conventions necessary for supporting an implicit quotation approach to defining 'about' are lacking, for music and choreography, as well as the plastic arts, can only conclude that any metalinguistic theory of 'about' would entail such obviously false claims as 'music without lyrics is not about anything', 'no ballet is about anything', and 'sculptures are never about anything'.

Therefore, treating 'about' as a disquotation operator upon either parts of sentences or parts of sentence-like things is doomed to failure, simply by virtue of the fact that not all works which are about something are produced in a language system amenable to a natural language's quotational conventions.

Thus, we are forced to abandon the metalinguistic approach, since by our previous definition (S7), all theories which fall under its rubric imply that aboutness
claims state a relation between words and other words. This relation has been shown to be a quotation relation (or at least very similar to a quotation relation), and is thereby not acceptable.
CHAPTER II

SEMANTIC THEORIES

Introduction

Historically, the next approach attempted was what shall be called the "semantic approach." It was thought that if sentences could be shown to be somehow fundamentally about things denoted by terms contained within them, perhaps there would be a way of defining 'about' solely in terms of denotation. If so, the only problem would then be to elaborate a theory of denotation for each of the various arts, a project not too far-fetched to be hopeless. Both Putnam and Goodman have suggested that 'about' for sentences is reducible in this fashion, and Goodman has spearheaded a movement to explicate the notion of denotation within art.

The semantic approach, in contradistinction to the linguistic approach, involves looking for a definition in the reference of terms rather than in the "shape" of the terms themselves. This approach seems to be less alien to normal usage, since it allows that we are in full control of the use/mention distinction once again. To say something about Jim is to use an expression that refers to Jim, whether it be through naming him or describing him. To state the matter succinctly, T is a semantic theory of
'about' if, and only if, \( T \) entails both of the following statements:

\[
\begin{align*}
(S23) & \quad \text{Sentence } S \text{ is about every object denoted by any individual constant occurring in } S; \text{ and} \\
(S24) & \quad S \text{ is about every class which constitutes the extension of a } n\text{-place predicate occurring in } S.
\end{align*}
\]

The more interesting issues for both Putnam's and Goodman's analyses involve \((S24)\). It is felt by these authors that certain logical transformations of sentences should find their reflection in certain changes in what a sentence is about.

Putnam, for example, feels that logically equivalent statements should be about exactly the same things, yet any 'if...then...' sentence and its contra-positive seem to contain expressions with complementary extensions. For example, 'All crows are black', contains the expression, 'crows', while the logically equivalent sentence, 'No non-black thing is a non-crow', contains the expression, 'non-crow'.

Goodman feels that being about a class \( C \) entails both being about the elements of \( C \) as well as being about any other class containing \( C \). Therefore the theories of Putnam and Goodman revolve around retaining the "commonsense" intuitions expressed as \((S23)\) and \((S24)\) above and resolving the paradoxes generated by the set-theoretic interpretation of logic.
Hilary Putnam

Putnam's Paradox

Putnam's novel approach\(^1\) to the issue is a response to the following paradox.

(S25) If sentence \(S\) is about \(k\), then any other sentence, \(R\), which is \(L\)-equivalent to \(S\), is also about \(k\).

(S26) A categorial sentence is only about those things comprised in the extension of its subject term.

So by (S26), 'All crows are black' is only about crows, while by (S25), 'All non-black things are non-crows' is about crows also. But by (S26) again, 'All non-black things are non-crows' is only about non-black things.

Putnam's solution lies in the replacement of the "qualitative" question of whether \(S\) is about \(k\), with the "quantitative" question of the extent to which \(S\) is about \(k\). This replacement is accomplished by the introduction of certain concepts and tools from the field of information theory.

Some Objections

Before going into the details of his solution, let us look closely at the so-called paradox which gives rise to it. Although (S25) is initially plausible, it is relevant to note that any terms at all can be introduced
into a sentence $S$ without changing the truth-value of $S$, through the addition of tautologous clauses, or some other such artifice. This should make us somewhat wary of (S25).

For example, the sentence, "Either Austin is the capital of Texas or Austin is not the capital of Texas", would seem to be about something other than cows, yet it is logically equivalent to the sentence, "cows are either mammals or non-mammals", which does seem to be about cows. Examples such as this one can be accounted for in various ways, of course, without abandoning (S25). For instance, one could claim that tautologies are about everything. But this misses the point. The claim made in (S25) needs at least some support, or at least some argumentation and/or qualification, before the so-called paradox is a serious enough problem to worry about.

Premise (S26) is even more puzzling. Categorial sentences are such a limited part of our language, that it is hard to have believable intuitions about them of the sort suggested by Putnam. Consider (S27):

(S27) Anything is such that if its being a crow materially implies its being a crow, then it is evidence for theory $X$.

This is a categorial sentence whose subject term is 'its being a crow materially implies its being a crow', and the extension of this is everything in the universe of discourse, but surely the sentence is "saying something
about" theory X, namely that nothing can disprove it. On an even simpler level, what could possibly make us think that 'All crows are black' is only about crows and not about the color black, and hence about black things other than crows as well? 'About' is a term taken from natural language, and any intuitions concerning it which we may bring with us are natural language intuitions. To claim that intuition tells us that categorial sentences are about only those things comprised in the extension of their subject terms is to claim that there are natural language intuitions about things which do not exist in natural language. If Putnam is not justifying (S26) by an appeal to intuition, then there ought to be at least some sort of argument for this somewhat exotic claim. Of course, as one might expect from the title of his seminal article, "Formalization of the Concept 'About'," Putnam quickly abandons any attempt at slavish adherence to natural language usage. Nevertheless, the original "hook" for the issue is put in just such terms, and should not simply be passed over without comment.

Putnam's Solution: An Overview

Up to this point in the history of the theory, the only expressions under scrutiny had been those of the form, 'Sentence S is about k'. Putnam set aside this formula and analyzed expressions of the form, 'Sentence S is about k to degree n'. Inspired by some of the results of information
theory, Putnam sought to go beyond mere quantity of information simpliciter, and arrive at a notion of a quantity of information about $k$.

In order to compute the degree to which $S$ is about $k$, we must, according to Putnam, first compute the amount of information contained in $S$, then from this figure we should be able to compute the percentage of that information which is about $k$. For purposes of simplicity this is done in terms of so-called "state-descriptions" as defined for a language with only a finite number of individual constants and predicates. Of course, to be suitable for a generally useful definition of 'about' the theory must be expanded to accommodate larger languages.

It should be pointed out that historically, the concept of information which is analyzed in information theory appeared in response to practical problems arising from a search for the limits of error-free transmission. Not surprisingly, the founders of information theory were scientists working at Bell Laboratory. There was little concern with the concept of interpreting, understanding, or in any way semantically manipulating information. As a result, there is nothing already built into the theory utilized by Putnam which helps him in dealing with the semantic content of any transmitter of information (such as an English sentence).
Information Theory

The transmission of information is thought of as being accomplished by a signal operating through a medium. The simplest case is one in which the signal is only capable of two alternatives, on-off, positive-negative, or the like. Increasing the number of alternatives to include three (positive, negative, neutral), twenty seven (the modern English alphabet plus a space), or 5000 (written Chinese), only increases the complexity of calculation for specific applications, but does not alter the nature of the theories involved. Thus, for purposes of explanation, the ideal transmission of information is normally assumed to occur through a binary operation. Therefore the "unit" of information is the amount of information expressible in a single unit of signal transmission.

Before the message is received, there are two possible states for the signal, call these states 0 and 1. After the message, these possibilities have been cut in half, thus there is only one possible state. Therefore, one unit of signal transmission is capable of carrying enough information to reduce the possibilities by 50 percent, and this is the unit of information. A second, nonredundant bit of information would further reduce the remaining possibilities by another half, and so on, until some limit of expressibility has been reached. Beyond this
limit, all new signals are redundant, since they fail to reduce the possibilities any further. Since the language is assumed to be finite, this limit of expressibility is also finite.

An Example of a Binary Message System

Suppose a Grandmaster and an amateur chessplayer develop a code which will allow the amateur to cheat by receiving instructions as to how to move from the Grandmaster. A move consists of a specification of two squares on the board, the first square is the origin, and the second the destination of the piece to be moved. Since only one piece can occupy any single square at a time, this suffices to specify exactly one move. The board is divided into eight columns and eight rows. By tugging at his left ear, a column on the left half of the board is indicated. Right ear, right side. Thus, by one tug the Grandmaster has reduced the possibilities of which square is selected by 50 percent. A second tug will indicate whether the left or the right side of the remaining columns is selected, thus reducing the possibilities by another percent. The third tug will pick out a single column from the remaining two. Thus in three tugs, one column from among a possible eight has been specified. The row is then signalled in the same way, left meaning lower, right meaning upper (as seen from the amateur's position). In six tugs, exactly one
square from among a possible sixty four has been singled out. This is the starting square. The destination square is indicated in the same manner.

This is admittedly a somewhat inefficient code, since the rules of chess do not permit any piece an unlimited range over the board. Thus, given the starting square, there are far fewer than sixty four possible destinations, and furthermore, since there are a maximum of sixteen pieces to move, the number of starting squares is considerably less than sixty four. But if our cheating player was not an amateur, but was instead totally unfamiliar with the game, it would be hard for him to identify which piece was being selected. For example, unless otherwise marked, all eight Pawns are indistinguishable from one another, as are the two Rooks. The Bishops could be distinguished by the color of square that they rested on, and the Knights, by the direction they faced, but in the unlikely event of a series of underpromotions, there might (theoretically) be as many as nine white-square Bishops, or left-facing Knights on the board at once.

The most efficient solution would be to count, left to right, then top row to bottom row, every piece currently on the board belonging to the cheater, then to indicate that piece by signaling its number in binary form. Although this would reduce the number of tugs required for
each message, for the sake of simplicity of exposition, we shall assume the more inefficient code suggested above: a description of the starting square followed by a description of the destination square.

Information

Within information theory, the three terms, 'information', 'redundancy' and 'uncertainty', are defined through mathematical formulae. Two of the assumptions made for the computation of the term 'information' are that (1) there are probabilities associated with the different possible messages expressible within the language/system, and (2) the amount of information conveyed by any particular message on any particular occasion is a function of the probability (at that time) of the conveyance of that message. Thus, the amount of information conveyed in some message, \( I(x_i) \), may be expressed as \( f(p(x_i)) \) for some function \( f \).

Let the set \( X \) be a set of possible messages, such that

\[
X = \{ x_1, x_2, \ldots, x_n \}.
\]

Let another set \( P(X) \) be the set of corresponding probabilities that any particular message will be selected:

\[
P(X) = \{ p(x_1), p(x_2), \ldots, p(x_n) \}.
\]

For each \( i \), \( p(x_i) \) is the probability that \( x_i \) will
be selected.

Information theory maintains as a major guiding intuition that the quantity of information contained in some message (expressed as a function of that message: \( I(x_i) \)), decreases with increased probability of the message, and *vice versa*. This is expressed in the following manner:

\[(P1) \quad I(x_i) < I(x_j) \iff p(x_i) > p(x_j)\]

This is one feature that the function, \( f \), must preserve.

Let \( Y \) be another set of messages,

\[Y = \{y_1, y_2, \ldots, y_m\} .\]

The amount of information conveyed by message \( y_j \), given that \( x_i \) has been selected, is going to be a function of the probability that \( y_j \) is selected, given that \( x_i \) has been selected. This latter probability is expressed as \( p(y_j|x_i) \), and the quantity of information associated with this probability is \( f(p(y_j|x_i)) \), for some \( f \).

The second intuition which must be preserved by \( f \) is the following. If two messages \( x_i \) and \( y_j \) are selected, then the amount of information contained in the conjunction of those messages should be equal to the amount conveyed by \( x_i \) plus the amount conveyed by \( y_j \) given that \( x_i \) has been selected. Thus \((P2)\) expresses the second feature which must be preserved by \( f \):
\( I(x_i \text{ and } y_j) = f(p(x_i)) + f(p(y_j|x_i)) \)

But the information contained in the "molecular" message \((x_i \text{ and } y_j)\) is a function of the probability of that molecular message being selected, that is, \(I(x_i \text{ and } y_j) = f(p(x_i \text{ and } y_j))\). Substituting into (P2) we get

\[
f(p(x_i \text{ and } y_j)) = f(p(x_i)) + f(p(y_j|x_i))
\]

Conjunction is commutative, so \(p(x_i \text{ and } y_j) = p(y_j \text{ and } x_i)\), and by the axioms of probability, \(p(y_j \text{ and } x_i) = p(y_j|x_i)p(x_i)\). Therefore, if \(f\) is to preserve property (P2), it must satisfy the following condition:

\[
f(p(y_j|x_i)p(x_i)) = f(p(y_j|x_i)) + f(p(x_i)).
\]

Probabilities are always expressed as non-negative real numbers ranging between 0 and 1 inclusively, so in general, \(f\) must satisfy the property that for all positive numbers \(a\) and \(b\)

\[
f(ab) = f(a) + f(b).
\]

By definition, a logarithmic function is just such a function, so we let \(f(a) = k \log a\) for some \(k\). By (P1), however, \(I(x_i)\) increases as \(p(x_i)\) decreases, and \(I(x_i)\) decreases as \(p(x_i)\) increases, so \(k\) must be a negative number. For the sake of simplicity, \(k\) is set at \(-1\). Thus, \(I(x_i) = -\log p(x_i)\).
Uncertainty

The degree of uncertainty for any set of possible messages, with respect to the selection of a message from the set is directly related to the expected quantity of information conveyed by the entire set. The expected information of a set of messages is the summation of the products of all the messages and their respective probabilities. This is called the uncertainty of a set of messages and is expressed as follows:

\[ U(X) = -\sum_{i=1}^{n} p(x_i) \log p(x_i). \]

To see how this works out, consider two sets of messages, A and B. Every message in A has the same probability of selection associated with it, whereas differing probabilities attach to the members of B. Thus, for set A, since \( p(x_i) = \frac{1}{n} \), for every \( i \), between 1 and \( n \),

\[ I(x_i) = -\log\left(\frac{1}{n}\right) = \log(n), \]

and

\[
U(A) = -\sum_{i=1}^{n} \frac{1}{n} \log\left(\frac{1}{n}\right)
\]
\[= -\frac{n}{n} \log\left(\frac{1}{n}\right) \]
\[= \log(n) \]
Hence, when all the messages in A are equally probable, the information of each message is identical with the uncertainty associated with the set. The numerical solution for this equation will depend on the choice of logarithmic base.

For the case where the probabilities differ for different messages, let us suppose that message set $B = \{b_1, b_2, b_3\}$ and that $P(B) = \{1/2, 1/4, 1/4\}$. The above formula yields the following result:

$$U(B) = -\sum_{i=1}^{3} p(x_i) \log p(x_i)$$

$$= -\frac{1}{2} \log(\frac{1}{2}) - \frac{1}{4} \log(\frac{1}{4}) - \frac{1}{4} \log(\frac{1}{4})$$

$$= \frac{1}{2} \log(2) + \frac{1}{2} \log(4)$$

$$= \frac{1}{2} (\log(2) + \log(4))$$

$$= \frac{1}{2} \log(8)$$

$$= \log(8^{1/2})$$

The exact determination of this number depends upon which base is chosen, for example, if base 2 is selected, then $U(B) = 1.5$.

**Some Consequences**

As was mentioned at the beginning of the discussion, the simplest sort of signal transmission is that involving binary systems. Most analysis within
information theory can be accomplished by considering this sort of system. Our chess signal system is just such a case. Considered as a code, containing only two possible "letters" (namely, a tug on one or the other ear) we may construct "words" which pick out specific squares.

In any binary code, only 2 signals are available for forming words. The length of any word may be thought of as the number of signals actually used to compose the word. In a binary code, there are exactly $2^m$ possible words of length $m$.

In our chess example, where a complete message will consist of the specification of two squares, there are $64^2$ or 4096 possible messages. To find out the smallest word length sufficient to convey exactly one of the 4096 possible messages we must find how many signals are necessary to construct at least 4096 distinct words corresponding with each of the 4096 messages. If $n$ is the number of messages, by letting $2^m = n$, we only need to solve for $m$ to find the minimum required length of each word.

$$\log(2^m) = \log(n)$$
$$m \log(2) = \log(n)$$
$$m = \frac{\log(n)}{\log(2)}$$

and so, where $n = 4096$, $m = 12$. In fact, for any system
consisting of $x$ possible signals, there are $x^m$ different words of length $m$, and if the number of possible messages is $n$, then a word length of at least $\log_x(n)$ is required to specify a single message from the set.

As will be recalled from our discussion of uncertainty associated with a set, where $X = \{x_1, x_2, \ldots, x_n\}$, and all of the $n$ possible messages were equally probable,

$$U(X) = \log(n).$$

In the statement of the definition of uncertainty, we did not specify a logarithmic base, but it can now be seen that if taken to the base $b$, the following figures all come out equal to $\log_b(n)$.

(1) The uncertainty associated with a set of $n$ messages of equal probability: $U(X)$;

(2) the amount of information conveyed by each of the $n$ messages: $I(x_1)$; and

(3) the minimum length of a word in a $b$-ary system required to express $n$ distinct possible messages.

With these results, we can proceed with our exposition of Putnam.

State-Descriptions

A state-description is a finite conjunction of atomic sentences which exhaustively states, for every
individual term and for every predicate term in the language, whether the predicate applies to the term or not. So in a state-description, for every $P_n$ and for every $a_m$ either $P_n a_m$ or $\overline{P_n a_m}$. Thus any state-description expresses as much information as the language is capable, since every term available within the language is utilized, and no other possibilities are expressible without contradiction or redundancy. In a finite language, containing only $n$ predicates and $m$ individual constants, the number $N$ of atomic sentences of any state-description is the product of $n$ and $m$, this will be referred to as its length. The number of possible state-descriptions expressible within any finite language is therefore $2^N$. For any given atomic sentence 'Pa' half of these state-descriptions contain 'Pa', and half contain $\overline{Pa}$, so the truth of 'Pa' will reduce the number of possible state-descriptions by half. Thus, assuming equiprobability, the amount of information in an atomic sentence should be 1. The amount of information in any conjunction of two should be two, and so forth, while and the amount of information in an entire state-description is $N$, the maximum amount of information expressible by any sentence within the language.

For example, in a language containing only two predicates and three individual constants, there are $2^6$ or 64 possible state-descriptions. Let $S = P_1 a_1$. Since half the possible state-descriptions contain $P_1 a_1$ and half
contain $P_1a_1$, there must be 32 state-descriptions in which $S$ is true. Hence, $\log_2(64) - \log_2(32) = 6 - 5 = 1$, which is the proper result for atomic sentences. A conjunction of two logically independent atomic sentences will reduce the number of state-description to 16, so that $\log_2(64) - \log_2(16) = 6 - 4 = 2$, again the proper result.

Before continuing, let us translate some of this state-description talk into the language of information theory. Suppose we devise a code for expressing our state-descriptions within a very limited language containing only two predicates and three individual constants. This code is a sequence of 0's and 1's. Each "word" in the code is six "letters" in length, so there are six places. The first place indicates whether the atomic sentence, $P_1a_1$ is true, in which case there is a '1' in that place, or false, in which case there is a '0' in that place. The same convention applies to $P_1a_2$ and the second place, $P_1a_3$ and the third, and so forth. Thus any six digit sequence of 0's and 1's corresponds to one and only one state-description. The message set $X$ in this case consists of 64 words, each of length 6. The probability associated with each message is $1/64$, the uncertainty associated with the set is 6, and the information contained within each message is 6. Thus, conjunction of atomic sentences in logic is paralleled in the code by concatenation of digits.

If all we know about a message in this example is
that there is a '1' in the third place, then the probability of selecting a message with this feature is 32/64, or 1/2, since there are 32 messages among the 64 with a '1' in the third place. Thus the information contained in this single digit is $-\log_2(1/2) = 1$. Another way of looking at it is that ___ 1 ___ is accurately characterized only by some thirty two element set Y containing all and only elements which have a '1' in the third place. The probability of a coincidence between the member selected from X and some member of Y is 1/2, thus the information contained in ___ 1 ___ is 1.

Returning to Putnam, disjunction of atomic sentences is somewhat different, since in the above example, the disjunction of two independent atomic sentences only reduces the number of possible state-descriptions to 48, the amount of information is less than either of the disjuncts would give alone. Thus,

$$\log_2(64) - \log_2(48) = 6 - 5.5849625 = .4150375.$$  

Expressed in terms of message sets, let Z be the subset of X which contains all and only elements of X such that the 2nd place is occupied by a 1 or the 4th place by a 0 (for example). Z contains 48 elements. The probability that a message selected from X will also be an element of Z is 48/64, so the information associated with any message equivalent to Z will be

$$-\log_2(58/64) = -\log_2(3/4) = .4150376.$$
'Information About

So far, these concepts are familiar from information theory. Now comes the twist. When we try to assign a numerical value to the amount of information given by a state-description about some class C, Putnam believes we should eliminate from the state-descriptions all and only those atomic sentences which predicate properties other than C or \( \overline{C} \) to individuals, \( a_i \), of which individuals it is true that \( \overline{C}a_i \). Any atomic sentence of the form \( Ca \) or of the form \( \overline{C}a \) should be retained, together with any other sentences not mentioning \( C \), provided only that they mention a member of \( C \). This will give us a numerical value for the amount of information in the state-description which is about \( C \). In effect, this should give us all the information in \( S \) about both \( C \) and all of \( C \)'s members.

Putnam expresses the matter in the following fashion.

A state-description \( S \) may imply that the individuals designated by certain \( a_i \) are not in (class) \( C \), in each such case, count \( \overline{C}(a_i) \) as "information about \( C \)"; it may imply that the individuals designated by certain \( a_i \) are in \( C \), in each such case count \( C(a_i) \) as "information about \( C \)"; and in addition, every atomic or negated atomic constituent of \( S \) containing an \( a_i \) designating a member of \( C \) is to be counted as "information about \( C \)". Moreover, the sentence:

\[
C(a_{i1})C(a_{i2}) \ldots C(a_{iK})\overline{C}(a_{j1}) \ldots \overline{C}(a_{jm})
\]
\[
P_{11}(a_{i1}) \ldots P_{n1}(a_{i1}) \ldots P_{k1}(a_{iK}) \ldots
\]
\[
P_{kn}(a_{i1})
\]

(where \( a_{i1}, \ldots, a_{iK} \) are all the individuals \( a_i \) such that \( C(a_i) \) follows from the state-description \( S \), \( a_{j1}, \ldots, a_{jm} \) are all the individuals \( a_j \) such that \( \overline{C}(a_j) \) follows from the state-description \( S \)).
... a \text{m} are all the individuals a_j such that \overline{C}(a_j)
ofollows from S, and P_{ij} is the jth atomic predicate or
negated atomic predicate which is such that P_{ij}(a_{i1})
ofollows from S) is said to express what S says about
C.3

So to find out what a single state-description says
about a class C, we go through the state-description and
eliminate every atomic sentence which contains a predicate
other than C or \overline{C}, applied to an individual constant a_i
such that \overline{C}a_i. The resulting, "truncated" state-
description (my term) will give every bit of information
containing C, containing \overline{C}, and containing any of the
members of C, but will not give any information containing
those elements which are not members of C other than the
statement of their non-membership in C.

A similar truncation can be performed when
computing the quantitiy of information about a_i.

Translations

State-descriptions are sentences, but not all
sentences are state-descriptions. Up until now we have
only dealt with state-descriptions \text{per se}, but any sentence
expressible within first-order quantification theory can be
expanded into a disjunction of state-descriptions simply by
converting the original sentence into disjunctive normal
form and replacing each clause containing fewer than nm
conjuncts with an equivalent disjunction containing only
clauses with nm conjuncts, where n = the number of predicates
in the language, and \( m \) the number of individual constants.

Putnam's method of converting a non-state-description sentence into a state-description sentence is as follows:

Let \( S \) be any sentence. Then the corresponding sentence \( T_C \) is obtained by (1) finding a disjunction of state-descriptions which is equivalent to \( S \); and (2) replacing each state-description in the disjunction by a sentence which expresses what that state-description says about \( C \).

(Then we define:)

The amount of information \( S \) gives about \( C \) := the amount of information of \( T_C \).

**Discussion**

Let us refer to \( T_C \) as a Putnam Corresponding Sentence (or PCS) of sentence \( S \). This seems to give us the results we are looking for, since the fully expanded version of \( S \) requires fewer disjuncts than does the PCS of \( S \), but in fact, there is no numerical difference between the information of \( S \) and the information of \( T_C \), since to compute the information in the PCS, we must re-expand each of the truncated clauses into their original form (before truncation).

This can be seen from following through with one example. Consider a language containing only two predicates, \( P_1 \) and \( P_2 \), and two individual constants, \( a_1 \) and \( a_2 \). Consider also two sentences expressible within the language, \( P_1(a_1) \) and \( (P_2(a_2) \land P_1(a_1)) \). Let us compute the
amount of information contained in each sentence and compare it to the amount of information about $P_1$ contained in each sentence. The following table is a disjunction of state-descriptions which exhaustively enumerates all describable possibilities. For ease of reference, each disjunct has been labelled ($S_1, \ldots, S_{16}$), and the corresponding coded messages are included on the right, but the entire left side of the chart is to be read as a single sentence, $S*$:

<table>
<thead>
<tr>
<th>Disjunct</th>
<th>Message in X</th>
</tr>
</thead>
<tbody>
<tr>
<td>$S_1$  $[P_1(a_1) \wedge P_1(a_2) \wedge P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>1111</td>
</tr>
<tr>
<td>$S_2$  $[P_1(a_1) \wedge P_1(a_2) \wedge P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>1110</td>
</tr>
<tr>
<td>$S_3$  $[P_1(a_1) \wedge P_1(a_2) \wedge \neg P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>1101</td>
</tr>
<tr>
<td>$S_4$  $[P_1(a_1) \wedge P_1(a_2) \wedge \neg P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>1100</td>
</tr>
<tr>
<td>$S_5$  $[P_1(a_1) \wedge \neg P_1(a_2) \wedge P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>1011</td>
</tr>
<tr>
<td>$S_6$  $[P_1(a_1) \wedge \neg P_1(a_2) \wedge P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>1010</td>
</tr>
<tr>
<td>$S_7$  $[P_1(a_1) \wedge \neg P_1(a_2) \wedge \neg P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>1001</td>
</tr>
<tr>
<td>$S_8$  $[P_1(a_1) \wedge \neg P_1(a_2) \wedge \neg P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>1000</td>
</tr>
<tr>
<td>$S_9$  $[\neg P_1(a_1) \wedge P_1(a_2) \wedge P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>0111</td>
</tr>
<tr>
<td>$S_{10}$ $[\neg P_1(a_1) \wedge P_1(a_2) \wedge P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>0110</td>
</tr>
<tr>
<td>$S_{11}$ $[\neg P_1(a_1) \wedge P_1(a_2) \wedge \neg P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>0101</td>
</tr>
<tr>
<td>$S_{12}$ $[\neg P_1(a_1) \wedge P_1(a_2) \wedge \neg P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>0100</td>
</tr>
<tr>
<td>$S_{13}$ $[\neg P_1(a_1) \wedge \neg P_1(a_2) \wedge P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>0011</td>
</tr>
<tr>
<td>$S_{14}$ $[\neg P_1(a_1) \wedge \neg P_1(a_2) \wedge P_2(a_1) \wedge \neg P_2(a_2)] \lor$</td>
<td>0010</td>
</tr>
<tr>
<td>$S_{15}$ $[\neg P_1(a_1) \wedge \neg P_1(a_2) \wedge \neg P_2(a_1) \wedge P_2(a_2)] \lor$</td>
<td>0001</td>
</tr>
<tr>
<td>$S_{16}$ $[\neg P_1(a_1) \wedge \neg P_1(a_2) \wedge \neg P_2(a_1) \wedge \neg P_2(a_2)]$</td>
<td>0000</td>
</tr>
</tbody>
</table>
If Putnam's theory is to provide us with the sort of distinctions he is looking for, then for some sentence $S$ and for some object or class $k$ there should be a numerical difference between the amount of information contained in $S$, and the amount of information about $k$ contained in $S$. Without such a divergence of figures, the distinction between 'information' and 'information about' is a distinction without a difference. Thus, for example, one should expect a difference between the quantity of information in $'P_{2a_{2}}'$, and the quantity of information in $'P_{2a_{2}}'$ about $P_{1}$. More explicitly, we should expect $'P_{2a_{2}}'$ to say less about $P_{1}$ than it says absolutely. By a similar line of reasoning, we should expect $'P_{1a_{1} \land P_{2a_{2}}}''$ to contain less information about $P_{2}$ than it contains information absolutely, since only half of $'P_{1a_{1} \land P_{2a_{2}}}''$ is "about" $P_{2}$. We can thus express each of these expectations in the following four claims, all of which should be true if the theory is to have significant results:

(1) $'P_{2a_{2}}'$ and $'P_{1a_{1}}'$ each contain one bit of information absolutely.

(2) $'P_{2a_{2}}'$ contains less than one bit of information about $P_{1}$.

(3) $'P_{1a_{1} \land P_{2a_{2}}}''$ contains two bits of information absolutely.

(4) $'P_{1a_{1} \land P_{2a_{2}}}''$ contains less than two bits of information about $P_{1}$.
There follows a demonstration that 1 and 3 are true, and that 2 and 4 are false.

(1) **Proof that claim 1 is true:** $P_{1a_1}$ is true in exactly eight of the sixteen state-descriptions, $S_1-S_8$. $P_{1a_1}$ thus corresponds to a subset of X containing eight members. The probability of selecting any message in X which is also a member of Y is $1/2$, so the information in $P_{1a_1}$ is $-\log_2(1/2) = 1$. The same sort of argument applies to $P_{2a_2}$. Thus claim 1 is true.

(2) **Proof that claim 2 is false:** Let S be $P_{2a_2}$. Suppose S contains more information absolutely than it contains information about $P_1$. Let $V(S)$ be a disjunction of state-descriptions which is logically equivalent to S. It is on the basis of $V(S)$ that we compute the absolute information in S. Since $I(S) = 1$, $V(S)$ must contain eight disjuncts. By hypothesis, S contains less than one bit of information about $P_1$, so there must be a truncation of $V(S)$ with respect to $P_1$, call it T, such that T contains less information than $V(S)$. But this can only be the case if there is a disjunction of state-descriptions, logically equivalent to T, which contains more disjuncts than $V(S)$. Let $V(T)$ be this disjunction.

Every disjunct in which $P_{2a_2}$ is true corresponds with a possible message containing some information about $P_1$. This is due to the fact that every disjunct contains either the atomic sentence $P_{1a_1}$ or $\overline{P_{1a_1}}$, as well as $P_{1a_2}$ or
\( \bar{P}_{1a_2} \). Thus, the message set, \( X_S \), associated with \( V(S) \) is a subset of the message set \( X_T \), associated with \( V(T) \). Let \( X_T - S \) be the set of every member of \( X_T \) which is not also a member of \( X_S \). Since \( V(T) \) contains more disjuncts than \( V(S) \), \( X_T - S \) is non-empty. \( X_T - S \) contains only messages which are incompatible with the selection of \( P_{2a_2} \), that is, it contains only messages which entail \( \bar{P}_{2a_2} \). But, given the selection of \( P_{2a_2} \), no such messages are possible, hence \( X_T - S \) is empty. This is a contradiction. Thus, \( S \) does not contain more absolute information than \( S \) contains information about \( P_1 \). Since \( S \) contains one bit of information absolutely, \( S \) contains at least one bit of information about \( P_1 \). This disproves claim 2.

(3) **Proof that claim 3 is true:** There are four messages abbreviated by the conjunction, \( 'P_{1a_1} \land P_{2a_2}' \), so that the relevant message set is \( Y = \{1111, 1011, 1101, 1001\} \). The probability that a message selected from \( X \) will also be a member of \( Y \) is \( 4/16 \), or \( 1/4 \), thus the information contained in any sentence abbreviating all the messages in \( Y \) is 2 bits. Therefore claim 3 is true.

(4) **Proof that claim 4 is false:** The PCS of \( 'P_{1a_1} \land P_{2a_2}' \) with respect to \( P_1 \) is:

\[
\begin{align*}
(S_1) & \quad P_{1a_1} \land P_{1a_2} \land P_{2a_1} \land P_{2a_2} \lor v = 1111 \\
(S_3 \text{ and } S_4) & \quad P_{1a_1} \land P_{2a_1} \land \bar{P}_{1a_2} \lor v = 1101, 1100
\end{align*}
\]
(S5) \( P_1a_1 \land \overline{P}_1a_2 \land P_2a_1 \land P_2a_2 \lor \) = 1011

(S7 and S8) \( P_1a_1 \land \overline{P}_2a_2 \land \overline{P}_1a_2 \). = 1001, 1000

Given the selection of \( (P_1a_1 \land P_2a_2) \), any message ending in '0' has a probability of zero that it will be selected, hence the message set corresponding to the PCS of 'P_1a_1 \land P_2a_2' with respect to P_1 is actually {1111, 1011, 1101, 1001}, which is identical to that corresponding to 'P_1a_1 \land P_2a_2'. Hence, the information is the same as the information about P_1, so claim 4 is false.

In general, the problem with Putnam's definition is in his notion of a corresponding sentence (the PCS). To find the PCS of S with respect to C (that is, to find the relevant T_C), we must first find a disjunction of state-descriptions which is equivalent to S, and second, replace each state-description in the disjunction by a sentence which expresses what the state-description says about C. This sometimes leaves us with a few truncated state-descriptions. But since a truncated state-description is just an abbreviation for a disjunction of complete state-descriptions, the only way to compute the quantity of information in T_C is to undo the second step and compute the quantity of information in the disjunction of state-descriptions which was equivalent to S. So the quantity of information can never differ between the different versions of the sentence.
The apparent difference between the amount of information in $S$ and the amount of information in $T_C$ is due to the fact that certain disjuncts of $T_C$ serve to abbreviate more than one complete disjunct. In thus abbreviating, they give the illusory appearance of altering the probability for selection of the messages associated with each disjunct. The message sets, $X(S)$ and $X(T_C)$, associated with $S$ and $T_C$ differ only in those cases where there are more messages in $X(T_C)$ than in $X(S)$, but every message in $X(T_C)$ that is not also in $X(S)$ is a message with a zero probability of selection. Thus the total probability of selecting a message from $X(T_C)$ is the same as that of selecting a message from $X(S)$, as is the uncertainty associated with each set, and the amounts of information contained in $S$ and $T_C$.

Nelson Goodman

Introduction

Nelson Goodman, in his classic article, "About,“⁴ has given us a persuasive version of a semantic theory compatible with at least some natural language sense of 'about'. Even though Goodman denies that this is anything other than a technical sense, he nevertheless argues largely from natural language intuitions. This gives rise to some problems of interpretation: if there is a technical sense, then where is the formal language for which it is
intended? If the theory is not intended for application to natural languages, then what is the source of possible counterexamples? Has Goodman deliberately eliminated all prospects of falsification?

I hope it will become clear from the presentation that complaints such as this are beside the point: First, the actual creation of a formal language within which the theory can be expressed and illustrated is best left as an exercise for the reader. In fact, two or three attempts have been made by other authors; Ullian's first solution was only moderately successful and Putnam and Ullian's solution was more comprehensive, whereas Patton's attempt was a patent failure. Second, The fact that the theory is primarily concerned with a technical sense of 'about' does not mean that examples and counterexamples from natural languages are inapplicable. In fact, the explication of the theory from start to finish is accomplished through just such examples, and, as I shall argue later, the theory is open to a "master-argument" straight from natural language.

The force of Goodman's claim that 'about' is being explained only in a technical sense is most likely nothing more than an excuse to avoid the serious consideration of certain quibbles which turn on the slippery character of this word as it is actually used in ordinary speech. Not every use of 'about' illustrated in the introduction above
can be covered in any theory of reasonable length. For example, the same theory which tells us that a book is about life in America would have trouble explaining how the same book could also be about three hundred pages in length. Not only would such a project be unfeasible, it would be undesirable, since it would lead us too far astray from the aesthetic problems arising from 'about'. Goodman confines himself to considering cases of statements being about objects (or being about classes of objects), taking these to be paradigm cases of aboutness. This differs considerably from the intuitions expressed in our introduction, where the aboutness of non-linguistic artifacts is suggested as a paradigm case. Our criticisms of Goodman, however, will not spring from this source, but will conform to Goodman's own intuitions in the matter.

**Goodman's Paradox**

There is a paradox which Goodman hopes to resolve for us:

(S28) If statement S is about an object or class, k, and k∈j, or kεj, then S is also about j.

(S29) If S is about class k, and j∉k, or j∉k, then S is also about j.

(S30) There are distinct objects or classes, j, k, and there is a statement S such that S is about k and S is not about j.

In accordance with (S30), let S be a statement
which is about some $k$ and is not about some $j$. Let $A$ be the set whose only two elements are $k$ and $j$. By (S28), since $S$ is about $k$, then $S$ is about $A$. By (S29), since $S$ is about $A$, $S$ is also about $j$. This contradicts our assumption.

The task Goodman sets for himself is the preservation of two basic intuitions:

(S31) A statement about set $A$ is also about any subset of $A$ or any sets containing $A$; and

(S32) A statement can be about something without being about everything.

Every writer we have considered so far would find (S32) acceptable, but not (S31), so the most obvious way of dealing with the paradox is to simply deny (S31).

Even though this would avoid the paradox, the price in loss of faithfulness to 'about' seems too great. To say something about a raven is to say something about a bird, and to say something about birds in general is to thereby say something about ravens. Goodman's argument appeals to many of our natural language intuitions. For example, it seems plausible that the statement,

(S33) Aroostook County grows potatoes

must be about Aroostook County, the relationship of something growing something, and the property of growing potatoes. It is also about Maine, since Aroostook County
is in Maine. After understanding (S33), we know something about Maine that we might not have known before, namely that (perhaps among other things) potatoes are grown in Maine. But how much do we know about Florida that we did not already know before? Our naive reaction is to say that we have learned nothing about Florida at all. So (S33) seems to be about Maine, but not about Florida. The paradox only seems to come into play when we consider that both Aroostook County and Florida are in the United States. Any statement about the United States says something about Florida, and any statement about Aroostook County is about the United States, so (S33) must actually be about Florida after all.

We can thus educate our naive reactions so that we acknowledge that Florida is a part of a potato growing country (although the statement does not tell us whether Florida itself is a potato growing part of that country). But once our reactions have become sufficiently sophisticated as to the employment of this little trick, we can become puzzled as to just how significant any aboutness claim can be. At what point, we may wonder, must we stop these sophistries and admit that statement S is about some κ yet not about some η? In fact, a fairly natural conclusion to reach in this matter is the one that Goodman has reached: (S33) is about Aroostook county, potatoes, growing, and so forth, in a fairly straightforward sense,
but it is about Florida only in some derivative sense. The paradox, therefore, is explained as pivoting on an equivocation.

Preliminary Discussion

Before presenting Goodman's proposed solution, let us first consider the importance of retaining the intuition (S31). It might be objected that (S31) is not a natural language intuition at all, since there can be no such thing as a natural language intuition with respect to set theoretic notions. Maine contains Aroostook county, so the objection would go, as a field contains a pond, not as a set contains an element. For example, we might become reconciled to a statement of (S31) which restricted itself to physical containment, or geographic containment. By this version of (S31), (S33) would be about Maine and about Florida, but would not be about the number four or the color purple. There would then be no paradox. The only problems arise when we speak of set-theoretic containment, since for any two objects, no matter how diverse, a set may be constructed containing those two objects.

Unfortunately, the paradox is not so easily resolved as that. For example, to say something about cats is to say something about mammals, and vice versa, and this could hardly be the case if the set of all cats were not contained in the set of all mammals. But the genus mammal
(to express the matter in an Aristotelian fashion) does not contain cats as a field contains mice, so there is more than one sort of containment for which the paradox will work. It thus appears that there is something captured by Goodman's paradox, which, although not expressed in natural language terms, comes quite close to the real core of a problem with the natural language term 'about'.

'About' in Natural Language

A short digression might perhaps be in order. The following considerations should not be taken as arguments, but as suggestive metaphors, intended merely to sensitize our ears to the nuances of the conversational use of 'about', a mere refresher course on the way we speak. To quote from Webster's 2nd International Dictionary:

about, prep. (1) Around; all around; on every side of. look all about you.

(2) In the immediate neighborhood of; in contiguity or proximity to; near as to place; by or on (one's person). have you much money about you?

(3) Over or upon different parts of; through or over in various directions; here and there in; to and fro in; throughout; as, handed about the room

(4) Near, not far from. tomorrow, about this time.

(5) In concern with; engaged in; intent on. I must be about my Father's business.

(6) On the point or verge of; going; in the act of. Paul was now about to open his mouth.
(7) Concerning; with regard to; on account of; touching. *She must have her way about Sarah.*

(8) Appertaining to; in connection with. *His face is the worst thing about him.*

What stands out sharply in all these definitions is the frequency and multiplicity of spatial expressions to convey the various meanings of 'about': 'on the verge of', 'touching', 'in connection with', 'near', 'engaged in', and so forth. This anomaly might provide us with a clue for understanding the role of 'about' in ordinary discourse. Let us first take the term 'near' and try to construct a "paradox of nearness" along the same lines as Goodman's paradox:

Aroostook County is near Augusta, Maine, but not near St. Augustine, Florida. Since Augusta is in the Eastern United States, Aroostook County is near the Eastern United States. But since St. Augustine is in the Eastern United States, Aroostook County is near St. Augustine as well.

Whatever plausibility this argument has is due to the relativity of 'near'. On foot, Aroostook County is not near anything; on a map of the Eastern United States, it is near Augusta and not near St. Augustine; but on a globe, all three are near each other relative to Augustenborg, Denmark. But just because for any two points which are not near to each other from one perspective there is another perspective from which they are near to each other, this does not show that 'near' is a hopelessly confused term.
All that it shows is that 'near' is a tertiary relation, not a binary one: \( x \) is near \( y \) relative to some \( z \).

Nearness is not the only spatial concept which is invoked in the above definitions of 'about'. Another important notion is that of contiguity. Here, the paradox does not work, since '\( x \) is touching \( y \)' does not change in truth value when the viewer's perspective changes. Contiguity is thus more of an absolute notion, whereas nearness is relative to a viewpoint.

Since the natural language definitions of 'about' seems to be composed of both of these notions, contiguity and nearness, it might not surprise us to find our intuitions torn between the two sorts of relations involved. Clearly, when two things touch each other, they are near each other in an absolute sense, yet when they are not contiguous, they can be said to be near each other only relative to some perspective. If one were to try formulating a "logic of proximity," one would need to distinguish between 'relatively near' and 'absolutely near', and thereby avoid paradoxes like the one mentioned above. This approach would be perfectly analogous to that taken by Goodman, and can be seen to be closely related to many of our natural language notions about 'about'. Goodman's solution can be described metaphorically as a formulation of a notion of "semantic proximity" by means of which we can show how some statements can be absolutely
about some objects and not absolutely about others, while any statement is about anything at all relative to some other statement. In this way, both (S31) and (S32) are retained, and the paradox is resolved. This is a very promising approach.

Introduction to 'Absolutely About'

Goodman distinguishes three ways in which a statement S can be said to be about something--S can be absolutely about \( k \) for some \( k \), relatively about \( k \), or rhetorically about \( \_ \_ \_ \_ \_ \_ \), (where \( \_ \_ \_ \_ \_ \_ \) is filled in by some expression, apparently designating some \( k \)). To say that \( S \) is "rhetorically about \( \_ \_ \_ \_ \_ \_ \)," or as Goodman puts it, "is \( \_ \_ \_ \_ \_ \_ \)-about," is (usually) to say that an inscription of the same shape as \( \_ \_ \_ \_ \_ \_ \) appears in \( S \). Thus Goodman has included something of the metalinguistic approach within his own theory.

The more usual sense of 'about' is that which Goodman calls absolutely about. This is the sense of 'about' which would be invoked, for example, if one were to claim that the sentence,

(S34) George Washington wore a wig

is about the first president of the United States of America. Even though the expression 'George Washington' is not the same expression as 'the first president of the
United States of America', and this latter expression does
not appear in (S34), nevertheless the fact that both
expressions refer to the same person is enough to convince
us of the obvious truth of the claim. This intuition must
be preserved by Goodman, as it forms the core of all
semantic theories of 'about'.

Preliminary Definitions and Examples

For Frege, it will be recalled, the reference of a
sentence is a function of the references of its parts, just
as the sense of a sentence is a function of the senses of
its parts. In a similar fashion, Goodman wishes to explain
what a sentence is about as a function of some property or
properties of its parts. Normally, however, we do not
describe an isolated term or expression as being about an
object. Instead, we describe an expression as designating
some x, or denoting some y, so it is with the definitions
of these two terms that Goodman begins.

With respect to the terms, 'denote' and
'designate', used interchangeably by some writers, Goodman
draws something of a subtle distinction: denotation is a
relation holding between an expression and an object,
whereas designation is a relation holding between an
expression and a set. Thus, 'the first president of the
United States of America' denotes George Washington, but
designates the set whose only element is George Washington.
A predicate is therefore said to designate the set of all objects that it denotes, that is, a predicate designates its extension.

To determine what some sentence $S$ is absolutely about, we must first identify all designating terms and expressions occurring in $S$. In actual practice, Goodman acknowledges, there may not be unanimous agreement as to how some particular sentence is to be parsed. For example, in (S34) above, we could take 'wore' as a two-place predicate, with the arguments being 'George Washington' and 'a wig'. Alternatively, (S34) could be read as asserting, of George Washington, that he has the property of having worn a wig, that is, the expression 'wore a wig' could be taken as an unanalyzed, one-place predicate (containing no independently designating terms). Because the parsing of sentences such as (S34) is peculiar to the language system one chooses to adopt, Goodman's theory assumes only that some such analysis has been done, and not that it has resulted in any particular parsing. Therefore, once it has been ascertained that $S$ uses an expression $E$ to designate a set $C$ then $S$ is thereby said to mention $C$. Furthermore, for a sentence to mention something, there must be some parsing of the sentence in which an appropriate designating expression appears and functions as a predicate.

For example, if anyone were to claim that (S34) mentions the relationship, $x$ wore $y$, he could not also
claim that the only predicate occurring in (S34) was 'wore-a-wig', since 'S mentions C' entails 'E designates C' for some E.

As the first step in the project of explaining 'is about' in terms of 'mention' (and hence, in terms of 'designates'), Goodman offers some preliminary definitions.

(S35) Let us say that a statement T follows [from S] differentially with respect to K if [1] T contains an expression designating K and [2] follows logically from S, while [3] no generalization of T with respect to any part of that expression also follows logically from S.7

There are three clauses in this definition, (1) the clause governing the expression 'with respect to K, (2) the clause governing the expression 'follows from', and (3) the clause governing the expression 'differentially'. This third clause proves to be the crux of Goodman's entire theory. If clause (3) functions the way it is intended to function, the definition will determine a certain set of sentences which follow logically from S and which are about all the same things as S, but which are not about everything in the universe. This set of sentences, however, will not be identical to the set of all sentences which merely follow logically from S. Specifically, clause (3) should exclude any sentence following logically from S which includes arbitrary predicates or individual constants introduced trivially through one or another rule of logical transformation. To see how these three clauses work
together to accomplish this task, consider the sentence,

(S36) Fred raises (some) fat pigs and every pig raised by Fred is fat.

The sentence,

(S37) Fred raises pigs,

follows differentially from (S36) with respect to the set of pigs, since it satisfies clause (2) by following logically from (S36), and satisfies clause (1) by containing the term 'pigs', which designates the set of pigs, yet it also satisfies clause (3), since the claim which results from generalizing over 'pigs', 'Fred raises everything', does not also follow from (S36). This shows how one sentence can follow differentially from another.

By way of contrast, consider that fact that for anything we might mention, Fred either raises it or does not raise it. Therefore, the tautology,

(S38) Fred either raises pigs or doesn't raise pigs,

since a tautology follows logically from anything, (S38) follows logically from (S36). Furthermore, (S38) contains the expression 'pigs' which designates the set of pigs. Therefore, (S38) satisfies clauses (1) and (2) of Goodman's definition. It fails to satisfy clause (3), however, since the term 'pigs' may be replaced by any arbitrary designating term and the resulting sentence, (if
meaningful) also follows logically from (S36). Therefore, if (S38) does follow differentially from (S36) with respect to pigs, it does not do so by virtue of Goodman's definition.

For another example, recall (S34) above, 'George Washington wore a wig'. (S34) follows differentially from itself with respect to the first president of the United States of America because (S34) (1) follows logically from itself, (2) contains an expression denoting the first president of the United States of America, and (3) the sentence 'Everyone wore a wig' does not also follow logically from (S34). (S34) is also about the set of all things which wore wigs before some time \( t \) because (S34) contains an expression ('wore a wig') which designates this set, while the second-order generalization 'George Washington has all properties' does not follow from (S34). The sentence, 'George Washington stands in all relations to a wig', also fails to follow from (S34), so it is absolutely about the relation of having worn. Finally, (S34) does not entail that George Washington wore everything, so it is absolutely about the set of wigs.

Some Modifications

As it stands, (S35) is not as strong as we might expect a definition to be, since it is only stated as a material conditional, not a biconditional. Thus, from the
fact that some sentence $T$ follows differentially from a sentence $S$ with respect to some $k$, Goodman's definition does not even allow us to conclude that $T$ follows logically from $S$, or even that $T$ contains an expression designating $k$. The most important problem with the "if" version as opposed to an "iff" version of the definition is that it allows for the possibility that (S38) might nevertheless follow differentially from (S36), even though it does not meet all three clauses of the definition. In fact, the whole purpose of the definition in the first place is to rule out just such cases. Perhaps it would not be too far amiss to make a small correction, in spite of the fact that there have been enough publications of this article for Goodman to have changed this aspect of his definition if he had felt it necessary to do so. It does not seem that one would be dangerously strengthening the definition by making it into a biconditional, and one would think that $T$ really should follow from $S$ differentially with respect to $k$ only if $T$ meets certain conditions. This emendation will be reflected below, in our restatement of (S35).

A second point to notice is that $T$ must contain an expression designating $k$, so that some sentences from fiction and many negative existentials fail to follow differentially with respect to anything but the empty set. This is a feature which will also be true of 'relatively about', but will be remedied by the definition of
'rhetorically about'. Thus, on Goodman's view, this absolute sense of 'about \( x \)' does entail the existence of \( x \), but the full theory takes account of the fact that on occasion we speak as if we were talking about some fictional character. A real question is being asked when someone wonders, "are you talking about Clark Gable or about Rhett Butler?" and it is an important plus of Goodman's theory that such questions can be accepted as meaningful.

There is one final point to note. For any two statements \( A \) and \( B \), \( B \) follows logically from \( A \) if and only if there is some theorem in logic for which 'if \( A \) then \( B \)' is a substitution instance. Call this theorem \( P \). By applying Modus Ponens to \( A \) and to 'if \( A \) then \( B \)' we produce \( B \). Thus, the claim that \( B \) follows logically from \( A \) could be envisioned in terms of our "nearness" metaphor as follows: \( B \) is separated from \( A \) by one substitution instance of theorem \( P \) and one application of Modus Ponens to this substitution instance and \( A \).

Let us, therefore, revise Goodman's definition to read:

(Def. 1) Statement \( T \) follows differentially from statement \( S \) with respect to \( k \) iff

(a) \( T \) contains an expression \( E \) which designates \( k \); and

(b) There is some theorem \( P \) in logic such that one application of Modus Ponens to \( S \) and an appropriate substitution instance of \( P \) yields \( T \).
and

(C) For any statement \( T^* \) which is the result of a legitimate application of UG to either \( E \) or some term contained in \( E \), there is no theorem \( P^* \) such that one application of Modus Ponens to \( P^* \) and \( S \) yields \( T^* \).

'Absolutely About'

Given the above definition (Def. 1) the definition of 'absolutely about' runs:

(Def. 2) \( S \) is absolutely about \( K \) iff some statement \( T \) follows differentially from \( S \) with respect to \( K \).

By this definition, \( S \) may be about \( K \) without containing an expression designing \( K \), just so long as there is some appropriate \( T \) which does contain such an expression. For example, (S36) is about non-pigs, as witnessed by

(S39) If anything raised by Fred is not fat, then it is not a pig (that is, it is a non-pig).

The expression 'not a pig' designates the set of non-pigs, but the only part of this expression which may legitimately be generalized over is the term 'pig', and the resulting generalization does not follow from (S36):

(S39*) \( (x) (\text{if anything raised by Fred is not fat it is not an } x) \).

In this way, Goodman has given us a way of letting
sentences be about something unmentioned, yet not forcing them to be about every unmentioned thing. As significant as this step may be, it confines our set of unmentioned candidates for aboutness to a chosen few: those which can be arrived at in one logical step. As in the example, (S36) is about the set of pigs, and the set of non-pigs, but is not about the set of apples, in spite of the (presumed) fact that all pigs eat apples.

We can express this definition in terms of our 'nearness' metaphor by saying that $S$ is separated from a sentence $T$ (containing explicit reference to $k$) by exactly one truth of logic and one rule of inference. This is as "near" as any two sentences can be without being identical, "semantic contiguity," as it were. Not even logical equivalences are "closer."

The restrictions contained in the third clause are crucial to the theory. If we could generalize over parts of $E$, or even over $E$ itself, we would be able to take things a step further and instantiate within $T$ any terms we wish into the expression designating $k$. If we instantiated a term designating some arbitrary object $i$ then $T$ would allow us to prove that $S$ was about $i$, and thus $S$ would be about everything.

It is also important to note that the definition does not require that UG be legitimately applicable to $E$, in its entirety, but only to some of the terms comprising
Since \( E \) may be a complex expression incorporating several 1- or 2-place logical connectives, the logic required to generalize over such complex expressions in their entirety is far from obvious. Thus (S36) can be shown to be about non-cows by virtue of the facts that (1) there is no legitimate application of UG to 'non-cows', and (2) even though there is a legitimate application of UG to 'cows', the result of such an application does not follow logically from (S36).

This completes the exposition of 'absolutely about'. With the exception of introducing the biconditional, the changes which have been made in formulating the definitions are intended to be merely stylistic, not philosophically significant, the only purpose of which was simply to bring certain features of the definition into sharper relief. All definitions labelled '(Def. \( n \))' will be used again in chapters III and IV. For ease of reference, Appendix B contains a complete list of all definitions labelled in this fashion throughout the text.

Introduction to Relatively About

The next major step taken by Goodman to resolve the paradox, after having first defined 'absolutely about', is that of defining 'relatively about'. Once these two definitions have been established, Goodman expects that the paradoxical cases can be explained away as confusions
between the two sorts of 'about'.

Preliminary Definitions

As with 'absolutely about', Goodman starts with certain preliminary definitions.

(Def. 3) Statement U is an explicitly unitary consequence [henceforth EUC] of W, only if

(1) U is expanded to eliminate all descriptions and class abstracts, all statement connectives other than conjunction and disjunction, and all negations applied to expressions containing another negation, a quantifier, a conjunction or a disjunction; and

(2) every disjunction in U is outside the scope of every existential quantifier; and

(3) every conjunction sign in U is, with reference to W, irrevocably within the scope of an existential quantifier. (Conjunction signs are thus captive only if they can be neither freed from the scope of existential quantifiers nor eliminated.)

Before proceeding, let us consider the significance of each clause, taken separately as well as together.

Clause 1: This clause prevents U from containing material conditionals or biconditionals, as well as double negatives, triple negatives and so forth. Furthermore, all negations must be imported into the scope of a quantifier, so that any occurrence of '¬(x)Px' is replaced by '(∃x)¬Px', and '¬(∃x)Px' is replaced by '(x)¬Px'. Thus, the only logical connectives appearing in U will be '∧', '∨', '¬', and the quantifiers. All negations must be imported into
the scope of conjunctions and disjunctions. Thus \(-(Pa \lor Pb)\) is replaced in U by \(-Pa \land -Pb\) and \-(Pa \land Pb)\ is replaced by \(-Pa \lor -Pb\). Where U contains more than one atomic formula (or more than one occurrence of an atomic formula), the major connective of U cannot be a negation.

Finally, since all descriptions and class abstractions have been replaced by some other expressions meeting the above conditions, there will be no abbreviated molecular expressions masquerading as individual constants. This is somewhat important to note, because it partially removes an important source of temptation with respect to quantifying over logical units other than terms. This serves a role analogous to requirement (3) in definition (Def. 1) of 'absolutely about', which specified that no part of E be generalizable with respect to K, since descriptions and class abstracts, when broken down in this way do not produce "pseudo-terms" over which it might be thought one could generalize.

Clause 2: This clause requires that every expression of the form \((\exists x)(Px \lor Qx)\) must be replaced in U by an expression of the form \((\exists x)Px \lor (\exists x)Qx\). Thus the major connective of U can be an existential quantifier iff U contains no disjunctions.

Clause 3: This clause requires that all conjunction signs be within the scope of an existential quantifier.
Thus \((Pa \land Qa)\) must be replaced by \((\exists x)(Px \land Qx)\) while \((Pa
∧ Pb) must be replaced by (∃x)(∃y)(Px ∧ Py). The effect of this clause is to turn U into a disjunction of existentially quantified conjunctions wherein every conjunct is either an atomic expression or a negation of an atomic expression.

The purpose behind this series of transformations does not become fully apparent until the final definition is presented. The effect of (Def. 3) is to provide a criterion for identifying a crucial subset of sentences within the set of sentences which follow differentially with respect to k from a conjunction of two other sentences. Not every sentence can be transformed into an EUC, specifically not those conjoining two or more atomic sentences which contain different individual constants. This is intended to prevent the arbitrary introduction of terms denoting objects irrelevant to the aboutness of S.

Example 1

(Wff 1) \( P_a \equiv Q_b \)

(Wff 2) \( (P_a \land Q_b) \lor (\neg P_a \land \neg Q_b) \) by clause 1

(Wff 3) \( (∃x)(∃y)((Px \land Qy) \lor (\neg Px \land \neg Qy)) \land (x=a) \land (y=b) \) by clause 3

(Wff 4) \( (∃x)(∃y)(Px \land Qy \land x=a \land y=b) \lor (∃x)(∃y)(\neg Px \land \neg Qy \land x=a \land y=b) \) by clause 2

But also, by clause (3), (Wff 4) is not an EUC, because it contains occurrences of some conjunctions which are not irrevocably bound within the scope of any
quantifier, since \( (\exists x)(\exists y)(P_x \land Q_y \land x=a \land y=b) \) is equivalent to \( (\exists x)(P_x \land x=a) \land (\exists x)(Q_x \land x=b) \).

**Example 2**

(Wff 5) \((x)(Cx \supset Bx)\)

(Wff 6) \((x)(-Cx \lor Bx)\) by clause 1

Although this is as far as Goodman requires us to alter (Wff 5), it should be noted parenthetically that this universal quantifier, should we wish to remove it, can be treated in the following fashion. Since (Wff 6) claims that for every object \( x \) in the universe of discourse, either \(-Cx\) or \( Bx\), or both \(-Cx\) and \( Bx\), a disjunction which is complete with respect to these two properties may be specified. Where \( n \) is the number of individuals in the universe of discourse, the first disjunct will be

\[
(\exists x_1)\ldots(\exists x_n)[Bx_1 \land \ldots \land Bx_n \land Cx_1 \land \ldots \land Cx_n \land x_1=a_1 \land \ldots \land x_n=a_n].
\]

The second disjunct will replace the last \( Cx_1 \) with a \(-Cx_i\) and the succeeding disjuncts will be constructed in the same manner that the complete disjunction of state-descriptions was constructed in chapter I. Only those disjuncts incompatible with \((x)(-Cx \lor Bx)\) are excluded, namely, \((\exists x_1)\ldots(\exists x_i)\ldots(\exists x_n)[\ldots \land -Bx_i \land \ldots \land Cx_i \land \ldots]\), for every \( i \). The resulting disjunction is equivalent to (Wff 6), but suffers from the defect that it is not an EUC,
by virtue of containing occurrences of conjunctions which are not captive.

There are three more points to notice in this definition. First, (Def. 3) is not a biconditional, so we cannot say with certainty that any statement which meets all three conditions is an EUC of W. Second, it is not clearly stated what logical relationship holds between W and U, specifically, whether U is merely a logical consequence of W or whether U must be logically equivalent to W. For the purposes of our analysis, however, we shall take the liberty of completing the definition, as was done with (Def. 1), so that it contains this feature.

(Def. 3*) Statement U is an EUC of W, iff U is a logical consequence of W, and conditions 1, 2, and 3 of (Def. 3) are met.

Without these changes, the definition is useless, since there would be no rules for constructing EUCs or for proving that some arbitrary statement U is in fact an EUC of W.

Third, EUCs are defined by Goodman only for statements containing scopes bound by a single quantifier. As Goodman himself admits, "completeness would demand treatment of cases of multiple quantification as well."\(^{10}\) We have seen how the exclusion of multiple quantifiers effectively eliminates conjunctions of atomic sentences which contain different individual constants. A much more
serious consequence of this incompleteness is that no statements containing two- or many-placed relation terms will yield an EUC. Thus any argument which depends on the construction of an EUC from a statement asserting a relation between two or more objects, will have to await completion of this part of the theory. Goodman hints that it could be done, but neglects to illustrate how one would proceed. We shall return to this point later, in our criticisms of Goodman's theory.

One further definition is given by Goodman before defining 'relatively about':

(Def. 4) \( U \) is a unitary consequence [henceforth UC] iff \( U \) is a statement that is logically equivalent to some EUC.

We can understand this to mean that \( U \) is a UC of \( W \) iff \( U \) is logically equivalent to some EUC of \( W \). The purpose of defining 'EUC' now becomes clear. The definition provides a way of sorting through the differential consequences of statements of the form \( (S \land Q) \), for those which meet certain standards. A UC can be of any form at all, it merely has to be logically equivalent to some EUC.

What sorts of statements cannot be UCs? Suppose some statement \( S \) is not a UC, that is, suppose that there is no EUC logically equivalent to \( S \). Certain conditions for being an EUC must therefore be violated by all logical
equivalents of S, but not every condition given in (Def. 3) is such that it can actually be violated. (i) For any statement, all descriptions and class abstracts can be eliminated, all statement connectives other than conjunction and disjunction can be eliminated, all negations can be imported into the scope of a conjunction, a disjunction, or a quantifier, and all double negations can be eliminated. Thus, clause (i) can never be violated. (ii) Existential quantification is distributable through disjunction, so clause (2) can never be violated. (iii) \((\exists x)(P x \land Q x)\) is not equivalent to \(((\exists x)P x \land (\exists x)Q x)\). Thus clause (3) serves to prevent some sentences from being UCs, for example, sentences containing an expression such as \(((\exists x)P x \land (\exists x)Q x)\). Although this is not equivalent to \((\exists x)(P x \land Q x)\), it is equivalent to \((\exists x)(\exists y)(P x \land Q y)\). The conjunction sign here is not, however, captive since it can be freed from the scope of the quantifiers. Thus, the conjunction sign is not irrevocably within the scope of an existential quantifier.

'Relatively About'

The definition of 'relatively about' can now be given:

(Def. 5) S and Q are about k relative to each other iff some unitary consequence T of \(S \land Q\) follows differentially with respect to \(k\) from \(S \land Q\), but not from either \(S\) or \(Q\) alone. 11
Here are some examples to show how these definitions work together.

**Example 3**

\[ S = 'Pa' \]
\[ Q = 'Qa' \]
\[ T = '(\exists x)(P_x \land Q_x)' \]

\( T \) is an UC because it is equivalent to itself and it is an EUC. The conjunction cannot be exported from inside the scope of the quantifier. \( T \) follows from \((S \land Q)\) but not from \( S \) or from \( Q \) alone. Furthermore, \( x, P, \) and \( Q \) cannot be universally generalized over, so \( T \) follows differentially from \((S \land Q)\) and not from \( S \) or from \( Q \) alone. Therefore, \( S \) and \( Q \) are about a relative to each other.

**Example 4**

\[ S = 'Pa' \]
\[ Q = 'Qb' \]
\[ T = '(\exists x)(\exists y)(P_x \land Q_y)' \]

\( T \) follows differentially from \((S \land Q)\) and not from \( P \) or \( Q \) alone, however, \( T \) is not a UC, since \'((\exists x)P_x \land (\exists x)Q_x)\' is equivalent to \( T \), and the conjunction is not captive.

Notice that (Def. 1) rules out the possibility that either \( S \) or \( T \) could be a truth of logic, since if \( T \) is a truth of logic, it cannot follow differentially from anything, and if \( S \) is a truth of logic, then if \( T \) follows differentially from \((S \land Q)\), it must also follow
differentially from Q alone.

Goodman's Solution

Goodman hopes that with these definitions, (Def. 1) through (Def. 4), the paradox which prompted the theory can be resolved. It will be recalled, the two initial premises, (S28) and (S29), claimed that if S is about k, and k either contains or is contained by j, then S is about j also. These two premises may now be rewritten in the following, more explicit form:

(S40) If statement S is about object or class k, and k either contains or is contained in some j, then there is some statement Q expressing this relation between k and j.

(S41) If Q is a truth of logic, then S is absolutely about j as well as k.

(S42) If Q is contingent, then S and Q are about j relative to each other.

and premise (S30) becomes,

(S43) There are distinct objects or classes j, k, and there is a statement S such that S is absolutely about k and S is not absolutely about j.

But of course, no contradiction follows from these premises. For example, let S be (S33), 'Aroostook County grows potatoes'. S is about Aroostook County. Maine contains Aroostook County, so let Q be a sentence expressing this fact. S is about Maine relative to Q, but S is not absolutely about Maine. Thus (S43) is not
contradicted. The paradox is thereby resolved.

Some Observations

Let us look closely at this solution. Suppose we have a statement $S$ (for example, 'Aroostook County grows potatoes') which is absolutely about an object $k$ (Aroostook County), and that $k$ is contained in some set, $j$ (Maine, considered as a set of counties). Then by ($S_{40}$), there is some statement $Q$ expressing the containment relation holding between $k$ and $j$. Suppose further that $Q$ is a contingent truth (as for example, 'Maine contains Aroostook County and anything which contains something which grows potatoes grows potatoes'). Then by ($S_{42}$), $S$ and $Q$ are about $j$ relative to each other. So far, everything is plausible. By (Def. 5), there must be some unitary consequence $T$ (for example 'Maine grows potatoes'), of $(S \land Q)$ which follows differentially with respect to $j$ from $(S \land Q)$, but not from either $S$ or $Q$ alone. By (Def. 4), $T$ is logically equivalent to some EUC, call it $U$, of $(S \land Q)$.

But it was established on page 97, that as the theory is currently formulated, no statements containing two-place relation terms can be equivalent to an EUC. Therefore, $T$ must not contain any two-place relation terms. So 'grows potatoes' must be taken as an unanalyzed predicate, if Goodman's definitions are to work. On the other hand, 'contains Aroostook County' must be taken as a
two-place relation, otherwise T would not follow logically from \((S \land Q)\).

But there surely is no observable feature of the expressions 'contains \(x\)' and 'grows \(x\)' which gives away the fact that 'grows' is an unanalyzed predicate-part, whereas 'contains' is a relation term.

To make the matter even more perplexing, suppose \(S\) had been 'Aroostook County contains potatoes'. The appropriate \(Q\) would then be 'Maine contains Aroostook County and anything which contains something which contains potatoes contains potatoes'. \(S\) can now be said to be about Maine relative to \(Q\) only if we take 'contains potatoes' to be a property and at the same time take 'contains Aroostook County' to be a two-place relation. In other words, \(Q\) cannot be understood as saying "Maine contains Aroostook county and containment is transitive."

Although this side-effect of the theory is somewhat eccentric, the paradox really has been resolved. It has been established that it is possible for there to be two objects (Aroostook County and Maine) and two sentences (\(S\) and \(Q\)) such that \(S\) is absolutely about Aroostook County and not absolutely about Maine, but at the same time \(S\) is about Maine relative to \(Q\).

It has been pointed out by other authors (Def. 3) (and consequently (Def. 3*)) obviously apply only to representations of statements within a formal system,\(^{12}\) and
not to ordinary statements within a natural language. As such, the proper translation of W from a natural language into a formal language must be established before it is decidable whether some U is an EUC of W or not. For example, we must decide whether we are to take 'earthbound' as a predicate or as a two-place relation. This can now be seen to be a less significant objection than it might appear at first glance. The choices of how any sentence is to be translated is governed by enough constraints that many potentially ambiguous expressions such as 'earthbound' are taken care of.

Perhaps the biggest disappointment in Goodman's solution is the consequence that even though a sentence may be absolutely about some relation, nevertheless, no two sentences can be about any relation, relative to each other. This is because (1) no UC can contain a relation term, yet (2) S can be about a relation k relative to Q iff there is a UC of (S ^ Q) containing a relation term designating k.

Thus, a fully satisfying resolution of Goodman's paradox awaits the completion of the definition of EUC for statements containing many-place relation terms.

The EUC and the PCS

There is a certain superficial similarity between Putnam's approach to the problem and the definitions of
'relatively about' found in Goodman's theory. Some light might be shed on understanding both theories by a glance at some of the similarities and differences between the two.

The first feature to notice is that both the Putnam corresponding sentence (the PCS) and the explicit unitary consequence (the EUC) are expressed in disjunctive normal form. It might be thought that there is a further significant relationship between the two, as for instance, if for every EUC there was an equivalent PCS, or vice versa. In fact, however, there is no such interesting link. For every sentence expressible in the finite language chosen by Putnam there will be a PCS, while the very purpose of Goodman's EUC's is to rule out of consideration all those many sentences expressible in the language which are not logically equivalent to some EUC. Nevertheless, the task of trying to construct one from the other is somewhat instructive.

Consider the form of some arbitrary EUC. Every EUC will contain only disjunction as its major connective, and each disjunct will itself be either an atomic statement, the negation of an atomic statement, or an existentially quantified statement. If the latter is the case, there will only be one quantifier, it will contain within its scope only expressions of the form 'Fx' or conjunctions of such expressions, each conjunct of which contains exactly one occurrence of a bound variable. If such an EUC were to
be written as a PCS, the quantifiers would have to be removed. Assuming the finite language used by Putnam, this will not be difficult to do. Take the first disjunct of the EUC. If it contains no quantifiers, then make no changes and continue to the next disjunct. If it does contain a quantifier, then rewrite the disjunct as follows. Where \( \phi_{a/b} \) denotes the result of replacing every occurrence of \( a \) in \( \phi \) with \( b \), replace \((\exists x_1)\phi\) with \( \phi_{x_1/a_1} \lor \ldots \lor \phi_{x_n/a_n} \), for all \( n \) constants in the language. Repeat this process for all the remaining disjuncts in the EUC. In a language containing only a finite number of constants, existential quantification is merely an abbreviation for a perhaps lengthy, but necessarily finite, job.

The resulting disjunction might possibly be identical with a PCS, but there is no guarantee that it will, unless the original EUC utilized every predicate available in the language, and there is only one individual constant available in the language. Barring this coincidence, then the disjunction must be expanded so as to incorporate within each disjunct more atomic expressions. Depending on which object or class we are interested in, more disjuncts reflecting the exclusion and inclusion of certain objects need to be selectively added. For example, if there is a certain predicate \( P \) which is not included in a certain disjunct \( Q_a \) and if we are trying to ascertain to what degree our overall sentence is about \( Q \), then \( Q_a \) needs
to be expanded into \((Qa \land Pa) \lor (Qa \land \neg Pa)\) for us to have a PCS.

In short, a EUC can be shown to have a logically equivalent PCS only if we are restricted to a language containing a finite number of predicates and a finite number of individual constants. On the other hand, not every PCS can be translated into a EUC. For example, one which contains the conjunction \((Pa \land Pb)\) as one of its disjuncts. This follows simply from the fact that this conjunction would not be irrevocably bound within the scope of an existential quantifier.

Introduction to 'Rhetorically About'

The third sense of 'about' is not one which is utilized by Goodman for the resolution of his paradox, but is included nevertheless almost as a concession to that particular usage which had puzzled earlier theorists. The problem resolved thereby is that of non-denoting aboutness claims such as '"Pickwick fell" is about Pickwick', and the like. Since Goodman's version of this solution is not intended to be applied beyond these special situations, it would seem to be fully adequate to the task. However, it turns out to fall prey to the same objections as the theories of his predecessors.

Up until this point, Goodman has treated 'about' as a two-place relation between a sentence (or collection of
sentences) and an object or set of objects. In cases where an appropriate object to serve as referent does not exist, our choices seem to be limited to (1) assigning the designation, and thereby what non-referring terms are about, to the null set, or (2) affirming only those aboutness claims which deny that such sentences are about anything. Thus, on the first alternative, if S is 'Centaurs do not exist', then to claim that S is about centaurs yet to deny that S is about unicorns would be incompatible, since the set of all centaurs and the set of all unicorns is simply the null set. On the second alternative, to claim that S is about anything would be false, since such a claim would take the form of 'there exists an x such that Px and S is about x'. The only allowable aboutness claims would be of the form 'S is not about x'.

Neither of these alternatives seem satisfactory, since obviously 'Centaurs do not exist' is about centaurs and is not about unicorns. To avoid the problem of locating an appropriately distinctive referent for different fictional terms such that the aboutness of sentences containing these terms might be distinguished from one another, Goodman proposes to introduce a new one-place predicate for each aboutness claim. Thus, to claim that S is about ____ might be to claim that S stands in a certain relation to ____ or it might be to claim that S has a certain property, best described as "being ____-
about," or it might be to claim both of these things. This is a rough idea of what Goodman expects from this new class of predicate terms. The details are fairly straightforward.

Definitions

'Unicorns do not exist' is about unicorns, and not about corn, even though the shape 'corn' appears in the sentence. Therefore, the first problem to be dealt with is that the appropriate sequence of letters for the predicate, '_____about', must be more than merely a shape, it must derive from a term. Terms are normally things that refer, yet this cannot be a necessary condition for something's being a term, since that would not take account of non-referring terms. Goodman therefore defines:

(Def. 6) [E]xpression E occurs as a term of S if and only if E either is a predicate in S or occupies one of the argument places of a predicate in S.13

Thus, terms are identified by the functional roles they play within a sentence, and this is more a grammatical feature than a semantic one. In the following sentence,

(S44) The square circle is divisible by zero,

there occur the terms, 'the square circle', 'is divisible by', 'is divisible by zero', and 'zero'. The extensions of 'zero' and 'is divisible by' are different, non-empty sets.
The terms, 'the square circle', and 'is divisible by zero' are distinct terms, even though their extensions coincide with the empty set.

Then Goodman defines,

(Def. 7) A statement T follows term-differentially from S with respect to a term E of T if and only if T, but no generalization of T with respect to any term of T that is part of E, follows logically from S.14

This definition is intended to handle the following sorts of situations,

(S45) Mr. Pickwick wore purple.

(S45) follows term-differentially from itself with respect to the term 'Mr. Pickwick' since the generalization of (S45), 'Everyone wore purple,' does not also follow.

One feature of this definition is that no sentence can follow term-differentially from a contradiction, since all sentences including generalizations follow logically from a contradiction.

And so, the definition of 'Pickwick-about' is

(Def. 8) S is Pickwick-about if and only if it yields some statement T term-differentially with respect to "Pickwick".15

Since "Pickwick-about" is only one of the large family of predicates required to get the theory to work, (Def. 8) is an instance of the following, more general
definition schema for predicates ending in the letters, 'about',

(Def. 9) \[ S \text{ is } _____-about \text{ if and only if } S \text{ yields some statement } T \text{ term-differentially with respect to } "_____", \]

where both blanks are filled in with the same term.

Discussion

This theory is somewhat analogous to a theory Goodman offered in his *Languages of Art* to account for non-denoting works of art.\(^{17}\) In that work, he distinguished between a painting of Lincoln, and a so-called "Lincoln-painting."

There are several things that should be noticed here. For some term '_____', within a sentence S, it may be the case that S is _____-about, yet is not absolutely about ____. For example, the sentence 'Pickwick fell' even though it is Pickwick-about, cannot be absolutely about Pickwick, since nothing follows from S differentially with respect to Pickwick: 'Pickwick' does not denote. Therefore, 'rhetorically about' does not imply 'absolutely about'.

Alternatively, 'absolutely about' does not imply 'rhetorically about'. Let S be the sentence, 'The Lone Star state is large'. Although S is absolutely about Texas, due to the expression, 'the Lone Star state', S is
not Texas-about, since no sentence T follows term-differentially from S with respect to 'Texas'. Therefore, neither sort of aboutness is a necessary or sufficient condition of the other.

Nevertheless, there are two significant relationships between them. First, if S is _____-about and '_____' denotes some k, then S is absolutely about k. To prove this, suppose that there is some denoting term, '_____', occurring in S such that S is _____-about and '_____' denotes k. Call this expression E. By (Def. 9) there is a statement T which follows from S term-differentially with respect to E. By (Def. 7) and the fact that E denotes k, T contains an expression designating k and T follows logically from S, while no generalization of T with respect to any part of E also follows logically from S. Therefore, by (Def. 1), T follows (from S) differentially with respect to k, and by (Def. 2), S is absolutely about k.

For example, let S be 'Der Schnee ist weiss'. S is Schnee-about and 'Schnee' denotes snow, so we may conclude that S is absolutely about snow. Although no overpowering revelation, this is a claim that is not entailed by Ryle's theory and is entailed by Carnap's theory only because all sentences are entailed by it. This represents a significant advance.

Second, if S is absolutely about k, then there is
some term '____' such that S is ____-about and '____' denotes k. This follows from the definition of 'follows differentially with respect to k'. Suppose that S is absolutely about k. By (Def. 2) there is some statement T such that T follows from S differentially with respect to k. By (Def. 1) T contains an expression E which designates k, and no generalization of T with respect to any part of E also follows from S. Thus, by (Def. 7), T follows from S term-differentially with respect to E, and where E is some expression '____', S is ____-about.

There are certain allowances which must be made for Goodman's definitions. In particular, the looseness of English typographical conventions are not adequately taken into account. In English, grammatical sentences always begin with a capitalization, but words or phrases excerpted from sentences do not always reflect this structure.

Consider the following claim:

(S46) 'Furniture' and 'fire' both occur in the sentence: 'Fire burns furniture.'

In (S46), the capitalizations of 'furniture' and 'fire' are reversed, yet the claim is still true. In the same spirit, rhetorical aboutness should be understood to be sensitive to those quotational conventions of whatever language is being dealt with. Whether a sentence is Charity-about or charity-about should depend on whether 'Charity' is used as a noun or a proper noun, and not on
the location of the term within the sentence.

Critics of Goodman's Theory

Introduction

The objections which have been raised to Goodman's theory are few and far between, and those that have been expressed in the literature are not convincing. This is not to say that the theory is flawless, however, as we shall show later, but only that the points are sometimes easy to miss. Goodman's definition was written in full recognition of the fact that any definition of 'about' must tread a very fine line between relating any sentence to any object, and relating no sentence to any object. Rescher claims that Goodman has erred on the side of looseness.

Nicholas Rescher

Rescher has argued\(^{18}\) that on Goodman's account, "any statement predicating any property \(\phi\) to any individual \(a\) is absolutely about all individuals whatsoever."

According to Rescher, it is justified in the present context to assume that the universe of discourse contains more than one individual. This assumption warrants the following "rule of inference":

\[(R) \quad \text{Given } F(k), \text{ we may infer } (\exists x)((x \neq k^*) \land F(x)),\]

where \(F\) is any predicate, \(k\) any individual, and \(k^*\) any individual different from \(k\).
Using this rule, Rescher claims, we can go from any statement of the form

\[(S_1) \quad \Phi a,\]

to one of the form,

\[(T_1) \quad (\exists x)[(x \neq b) \land \Phi x]\]

which meets all of Goodman's conditions for claiming that S is absolutely about b.

This argument is simply bad, as has already been shown by several authors. The assumption that the universe of discourse contains more than one individual, no matter how appealing to common sense, is still not a truth of logic. If \((\exists x)(\exists y)(x \neq y)\) were a truth of logic, then Rescher's argument would work a little better. In that case, we could say that \(\Box(\exists x)(\exists y)(x \neq y)\). But, to the contrary, \(\Box \Phi (x)(y)(x = y)\), so the statement \((\exists x)(\exists y)(x \neq y)\) is contingent. On our understanding of Goodman, Rescher's \(S_1\) is separated from his \(T_1\) by exactly two applications of Modus Ponens and two sentences, one a truth of logic and the other a contingent truth. Therefore, the most we can say for \(S_1\) is that it is relatively about b, not absolutely about b. So the argument fails.

Mitchell Ginsberg

In the paper by Ginsberg, "Concern and Topic," an
attempt was made to distinguish certain features of aboutness and to present some guidelines for future discussions. The paper was primarily explication, not explanation, but a few philosophical jabs were taken at Goodman's theory during the course of the discussion which need to be addressed.

Ginsberg drew a distinction between two notions. On the one hand, whatever a sentence or statement is about—in a very broad sense—is labelled its "concern." The concern of a statement is something that can be phrased in many different ways, irrespective of the actual words contained in the statement. For example, 'the president is healthy' is about the president, Ronald Reagan, the chief executive officer, the commander in chief of the armed forces (of the United States of America), the husband of Nancy Reagan, and so forth. The claim then, is that our normal use of 'about' is not confined to objects under a certain description, but rather is to be treated as if a sort of "aboutness de re," to coin a phrase. On the other hand, the "topic" of a sentence or statement depends on the exact phrasing to be found within the sentence or statement itself. These notions, 'concern', and 'topic', are intended to replace previously utilized concepts, such as 'reference', or 'denotation', and 'mention', or '______-about'. Predictably, much of Ginsberg's discussion is spent clarifying (and often stipulating fairly ad hoc
solutions to) problems of translation, indexicals, and understood or omitted grammatical subjects.

The first point Ginsberg raises against Goodman deals with the relationship between logical equivalence and sameness of concern (aboutness). Ginsberg agrees with Goodman and others that identical statements are about the same things, but denies that logical equivalence constitutes identity of statements. Ginsberg claims (on page 111) that Goodman holds all logically equivalent statements to be about the same thing, and that a reflection of this feature of 'about' is a necessary condition for any adequate definition. This is a somewhat uncharitable version of Goodman's thesis. The footnote cited as evidence for this claim refers to a passage occurring after Goodman had already painstakingly delimited a specific class of logical equivalences for which it could be said that each side of the equivalence is about the same thing as the other. Goodman clearly was not affirming a principle he had just refuted. A careful reading of the passage and the surrounding text confirms that Goodman was referring to an intuition which was wrong in detail, but nevertheless contained a germ of truth needing rescue, an intuition which Carnap had earlier made no attempt to salvage. What is even more peculiar than this misrepresentation is Ginsberg's argument. On page 112 he asks us to consider two statements as counterexamples,
st49: Rita, who is Roman, loves fresh garlic, and st50: Rita, who loves fresh garlic, is Roman. He says that st49 and st50 are logically equivalent, and that they are true under the same truth conditions. He then proceeds to show that by assuming a third truth value, "truthvaluelessness," st49 and st50 can be shown to be false under different circumstances. He then concludes that "there is good reason to reject logical equivalence as defining statement identity." The example, of course, shows nothing of the sort. By the ad hoc introduction of a three-valued logic, the issue of whether statement identity is a truth-functional relation remains untouched.

Ginsberg's discussion of fictional entities\(^21\) is equally as uninformative. Goodman has presented a theory of 'about' which allows for two sorts of claims: (1) that some statement S is about Pickwick, and (2) that no statement can be about Pickwick, since the term 'Pickwick' doesn't designate. The theory does this by presenting two alternative analyses of 'about'. Ginsberg "answers" Goodman by simply declaring that "nonetheless, a fictional character can be talked about." It is not clear from the context whether this cryptic remark is intended to contradict Goodman or not. Nor are we helped in understanding the issue by a presentation of something like an argument or a theory to justify or explain it.

Finally, Ginsberg takes exception\(^22\) to Goodman's
claim that 'Every unicorn has a horn' is about the class of unicorns, the null set, and the class of centaurs. Ginsberg claims that (1) a set is not identical with its members, and (2) unicorns and the class of unicorns are distinct topics. Again, it is not clear if this is intended to argue against Goodman's theory of aboutness (the subject under discussion), or against Goodman's way of doing set theory (the first and last mention of this subject in the article). For Goodman, since 'unicorns' and 'the class of unicorns' are different terms, being unicorn-about and being class-of-unicorn-about are different properties. Translated into Ginsberg's terms, this simply means that unicorns and the class of unicorns are distinct topics, not that they are distinct concerns, and this is exactly what Ginsberg claims. Thus there is no disagreement over the second point, and the first point is not a problem of 'about' at all. It is a set-theoretic issue for which Ginsberg has vouchsafed no argument whatsoever, other than a mere preference for Platonism. Nor is there an argument to the effect that nominalism is essential to Goodman's theory of aboutness.

Therefore, even though Ginsberg gives the appearance of criticizing Goodman's theory, it turns out on closer examination of each individual point, that there is either no disagreement, or no argument.
Thomas Patton

During the course of discussions generated by Goodman's article many clarifications were made and consequences drawn. The major effort has been in the direction of constructing a formal linguistic vehicle for the theory itself. As the theory is stated by Goodman, reference is made to certain technical notions, 'generalization', 'class', 'follows logically from', and 'designates', in particular. The use of such terms suggests that the criterion of 'absolutely about' is to be applied to formal representations of sentences occurring within a natural language, rather than to the original sentence itself. Patton complains, "what the criterion tells us is not what S is about absolutely, but what S is about relative to this or that symbolization." This complaint is not exactly accurate. Throughout his article, Goodman is consistent in defining and discussing 'about' in terms of statements, not sentences. If Goodman had made that which some natural language sentence is about dependent upon its conformity to rules of logic, then a legitimate demand to make of Goodman would be to show us how this conformity is to be imposed. But no such claim is made, and any such demand misses the point. There is no reason to think that one statement cannot follow logically from another statement, or that the universal generalization of a statement is not itself a statement.
The extent to which these relations can be demonstrated and these operations can be performed upon written symbols is a good indication of the logical character and features of any statement expressible by these symbols.

In short, these objections seem to be based more on a difference in metaphysical views than on any substantial disagreements as to the definition of 'about'. Patton proposes to construct a language adequate for Goodman's theory offering by way of explanation, the claim that without such a formalization, the theory is difficult to appraise, that is, "it becomes hard to distinguish telling counterexamples from harmless or desirable divergence."24 On the contrary, there are at least three reasons to reject this claim.

(1) One point of Goodman's theory is to shed some light on how 'about' works in English, even though the sense being defined is a technical one. The test for 'absolutely about' with respect to English is perfectly clear: S is about K iff (a) some word or phrase naming or describing K occurs in some logical consequence of S, and (b) if no English word of the same grammatical category may be substituted for every occurrence of some word contained in the phrase designating K without changing the truth value of the resulting sentence. Or, even more simply, English sentence S is about object K iff S entails some other English sentence T which contains some expression E
denoting \( k \), and no part of \( E \) has been introduced trivially. Given this criterion, there is no difficulty in deciding whether or not some sentence is absolutely about some object.

(2) The effect of formalization is to sidetrack the whole issue into one of the adequacy of certain formal systems. A problem arising from such an attempt at formalization is arguably a problem with the formal language, and not with the theory.

(3) Goodman's definitions cannot be restricted to any one formalization, since he would have to then defend the adequacy of such a system for translating English sentences. If a formalization can be found, its usefulness would at best be limited to the providing of a clarificatory example, and not a logical consequence of the theory, and to argue against such clarificatory examples is to miss the point of the argument altogether. If this example does not work out in every detail, Goodman could say, find one which works better. Even if one were able to prove that no formalization of the theory is possible, its applicability to English remains untouched as long as English itself remains unformalized and the criterion does not lead to contradictions.

Thus, any argument of the sort presented by Patton is suspect on general considerations. Even if the argument were to establish a fundamental inconsistency in some
language constructed specifically for the purpose of handling Goodman's theory, we are free to choose which to reject: the theory or the language. In the case before us, however, there is an even more serious error—the theory attacked by Patton is not even Goodman's theory at all.

The entire thrust of Patton's argument is against one point in the definition, which Patton paraphrases as follows:

On Goodman's criterion, a statement $S$ is absolutely about an individual $k$ just in case some statement $T$ is such that

(i) $T$ contains an expression designating $k$;

(ii) $T$ follows logically from $S$;

(iii) the universal generalization of $T$ with respect to the expression designating $k$ (or with respect to any part of this expression) does not follow logically from $S$.

This paraphrase makes two seemingly innocuous changes in the original. The first change is from a conditional into a biconditional ('just in case'), a change which we ourselves have been forced to make as well. The second change occurs in clause (iii). Goodman's original phrase was 'while no generalization of $T$ with respect to any part of that expression also follows logically from $S$'. Patton argues that if the language he creates is powerful enough to generalize over entire designating phrases (even phrases containing logical connectives) then we do not need
the parenthetical clause within (iii). In fact, this is trivially true, because the language would thereby have become powerful enough to be inconsistent.

On the page immediately preceding that containing his final definition of 'absolutely about', Goodman considers and rejects a possible definition which contains the clause, 'without so yielding the generalization of $T$ with respect to that expression', that is, the expression $E$, which designates $k$. The problem with this phrasing is simple: if we allow for generalization over complex expressions, instead of simply over terms, then any sentence is about any object. Let $S$ be the statement, 'Freddie eats worms', and let $T$ be 'Any thing which is precisely ten feet north of Freddie is a thing which is precisely ten feet north of a worm-eater'. $T$ follows from $S$. If we could legitimately generalize over the entire phrase, 'thing which is precisely ten feet north of Freddie', then we could show that the resulting generalization, 'Everything is precisely ten feet north of a worm-eater', does not follow from $T$. Thus it would follow that $S$ is about $k$, for any $k$ ten feet north of Freddie. By changing the distance and the direction expressed in $T$, we could locate any object we wish with respect to Freddie, so 'Freddie eats worms' would be absolutely about everything. Such generalizations over complex (or molecular) expressions must be ruled out, and
the resulting amendment does just that. In the above example, by generalizing over the entirety of \( T \) with respect to any term occurring within the expression designating \( k \), we produce a statement which follows logically from \( S \). Hence, by Goodman's final definition, \( S \) is not about \( k \).

Therefore, the fact that Patton's model for Goodman's theory yields anomalous results is not overly surprising, as the theory he takes for criticism is one considered and rejected by Goodman on similar grounds already. There is thus no need to present Patton's construction in any detail, as there would be little insight to be gained for our purposes through the exercise.

**Criticism of Goodman's Theory**

Goodman's theory has withstood several attacks from its detractors and shown itself to be a workable criterion for many cases of 'about'. It manages to tread the thin line between allowing every statement to be about every object and preventing any statement from being about any object. It seems a fruitless effort to try and fault Goodman on his consistency or his metaphysics. Only minor adjustments are needed in certain parts to preserve his obvious intent, and his nominalistic leaning, although not to everyone's taste, is not a compelling reason to fault the theory.
There is, however, a major problem which Goodman’s theory cannot handle, nor can any minor development upon the theory. This problem may be illustrated quite simply. George Orwell published a short novel called *Animal Farm: A Fairy Tale* in August, 1945. No explicit mention is made in this novel of Soviet Russia, or of any person or event connected with the Russian Revolution, or of the events occurring in Russia between the revolution and 1945. Furthermore, *Animal Farm* contains no explicit mention of or reference to Fermat’s last theorem. Nevertheless, I take it as uncontroversially true that *Animal Farm* is about Soviet Russia, and is not about Fermat’s last theorem (henceforth FLT). Unless a theory of ‘about’ can account for this truth, it is inadequate for even the most simplistic discussions within aesthetics. To demonstrate that Goodman’s theory fails to allow for such cases, consider the following two sentences:

(S47) *Animal Farm* is about Soviet Russia.
(S48) *Animal Farm* is not about Fermat’s last theorem.

What is needed is an account of ‘about’ which makes both sentences come out true. First, note that we cannot claim that two different meanings of ‘about’ are being drawn upon. There are two reasons for this: (1) if there were such an equivocation going on, then we could just as convincingly claim that *Animal Farm* is not about Soviet
Russia, and is about FLT, but to justify this claim requires some extensive argument, while (S47) and (S48) are prima facia truths when uttered in the same breath; (2) the reason that (S48) is true is simply that the same sort of evidence which can be found to justify (S47) is simply not available for showing Animal Farm to be about FLT.

Suppose that the sense of 'about' being used in (S47) and (S48) is that of absolutely about. There are many logical consequences of any sentence appearing in Animal Farm, which trivially contain expressions denoting Soviet Russia. But since no mention is actually made of Soviet Russia in any of these sentences, one would be hard-pressed to demonstrate a method of introducing expressions denoting Soviet Russia which cannot also be used to introduce expressions denoting any other arbitrary object, say for instance, FLT. In fact, since the relationship between any statement in Animal Farm and the expression 'Soviet Russia' is not a logical one, Goodman's definition would actually be too loose for his purposes if the expression could be introduced. So Animal Farm is not absolutely about either Soviet Russia or FLT, hence (S47) is false and (S48) is true, but this is not the results we need. Suppose that the sense of 'about' being used in (S47) and (S48) is that of relatively about. Consider the sentence from Animal Farm,

(S49) All animals are equal.
If taken together with some other sentence Q
'Soviet Russia contains at least two animals', we can
derive a sentence T 'at least two things in Soviet Russia
are equal', which is not derivable from either (S49) or Q
alone. T follows from (S49) and Q differentially with
respect to Soviet Russia, hence (S49) is about Soviet
Russia relative to Q. Even though Q cannot be used to
prove that (S49) is about FLT, there are other sentences
which can. Consider, for example, Q*: 'If all animals are
equal, then FLT has not been proven'. From Q*, together
with (S49) follows T*, 'FLT has not been proven', but not
from either (S49) or Q alone. Thus, Animal Farm is about
both Soviet Russia and FLT relative to some statement (or
other). Admittedly, there are some sentences which make
both (S47) and (S48) true relative to them, but there are
just as many sentences which make false both (S47) and
(S48), and there is no natural criterion for distinguishing
the one group of sentences from the other. But the most
telling point is simply that no one would think of citing
such sentences as Q as their evidence for the truth of
(S47) and (S48), except in highly unusual contexts such as
the present discussion.

Nor can the meaning of 'about' in (S47) and (S48)
be that of rhetorically about. No sentence in Animal Farm
is either Soviet-Russia-about, or Fermat's-last-theorem-
about. Thus, (S47) come out false, while (S48) comes out
true, the same result as for 'absolutely about'.
Therefore, under no interpretation of Goodman's theory can
we get both (S47) and (S48) to come out true.

Discussion and Challenge

This objection, as trivial as it may seem, is a
critical problem for aesthetics as well as semantics. In
aesthetics, it finds its place in discussions of denotation
and depiction within works of art, since even though all
three notions ('is about', 'denotes', and 'depicts') are
related, they are worth distinguishing. A painting, for
example, which contains a depiction of a lamb, may thereby
denote Christ, yet be about salvation (or Christ's role in
the salvation of man). In semantics, especially in
discussions of literal versus metaphoric meaning, we are
frequently confronted with examples of sentences which
purportedly attribute literally unmentioned properties to
objects through metaphor, for example, 'Juliet is the sun'.
In the case of works of fiction, a purely denotative theory
will have little to say. A theory drawing primarily upon
the logical properties of sentences will tend to bog down
when confronted with novels containing contradictions, or
works of art containing no sentences at all. Any theory of
the sort I have dubbed "metalinguistic" must perforce deny
the existence of a message within a novel, unless some
character delivers himself of a monologue. In short, no
theory currently in existence can even approach an explanation of the sorts of jobs we commonly ask the word, 'about' to perform.

Therefore, I propose a test of adequacy for any theory of 'about', a sort of "master argument." Any theory of 'about', when stated in general terms (not naming specific artworks or objects) must entail the following sentence:

($50)$ For some work of art $W$ and for some objects, $x$, $y$, $x \neq y$, with neither $x$ nor $y$ being mentioned, depicted, denoted, designated, or referred to in any way, by any part of $W$, it is nevertheless possible for $W$ to be about $x$ and not about $y$.

A theory may meet this condition and still fail on other grounds, but at least this much must be accomplished. This is the challenge we shall try to meet in the next two chapters.
PART II

A CAUSAL THEORY OF 'ABOUT'
CHAPTER III

FIRST STEPS TOWARD A NEW THEORY

Four Sample Arguments

Introduction

From our review of the history of theorizing about 'about', we have garnered the following information. First, the metalinguistic approaches of Ryle and Carnap fail because they do not allow any aboutness claims to go beyond the exact wording of the work under discussion. This is a general problem with the entire approach, since the metalinguistic approach entails that in any sentence of the form 'S is about X', the term or expression occurring in the place occupied by 'X' is occurring inside an opaque context. As a result, no denotation associated with this term is to be sought. There are both good and bad aspects to this approach. On the plus side, we can now talk about non-existent entities and Santa Claus, but on the minus side, we cannot talk about a non-existent entity simply by talking about Santa Claus (since using the expression, 'Santa Claus' does not count as talking about non-existent entities; only using the expression 'non-existent entities'
does).

Second, the denotative approach fails because it does not allow us to claim truthfully that works can be about things not specifically denoted within the text. Examples can be easily found in literary discussions of the symbolic import of some work, say when someone claims that Animal Farm is about Soviet Russia, or that Lord Jim is about romanticism, and the like. But such claims are normally intended as empirical claims, and usually supported by means of evidence drawn from the work itself. It is for just such a notion that we are trying to produce a theory, since all previous theories rule out any such claim by definition.

Let us turn now to a consideration of the properties necessary for such a theory. In the following section there are four plausible examples of aboutness arguments, ranging from the fairly obvious to the fairly farfetched. On the basis of these, we shall try to draw some conclusions regarding what must count as evidence for such arguments to hold water. It is not necessary that the arguments be accepted as sound, only that they be accepted as examples of ways that people do in fact argue for or against the claim that some work is about some object.

It might be thought somewhat suspicious that the arguments presented are not quoted from some other source, but the explanation is quite innocent. There do not seem
to be any aboutness arguments in print which are explicit enough to be useful for the purposes of this paper. More often than not, an argument is never given, and when it is, it is seldom spelled out in a philosophically satisfying manner. At best, one or two parts of the artwork are indicated, and handwaving over the "thousands of other examples" one could find. For this reason, I have been forced to create my own examples. Each one of these arguments is distinct from the others in its approach. In argument (1) the events and dialogue described within the work are compared with actual historical events and debates; in argument (2), the dialogue within the work is compared to quotations from Karl Marx; in argument (3) the sound, rhythm, structure and other, non-semantic features of the words are allowed to suggest further imagery. Only in argument (4) has an argument of another author been paraphrased.

The reason for including these arguments in some detail is to break away from the narrow conceptions of aboutness that have dominated all previous theories of aboutness. Not every aspect of these arguments will be salvaged by the theory, and perhaps this is as it should be. The point will have been made if the wide variety of things which can be cited as evidence can be illustrated during the course of such arguments.
Argument (1): *Animal Farm*

Thesis: *Animal Farm* is about Soviet Russia.

The plot of *Animal Farm* involves the following incidents or features:

- Major (an older pig) gave a speech, calling for revolution.\(^2\)

- The animals rebelled, threw out all the humans, and took over the farm renaming it "Animal Farm."\(^3\)

- Two holidays were celebrated after the rebellion: "Midsummer Day" (or May 24), and October 12.\(^4\)

- The revolution, when it occurred, was unexpected, unprepared, and quickly got out of hand.\(^5\)

- News of the revolution spread quickly, and pigeons were sent to teach the song and tell the story of the revolution.\(^6\)

- Humans attacked Animal Farm.\(^7\)

- The two leaders of the revolution, Napoleon and Snowball, disagreed with each other, and this resulted in the disappearance of Snowball.\(^8\)

- Napoleon established a reign of terror and enforced it with his trained dogs.\(^9\)

- Napoleon rewrote history so that Snowball was remembered as a traitor from the start. The farm was purged of all supporters of Snowball; all who confessed were slaughtered.\(^10\)

Each of these incidents follows point for point the history of Russia during the first half of the Twentieth Century, with the role of Stalin being played by Napoleon, and the role of Trotsky being played by Snowball. For example, The two days celebrated in Animal Farm, are
paralleled by the two major revolutions in Russia, the February Revolution, which "really" occurred in March, and the October Revolution, which "really" occurred in November. The discrepancies are due to the changeover from the Julian to the Gregorian calendar, which only occurred after the Soviets came into power.

The attack by the humans is clearly an allusion to the British, American, and Allied troops which started invading Russia in May, 1918. The conflict between Stalin and Trotsky is detailed as well as the wholesale slaughter of Stalin's purges. In short, there is hardly a single event described in Animal Farm which will not produce a historical counterpart upon reflection or cursory research.

Nevertheless, it might be argued that there were so many things happening during this period, it is not surprising that some sort of parallel could be invented. The same argument might be made about any other revolution. After all, weren't there conflicts between the leaders of the French Revolution as well? Wasn't there a reign of terror following that revolution too? Didn't the news of that revolution spread to the American Colonies? More pointedly, wasn't there even a real character named Napoleon?

Even more convincing than the chronology, perhaps, are the beliefs expressed by the characters in Animal Farm. The speech made by Old Major explained that the
reason the lives of all the animals was so miserable is that

nearly the whole of the produce of our labor is stolen from us by human beings.... Man is the only creature that consumes without producing.... Yet he is lord of all the animals. He sets them to work, he gives back to them the bare minimum that will prevent them from starving, and the rest he keeps for himself.11

This declaration is identical in every detail with the critique of capitalism as found in Marxist/Leninist literature, saving the occurrence of the expressions, 'human beings' and 'Man' instead of 'the capitalist', or 'the Bourgeoisie', or the occurrence of 'animals' instead of 'the proletariat'.

The animals address each other as "comrade" (passim).

The only things Molly ("the white mare") was interested in were whether there would be sugar after the Rebellion, and whether she would still be allowed to wear ribbons in her mane.12 This concern with the trappings of aristocracy, aptly symbolizes the attitudes of many so called "White Russians."

Moses, the tame raven, told tales of Sugarcandy Mountain,

...to which all animals went when they died. It was situated somewhere up in the sky, a little distance beyond the clouds.... In Sugarcandy Mountain it was Sunday seven days a week, clover
was in season all the year round, and lump sugar and linseed cake grew on the hedges. The animals hated Moses because he told tales and did no work, but some of them believed in Sugarcandy Mountain, and the pigs had to argue very hard to persuade them that there was no such place.\textsuperscript{13}

This is parallel to the difficulties that faced the theorists of the Russian Revolution in promoting a fundamentally atheistic political doctrine among a largely religious populace: Dialectical Materialism is not very compatible with Russian Orthodox Christianity.

One of the major conflicts between Snowball and Napoleon was over what should be done to prevent another attack on Animal Farm by the humans.

According to Napoleon, what the animals must do was to procure firearms and train themselves in the use of them. According to Snowball, they must send out more and more pigeons and stir up rebellion among the animals on the other farms.\textsuperscript{14}

A major conflict between Stalinists and Trotskyites was over these same issues: The Stalinists argued for a strong defense build-up, to make the USSR invincible to foreign invasion. Only after an adequate defense was established could they afford to spread the seeds of revolution abroad. Trotsky and his followers argued that if the USSR would actively export revolution, lending aid to revolutionary movements in other countries, this would be the best defense against foreign intervention (one might
even call this a "snowball effect").

Another major conflict between Snowball and Napoleon was over the "windmill." Snowball wanted to build machinery, starting with a great windmill, to do the work that was being done by animals. Even though it would take great sacrifice to build,

thereafter, he declared, so much labour would be saved that the animals would only need to work three days a week. Napoleon, on the other hand, argued that the great need of the moment was to increase food production, and that if they wasted time on the windmill they would all starve to death. The animals formed themselves into two factions under the slogan, "vote for Snowball and the three-day week" and "vote for Napoleon and the full manger."15

When the time came for the vote, Napoleon unleashed his trained dogs in a surprise move, and chased Snowball off the Farm. This started a purge. Only a few days later, however, Napoleon announced that the windmill would be built after all. The plan was really one of Napoleon's all along and had been stolen by Snowball.

Parallel to this is the conflict between Stalin and Trotsky over the N.E.P. (New Economic Policy) and "Socialist Construction." The N.E.P. put into effect limited economic reforms designed to (a) help farmers and small tradesmen (the full manger), (b) abolish the Red Terror, and (c) eliminate illiteracy. Socialist Construction was a move towards industrialization (the
windmill). After Trotsky had been expelled in 1929, Stalin abolished the N.E.P. and returned to the idea of building a strong Soviet economy.

The list could go on and on (note the handwaving), but every opinion expressed in Animal Farm finds a virtually identical counterpart in the ideological struggles of the early Soviet Union. It is not just that some individual in Russia said similar things to what some character said in Animal Farm, but that for each character X in Animal Farm, there is a large collection of beliefs expressed by X, and a large list of actions attributed to X, such that there exists some individual or set of individuals present in Russia during and/or after the Revolution supporting a parallel list of beliefs and actions. There is, one might say a one-many mapping of events and beliefs of X in Animal Farm onto events and beliefs of Y, where Y is a famous individual or group existing in Russia during and/or after the Revolution. Therefore, this is what the book is really about, even though neither the Russian Revolution nor Soviet Russia are ever mentioned in the text.

Argument (2): The Treasure of the Sierra Madre

Thesis: The movie, The Treasure of the Sierra Madre, is about Marxism.

On the surface, the movie could be about the
corrupting effect of gold upon men's souls, but the explanation offered for this effect is not a mystical one, or a scientific one. The explanation is virtually a paraphrase of material from Das Kapital. The following conversation occurs eleven minutes into the movie. Dobbs and Curly are listening to a conversation between Howard, a grizzly old prospector, and a stranger (offscreen). The scene is set in a communal Mexican flophouse called "el Oso Negro", or "the Black Bear" (even the name is already suggestive of Socialism, as the bear symbolizes Russia).

HOWARD

Answer me this one. Why is gold worth some twenty dollars an ounce?

STRANGER

I don't know. 'Cause it's scarce?

HOWARD

A thousand men, say, go searchin' for gold. After six months one of 'em's lucky. One out of the thousand. His find represents not only his own labor, but that of nine hundred and ninety nine others to boot. That's uh, six thousand months, 500 years drivin' over a mountain goin' hungry and thirsty. One ounce of gold is worth what it is because of all the human labor that went into the findin' and the gittin' of it.

STRANGER

Never thought of it just like that.
HOWARD

Well there's no other explanation, mister. Gold itself ain't good for nothin' except makin' jewelry with, gold teeth, huh.

This is a crystal-clear statement of the Marxist dictum that all value is derived from human labor. Not only is the concept the same, but the method of calculation and even the example is closely related to that of Marx's original version:

A use-value, or useful article, therefore, has value only because human labour in the abstract has been embodied in it. How, then, is the magnitude of this value to be measured? Plainly, by the quantity of value-creating substance, the labour, contained in the article. The quantity of labour, however, is measured by its duration, and labour time in its turn finds its standard in weeks, days and hours.

The value of a commodity would, therefore remain constant, if the labour time required for its production also remained constant. But the latter changes with every variation in the productiveness of labour... The same labour extracts from rich mines more metal than from poor mines. Diamonds are of very rare occurrence on the earth's surface, and hence their discovery costs, on an average, a great deal of labour time. Consequently, much labour is represented in a small compass. Jacob doubts whether gold has ever been paid for at its full value.17

But, back to the movies.

HOWARD

Ah, gold is a devilish sort of thing. You start off, you tell yourself you'll be satisfied with twenty five thousand [inaudible] and a [inaudible] worth of it, so help me
Lord and cross my heart. Fine resolution. After months of sweatin' yourself dizzy and growin' short on provisions and findin' nothin' you finally come down to fifteen thousand then ten. Finally, you say "Lord, just let me find five thousand dollars worth of it, I'll never ask for anything more for the rest of my life."

CURLY

Five thousand dollars is a lot of money.

HOWARD

Yeah, here in this joint seems like a lot. But I'll tell you somethin', if you was to make a real strike you couldn't be dragged away. Not even the threat of miserable death would keep you from tryin' to add ten thousand more. After ten you'd wanna get twenty five. Twenty five you'd wanna get fifty. Fifty a hundred. Like roulette, one more turn, always one more.

We find similar thoughts in Marx.

The desire to hoard is in its very nature unsatiable. In its qualitative aspect, or formally considered, money has no bounds to its efficacy, i.e., it is the universal representative of material wealth, because it is directly convertible into any other commodity. But at the same time, every actual sum of money is limited in amount, and therefore, as a means of purchasing has only a limited efficacy. This antagonism between the quantitative limits of money, and its qualitative boundlessness, continually acts as a spur to the hoarder in his Sisyphus-like labour of accumulating. It is with him as it is with a conqueror, who sees in every new country annexed only a new boundary.  

Later in the same scene:
HOWARD

... I know what gold does to men's souls.

(leans back and stretches)

Ah. As long as there's no find, the noble brotherhood will last, but when the piles of gold begin to grow, that's when the trouble starts.

Approximately forty minutes into the film, after the three men have found the gold and are just starting to collect it, they are sitting around the campfire, discussing what they are going to do with their own shares. Howard says he's going to give up prospecting and set up a small hardware store or something, and read a lot of comic books. Curly wanders off on an idyllic fantasy of becoming a farmer and harvesting fruit. When Dobbs enters the conversation, however, the mood changes dramatically.

DOBBS

Well me, I got it all figured out what I'm gonna do.

CURLY

Tell us about it, Dobbsy.

DOBBS

Well, first off, I'm goin' to a turkish bath. I'm gonna sweat and soak 'til I get all the grime and dirt outa my system. Then I'm goin'
to a haberdasher. Gonna get myself a brand new set of duds. Dozen of everything. Then I'm goin' to a swell cafe, order everything on the bill of fare and if it ain't just right, and maybe if it is, I'm gonna bawl the waiter out and make him take the whole thing back. ...

These are not the simple pleasures of the proletariat, but the decadent extravagance of the bourgeoisie. The bath is to remove all traces of manual labor (the source of all value) from his person. The dozen of everything is to establish himself as an idle, non-productive consumer, purchasing more than he will ever use. And the cruel, arbitrary treatment of the working man, the waiter, is just a symbol of the inevitable oppression of the masses which occurs every time (according to Marx) the value of money gets separated from labor, and concentrated in the hands of the worthy few.

Curly and Dobbs had met Howard after they had worked themselves almost to death on a drilling rig only to have the foreman skip out on them without paying their wages as soon as they got back to town. When they stumbled across the scoundrel by accident, they requested their payment. When they were refused, they beat up the foreman and took from his bulging wallet only what they had earned. This, (somewhat unrealistic) display of total honesty is in part an establishment of character (later to be corrupted in Dobbs, but not in Curly). But it also establishes that
the two men understand the Marxian distinction between necessary and surplus labor, as expressed in the following passage.

The capitalist's usufruct is spread over two periods. During one, the labourer produces a value that is only equal to the value of his labour power: he produces its equivalent. Thus the capitalist receives, in return for his advance of the price of the labour power, a product of the same price....During the other period, the period of surplus labour, the usufruct of the labour power creates a value for the capitalist that costs him no equivalent. This expenditure of labour power comes to him gratis. In this sense it is that surplus labour can be called unpaid labour.

... The secret of the self-expansion of capital resolves itself into having the disposal of a definite quantity of other people's unpaid labour.19

Later, as Dobbs begins to fall victim to creeping Capitalism, he starts to think along the same lines. Return on investments is nothing more than being able to lay claim to someone else's unpaid labor.

DOBBS

Twenty five thousand. Small potatoes.

CURLY

Well there's no use makin' hogs of ourselves.

DOBBS

Hog am I? Maybe you don't know it, but I'd be within my rights if I demanded half again as much as you get.
CURLY

How come?

DOBBS

Well there's no denyin' I put up the lion's share of the cash, is there?

(Dobbs had made up for the necessary purchases of equipment by generously pitching in his entire--no, not life savings, but winnings from the lottery. More unearned wealth.)

CURLY

So you did, Dobbsy, and I always meant to pay you back.

(Curly gets up and goes to where he keeps his share of the gold.)

DOBBS

Yeah, in any civilized place the biggest investor gets the biggest return, don't he?

HOWARD

Hah. That's one thing in favor of the wilds.

What could be a clearer statement of contempt for that mainspring of Capitalist mentality, the notion of money making more money? Thus, although the term 'Marxism' is never used throughout the movie, the theories of Marx
are assumed at some times and explicitly stated at others, making the entire movie a didactic film, educating the audience into the Marxist way of thinking.

Argument (3): "In Another Country"

Thesis: The first six lines in this story by Hemingway are about some of the themes of the remainder of the story.

The following excerpt is the first paragraph from "In Another Country" by Ernest Hemingway with each sentence numbered for ease of reference.

(1) In the fall the war was always there, but we did not go to it any more.

(2) It was cold in the fall in Milan and the dark came very early.

(3) Then the electric lights came on, and it was pleasant along the streets looking in the windows.

(4) There was much game hanging outside the shops, and the snow powdered in the fur of the foxes and the wind blew their tails.

(5) The deer hung stiff and heavy and empty, and the small birds blew in the wind and the wind turned their feathers.

(6) It was a cold fall and the wind came down from the mountains.

There are six sentences in this paragraph consisting of 17, 14, 17, 24, 21, and 13 words respectively. Each sentence is composed of two independent clauses of roughly equivalent lengths connected by the
conjunct 'and', except for the first sentence, which has a 'but' as its conjunct. The structure for each sentence is as follows:

(1) ___ was __, but ___ (did not) go __.
(2) ___ was __, and ___ came __.
(3) ___ came __, and ___ was __.
(4) ___ was __, and ___ powdered __ and ___ blew __.
(5) ___ hung __, and ___ blew __ and ___ turned __.
(6) ___ was __, and ___ came __.

The feature to notice here is that four out of six sentences deal with the "activities" of coming and going (actually, "not going"), and existing: was, did not go, was, came, came, was, was, came. The only vivid verbs occur in the fourth and fifth sentences: powdered, blew, hung, turned. Furthermore, the only things that came were the dark, the lights, and the wind, while "we" were confined to the "activity" of not going. Clearly the "rules of good writing" are being violated here.

Most writing textbooks teach us to avoid using the copula 'is', as well as passive formations, whenever possible. Sentence length and structure should be varied, repetitions avoided, and so forth. But Hemingway breaks all of these traditional rules of thumb. Why? The sentences are monotonous, the copula 'is' is overused, creating a sense of passivity. Perhaps this is what the
passage is about, passivity and monotony.

The two sentences which are somewhat lively are the longest ones. Their subject matter is dead meat, and it is this image which is presented with great vividness, almost as if death is seen by the narrator as a release from the monotony of existing, coming and going (or not-going).

The emphasis placed on the dead meat is accomplished in part by a focusing in upon a specific scene, as with a zoom lens. The progression of concepts is instructive. (1) The fall, the war (very general and very far away); (2) Milan and the dark in Milan (somewhat less abstract); (3) lights in the streets, windows (notice in this sentence that the shift from narrative description to scene description is accomplished by the ambiguity of the expression "the dark." This is much like saying "the lion is a noble beast, he paces up and down his cage all day and won't eat a thing I give him."); (4) game outside shops (no particular shops) fur of (particular) foxes, tails; (5) deer, small birds, feathers (extreme detail); and finally we back off again to narration with (6) the fall, the wind, the mountains.

In looking over these sentences it is easy to confuse the things described in (1), (2), (3), and (6). Was it the fall that came, or was it the cold, or the wind or the war? Was the fall cold, or the wind or the war? Was the war always there, or the wind? Perhaps the
meaningless jumble that emerges from trying to get a clear picture from these sentences is part of what they are about as well. There is one tiny island of meaningfulness (sentences (4) and (5)) surrounded by the meaningless comings and goings of vast, inhuman forces. Perhaps this is what the paragraph is about.

Now consider sentence (5) by itself: 'The deer hung stiff and heavy and empty, and the small birds blew in the wind and the wind turned their feathers.' Why "stiff," "heavy," and "empty," instead of "stiffly," "heavily," and "emptily?" And why "stiff and heavy and empty?" The repetition is awkward, curious, but the answer is clear: the deer strikes the side of the building as it swings in the wind (if it hung stiffly, it would not be moving, but if it was stiff, and it hung, it could swing like a huge bell clapper). Try reading the sentence very slowly with this emphasis: "The deer hung stiff and heavy and empty." You can almost see the deer strike the wall as it ends its rotation in one direction (deer hung stiff), then start to twist in another direction toward the end of the sentence (and heavy and empty).

Look at the rhythm of the next clause for contrast, "small birds blew in the wind and the wind turned their feathers."

dah dah dah-di-di-dah, di-di-dah, dah-di dah-di
Why this rhythm? Surely there is a different type of motion involved here, perhaps that of feathers rustling in the wind. But even more striking is the repetition of this otherwise vivid sentence, once on either side of the word 'and'. Perhaps the birds were turning in the wind, not just the feathers. They might turn clockwise then counterclockwise, just as the sentence reverses direction:

small birds ___ the wind and the wind ___ their feathers

Part of what this sentence (and the one before it) describes is a deer swinging slowly in the wind, and some birds turning in the wind, first in one direction, then in another. Even though the sentence says "small birds blew in the wind," it is about small birds turning in the wind, and even though it says "the wind turned their feathers," it is about wind blowing their feathers.

The very fact that the narrator's focus gets narrowed down to this specific image must make us wonder why the image is so important that it is the only vivid image in the first paragraph of the story. Perhaps the scene is a microcosm. In Milan, during the so-called "Great War" there was a time where there was so much uncertainty as to who was the enemy, a heroic action on one day could be evidence for treason on the following day. Allegiance was a matter of which direction the "wind"
happened to be blowing. Perhaps this, too, is something we could say that the paragraph is about.

One objection to this type of argument might be that Hemingway surely did not have all this in mind when he penned these six sentences. The connection between evidence and conclusion assumes that there is a theme-related answer for each puzzlement the reader might have (Why repetition? Life was repetitive. Why a change in meter? The direction of the object's rotation changed just as quickly as Italian loyalties). But it could just as easily be the case, so the objection goes, that the sentences simply sound more moody this way than some other. Perhaps Hemingway just liked the sound better, he was just being artsy, (Hemingway? artsy?).

Although this sort of objection is one commonly raised against aboutness arguments, it is not relevant to what the work is about for the arguer. The fact that any reasonable question which one puts to the work uncovers a theme-related answer should come as no surprise to anyone seriously expecting an answer. "After all," the arguer could respond, "I'm no Hemingway. It would be pretty arrogant of me to believe that I could think up all these questions and answers so easily, but that Hemingway could not anticipate them."

All that is necessary, in order for argument (3) to be persuasive, is that the audience acknowledge that it
could have been the case that Hemingway intended this passage to provide the careful reader with answers similar to the ones actually given, and that it could have been the case that Hemingway intended the passages to give rise to such questions as the ones which actually arose.

Argument (4): Subliminal Seduction

There was a famous work by Wilson Bryan Key from the paranoid seventies, entitled Subliminal Seduction: Ad Media's Manipulation of a Not So Innocent America. Contained in this work are scores of "analyses" of specific works of advertising art. The thesis, throughout Key's book, is that seemingly innocent ads, depicting manufacturer's products or people using these products, were in fact highly complicated constructs containing not so innocent images and suggestions.

These constructs, it was claimed, could not be perceived and appreciated on the conscious level, but since the "unconscious mind" was capable of superhuman feats of perception and conclusion-drawing, the constructs would be absorbed by a member of the "targeted" audience in a single glance, and the images or suggestions would then become a part of the viewer's "unconscious," resulting in the manipulation of the potential consumer's buying behavior. Since these hidden, or secret images could be found in virtually every big budget ad, Key concluded that this must
be a conspiracy on the part of the entire "media" against the "consumer." The cover of the paperback edition contains such claims as, "some of the things you should know in order to defend yourself against media rape," and "here are some of the ways ad men arouse your desires--to sell their products."

As a parenthetical consideration, it should be noted that before the ad can sell the product, the ad agency has to sell the ad, and it is a small board of marketing executives to whom the ad must be sold. Hence, all of Key's evidence and speculation about the unconscious mind could just as easily confirm the theory that ad agencies were in a conspiracy against marketing departments, manipulating the unconscious minds of executives into purchasing their product. But then, one could argue, don't the artists have to sell their product to the ad agencies....

Setting aside the whole notion of "conspiracy," let us consider a sample argument, to the effect that a certain advertisement for a Seagram's product is really about how Seagram's can help the purchaser have an extra-marital affair. The photograph is a picture of a cocktail party, in which seven people are visible: a man speaking to a man and woman in the background; a man and woman in the middle ground (the man, standing, is leaning over to eat an hors d'oeuvre sandwich being offered to him by the seated
woman); in the foreground, a third man is speaking to a woman, and in the extreme foreground, three bottles of various Seagram products and three full glasses.

Extrapolating from Key's discussion, the following claims were made:

(1) The hostess, clearly the woman in the foreground, is listening and considering something being said to her by the man in the foreground.

(2) He is making a proposal, "perhaps a proposition."

Evidence:

(a) She is the only woman in the room with a wedding ring apparent.

(b) "Several hundred test subjects agreed" that the man in the foreground is not her husband.

(c) The man is speaking to her confidentially, so as not to be heard by anyone else in the room.

(d) His hands are in his pocket, so he is unsure of himself.

(3) The man in the background is the hostess's husband.

Evidence:

(a) He and she are the only two people dressed informally.

(b) The man in the middle ground is close enough that he might possibly overhear the proposition, so he couldn't be the husband.

(4) The man in the foreground is alone at the party.

Evidence:

The test subjects could not find any woman who could be identified with him.
(5) The hostess has not made up her mind, but is seriously considering the possibility.

Evidence:

(a) Her reflection in the mirror does not have a wedding ring (it is hidden by the camera angle, not airbrushed out). This is symbolic of a hidden side, not noticed by her husband, and not constrained by wedding vows. Thus, she is considering it.

(b) The picture hanging on the wall over her head depicts "a man looking down upon a nude woman who stands with her hands clasped and her arms stretched over her head." Thus she is seriously considering it. (The detail of this drawing cannot be distinguished in the reproduction given in the paperback edition)

(c) If she had already made up her mind in favor of the affair, she would be holding the ice tongs, a symbol of castration (cuckolding her husband). Thus she has not made up her mind.

(6) The three glasses in the extreme foreground are representative of the love triangle.

Evidence:

There are "two with large, heavy ice cubes (two in each glass)" symbolizing the men, and one with three smaller ice cubes, symbolizing the woman. "One male glass appears to be moving between the male and female glass."

(7) The whole affair has its origin in Seagram's products.

Evidence:

(a) There are three glasses filled, but untouched.

(b) There are three bottles of different Seagram's products open on the counter "phallic symbols with their caps off."

(c) No one in the room has a drink in their hand.

(d) Presumably, the message here is, "Once our hostess has had a drink of Seagram's she may warm up to lone wolf's proposition."
A large portion of the remainder of the book is filled with similar arguments, and even if one does not find the overall subliminal seduction thesis to be credible, the various examples are marvelous examples of aboutness arguments. Key concludes the example paraphased above with the suggestion that the production budget for the ad was probably in the range of 15,000 to 20,000 dollars. The cast of nine models (two were reflected in the mirror) at 75 to 150 dollars per hour, the single shot may have taken several days to capture the exact effect that the artist/technician was looking for. Therefore, the implication is, where there is this much money involved, we can expect that this is not just some picture snatched out of a family album or a photograph schlock together with a few of the neighbors and a homemade darkroom. The only problem is in discovering what the picture is really about, and what it is saying about it.

Discussion and Summary

Each of the four arguments is somewhat different in its approach and there are some notable similarities as well. Argument (1) is by far the most familiar type of aboutness argument. By presenting an overwhelming array of parallels between factual events and fictional events, one seeks to convince one's audience that mere coincidence could not have produced such results. It is presumed that
everyone has a limit to their willingness to let chance bear the burden of explaining parallelism.

As familiar as it is, this is a fairly weak sort of argument. There is no guarantee that all audiences have the same limit, or even that they have a limit at all, to how much they can comfortably attribute to chance.

Argument (1) is in fact just a variation of the so-called "argument from design" and suffers from similar problems. What if it were to turn out that Orwell's grandfather, himself a dabbler in political science and literature, actually wrote Animal Farm in 1894 and tossed the manuscript into a trunk, where it was later discovered by Orwell and published. This is not contradictory, and it does not defy the imagination, so we would then be forced to concede either that (1) Gramps was a true prophet, or (2) there was something inevitable about the outcome of the Russian Revolution, which even a writer of pessimistic fairy tales had some insight into. Certainly, there are still a few surprising coincidences left, but far fewer than it would require to believe, for example, that a computer randomly generated the book.

This type of argument is also the vehicle for all of those crackpot theories that start out with "listen to these amazing facts:" and conclude with "could this mean that ... "

Nevertheless, even if this sort of argument is
highly problematic, it does form the core of a large number of aboutness arguments, and must therefore be taken into account by any satisfactory theory of 'about'. The relevant structure we must retain from argument (1) is:

(1) Fictional events suggest to a viewer certain parallel factual events.

(2) Fictional characters suggest parallel historical personages, either by saying similar things or performing similar actions, or (less often) by being described in a recognizable fashion, or (most seldom) having the same or similar sounding name.

(3) The parallelism, if noted calls out for a decision by the viewer between coincidence and conscious intent as an explanation.

(4) If the viewer accepts intentionality, he must perforce accept the aboutness claim.

Argument (2) is much stronger than argument (1). To prove that The Treasure of the Sierra Madre is about Marxism, we do not need to demonstrate that the artist was even aware of the writings of Marx. Although the economic theory contained in Treasure is identical to Marxism, it could have been developed independently, much as the calculus was developed independently by Leibniz and Newton. All that is necessary is to establish the equivalence of the two, and then conclude that this underlying theory is what we normally call "Marxism." Thus the relevant structure of Argument (2) is:

(1) There is a theory, call it Theory X, which is not beyond controversy (that is, X is one
(published) theory competing among many).

(2) In work W there are theoretical claims which are explicitly stated (or logically entailed by explicit claims made) in W by a sympathetic character (anyone who is not a heavy), and these claims are logically equivalent to some of the claims which constitute X.

(3) Within work W, there are fictional events depicted or described, which would be predicted on the basis of X, but would not be predicted on the basis of one of the theories competing with X.

(4) Therefore, W is about theory X.

Argument (3) is not a proof by any stretch of the imagination, it is a very personal exploration of the work of art in microscopic detail. Argument (3) is based on the assumption that this particular work of art, under the closest scrutiny, will reveal a high degree of skill and craftsmanship on the part of the artist. Of course, the person who argues this way can apply the same sort of scrutiny to lesser works, but in doing so need not expect similar results.

The unstated assumption forming the foundation of argument (3) is that typically, in the greater works of art, one can find the major themes of the remainder of the work, already present in the opening unit of the work: the opening paragraph of a short story, the opening chapter of a novel, the opening sequence of a movie, the opening section of a sonata, and so forth. To find these themes, one must simply look carefully.
A word to the wise: in the case of movies, since the final product is often the result of several editing stages, the statement of the theme might be altered or even omitted. One infuriating example of this sort of butchery is to be found in the movie, Chinatown. In the opening sequence, there is a section of dialogue, in which Gittes explains to his client that he (the client) is not rich enough to kill his wife and get away with it. The thesis that some people are rich enough to kill with impunity is, of course, the theme of the entire movie. Somehow, this little snippet of dialogue dropped out of the movie upon being edited for television, so that the closest scrutiny of the resulting mess will simply reveal a puzzling non-sequitur in the conversation.

The relevant structure for argument (3) therefore is:

(1) The opening unit of work W should be about the major themes of the remainder of the work.

(2) If these themes are not stated explicitly, they must be discovered through "poetic" or "semiotic" analysis, that is, by examining

(a) the meter of each line for interesting rhythms,
(b) the narrative voice,
(c) the grammar of each line for active versus passive formation, and other grammatical oddities,
(d) the rhyme/alliteration present, if any,
(e) conventional symbols, allusions, familiar metaphors,
(f) and so forth.

(3) Note what images arise upon concentrating on each of these elements.

(4) Ask yourself in any of these images might be relevant to a possible theme.

(5) Confirmation or disconfirmation is found in the remainder of the work.

This approach is quite different from the others, since here, the interest is in discovering how finely crafted the work is with respect to its theme. Examination of details is usually a very rewarding exercise for the student of art, either as a source of general inspiration, or as a source of specific solutions to problems the student may have encountered in the execution of his own work.

The approach taken in argument (4) is really just an application of similar ideas to commercial art, instead of fine art. Key scrutinizes the details of the photograph, asking himself how each detail (a) differs from expectations (no one is drinking), (b) seems somewhat unusual as a prop for the set (the drawing on the wall), (c) makes someone or something stand out (the man and the woman in more casual clothes), and (d) could function as a symbol, independent of literal purpose in the scene (the ice tongs, the mirror, the three bottles and glasses).

The major objection raised by people against Key's approach is that he is reading too much into a perfectly
innocent picture. It seems implausible to many that such care and attention would be expended on a photograph for a "mere" advertisement. This explains why the argument requires the inclusion of an estimate of budgetary figures. Key is really doing no more than applying the same techniques of microscopic scrutiny and interpretation to advertisement that one learns to apply to fine art. The underlying assumption, of course, is that the artists involved are true artists, hence they take a pride in their work, and show a fastidious concern with every detail of its production, since they too are craftsmen. Thus, it should pay well to question the "purpose" of every element within the photograph.

What a Theory Should Accomplish

Four Demands

Pulling together much of what we have discussed, any theory adequate to explain the normal use of the word 'about' should at least accomplish each of the following things:

(1) It should allow all four of the arguments given above to be stated without absurdity.

(2) It should meet the master argument given at the end of chapter II.

(3) It should have some relevance to understanding the Fregean concept of 'sense', as suggested in chapter I.
(4) One might hope that it has some testable consequences.

Perhaps these demands cannot reasonably be made of earlier theories. Can any unified and consistent theory of 'about' accommodate such a variety of argumentation as seen in the four arguments above?

Goodman's treatment seems to be the best that can be hoped for with language and logic alone. If language is taken as a sequence of marks on paper together with rules for generating other marks on paper it would seem grossly unfair to expect a purely language-oriented theory of 'about' to allow us to move from "Animal Farm" inscriptions to "Soviet Russia" inscriptions. After all, the connection between these two groups of inscriptions is not a logical one, but merely an accident of history. As was mentioned earlier, if the same words had been written in the 19th century in a book, call it Animal Farm, that book would not have been about Soviet Russia, and any theory of 'about' which entails that Animal Farm is about Soviet Russia would, ipso facto, be faulty. For this reason, being about something, in the sense required by these four demands, is therefore not a function of language alone, even though it is inextricably linked with language.

Discussion

How are these demands to be met? Since it is not
the dictates of logic, nor is it the rules of semantics, syntax or pragmatics which connect *Animal Farm* and 'Soviet Russia', what does? I should like to consider the possibility, heretofore unmentioned in the literature, that it is a *causal link* of a certain sort which accomplishes this marvelous feat.

There are two directions that this link might stretch, from the political entity Soviet Russia to *Animal Farm*, and from *Animal Farm* to the expression 'Soviet Russia'. Let us consider them each in turn.

**The First Direction**

Suppose that *Animal Farm* is about Soviet Russia by virtue of that fact that events in the early history of Soviet Russia caused *Animal Farm* to be written (at least to some degree, perhaps only as a precondition). This is somewhat analogous to the causal theories of knowledge and perception. These theories were proposed as a way of explaining the veracity of some perceptions and of some beliefs. As such, the content of these perceptions and beliefs were taken for granted, only their status as knowledge was in question. To utilize this same approach in relation to aboutness claims would yield something more appropriate to a theory of when a work is "true about" an object. But, as Goodman has recently pointed out, 'true', 'about' and 'true about' are distinct notions, so
this sort of causality misses the point.

There are two other objections to this approach. First, if 'W is about K' always implied that K was instrumental in bringing W into existence, then we are back to Ryle's dilemma: nothing can be about Pickwick. To be a component of a causal chain is to exist, so on this approach, fictional entities would be ruled out of bounds for legitimate aboutness claims. Second, there is a philosophical issue as to how seriously we need to take the author's intentions when evaluating or interpreting a work. If that which any work is about is discoverable only through an examination of a causal chain which starts and ends entirely within the artist's experience, then this difficult issue has been seriously prejudiced simply by definition of the word 'about'. In other words, unless we, as viewers of the work, were to have access to the causal chain involved in the production of the work, we would have no access to what the work is about. The only person who might have such access is the artist, and there is no guarantee even of that. A good theory should allow for a discussion of these issues to take place, without turning one standpoint into a near contradiction and the other into a near tautology.

For example, some twentieth century poetry and literature has been of a highly personal nature. So personal, in fact, that certain passages are almost
unintelligible to anyone who is unfamiliar with the intimate biography of the poet. To understand what this poetry is about, it would appear, one must trace down the causal chain leading from certain events in the poet's life to the finished poem. This appearance, however, is somewhat misleading. A refinement of the term 'about' seems in order.

'About In Itself' versus 'About To a Viewer'

Whatever a work may be about in itself, if this notion makes any sense, it is also about various things to different viewers. What a work is about to other viewers may be quite different from what it is about to the artist when he views it himself. Without prejudging the superiority of any of these standpoints, (that is, whether or not any one person or group of people has the final say as to what the work is "really" about) nevertheless, for any viewer p, work W might be about something to p. Since there is no guarantee that every viewer will always have access to the appropriate causal chains involved in the production of the work, it is unreasonable to insist that this access be a precondition for claiming some x to be about some y to a viewer. This does not rule out the possibility that 'really about k', as opposed to 'about k for p', could incorporate such a causal chain in its definition.
Which of these two notions is the one we seek?

From the four sample aboutness arguments given above, one feature stands out above all others: the entire force of each argument depends on the willingness of the reader or viewer to let the work produce an effect upon him or herself. In Argument (1), one must let oneself be reminded by *Animal Farm* of twentieth century history and political science before there can be any understanding of what the work is really about; in argument (2), one must reason to the implications of the words in dialogue before the underlying philosophical claims start to emerge, then those claims must be recognized; in argument (3), one must observe how the sounds of the passages effect the ears; and in argument (4), one must ask oneself how all the images and associations produced by the advertisement in the viewer fit together into a claim. But for the reader to be willing to allow the work to produce any effect upon himself, he must already accept the notion that the work might be such that it has a tendency to produce such effects within viewers. Therefore, the more important notion is that of *is about for p*, and the proper definition of 'really about' gets reduced to a question of which viewer or which set of viewers is the most authoritative.

Thus all four arguments implicitly depend on the existence of a causal sequence involving the viewer which is essentially repeatable for other observers of the same
work, observers who are similar in certain relevant respects, by possessing, say, a certain common background. If the sequence is not repeatable, then the work really just reminds one of some \( x \), but if others can be expected to achieve similar results with some degree of regularity, then the work is arguably about \( x \).

The Second Direction

The second direction that the causal chain may work is from *Animal Farm* to Soviet Russia, or more precisely, from the reading of *Animal Farm* to production of sentences or thoughts specifically mentioning Soviet Russia. This seems to be a more common-sensical approach. After all, what evidence do we have that (to us) the book is about the country except that every event described in the book serves to remind us of events in Russian history? There would be convincing behavioral evidence that *Animal Farm* is about Soviet Russia to educated readers, if it could be established that there is a marked tendency on the part of educated readers to discuss Soviet Russia whenever they are instructed to discuss *Animal Farm*. What more convincing empirical evidence could possibly be expected?

This approach also has the advantage of not incurring any of the difficulties mentioned above. The existence of some \( x \) need not be directly implied by the existence of a causal chain leading to a sentence
containing a specific expression E since E need not denote k. All that seems to be required is that a sentence (or a sentence-like thing) be produced by a person as the end result of a causal chain initiated by the observation of the work by that same person.

In fact, an extension of Goodman's schema for non-denoting pictures might serve quite well as a model for these non-denoting end-products of causal chains. In the first place, if Goodman's definition of '____-picture' could be modified to work for sentences, Pickwick-sentences should not entail Pickwicks. In the second place, a further modification, so as to cover "____-thoughts" would answer all the Rylean considerations one might raise.

Furthermore, the issue of how seriously we should take the artist's experience into account in demonstrating what a work is about could be broken up into the following clearly defined issues: in the definition of 'W is really about k', (1) how much weight is to be attached to the degree to which W is about k for the artist, (2) how much weight is to be attached to the degree to which W is about k for some other person or group, and (3) how much weight is to be attached to the existence of a causal chain of the first sort considered above (that is, the causal chain leading from the artist's perception of k to the artist's production of W)?

Clearly, there will be little general consensus on
the answers to the three questions raised above, but it is equally clear that all three issues must be decided before consensus on the definition of 'really about' can be reached. It is not our purpose here to argue for any position on this matter, and it is especially important that these issues should not be simply defined away by a theory of the sort being developed. It is rather our hope that a language can be provided within which unambiguous discussions of this sort may take place.

In conclusion, three significant aspects for any theory of 'about' adequate to allow for arguments such as the four sample arguments, must be (1) that it represents 'is about' as partially a function of 'is about to p', (2) that it represents 'is about to p' as a function of the way p is affected by the work, and (3) the property of the work which allows it to affect different viewers in similar ways is recognized by the theory as being discoverable and predictable (testable). Therefore we shall start exploring these suggestions by defining a few crucial concepts.

Explicit Thoughts and Thought-Tokens

There are several ways in which the effects of a work of art upon a viewer might be behaviorally evidenced. He might suddenly claim that he has become inspired to be a better person, he might sit down and write a scathing review, he might call up friends to recommend the work to
them. Each of these behaviors we can assume to be the end
product of (or at least include as a major explanatory
component) the observation of the work. Among the various
behaviors which follow the viewing of any work, those most
helpful in deciding what the work is about to p would be
unambiguous, truthful declarations by p as to what the work
is about to p. Since we cannot always be so fortunate as
to have such a loquacious and self-aware viewer, our
evidence will more often than not be drawn from another
source. This source is what I shall be calling the
viewer's "explicit thoughts."

(Def.10) Any sentence (either an utterance or an inscrip-
tion) which (1) is actually produced by an
individual p on a specified occasion, either
spontaneously, or upon being asked (under
circumstances conducive to free speech and
honesty) to share his or her thoughts, or (2) is
such that it would be produced were such a
request to be made (in such circumstances and on
that occasion), we shall call an "explicit
thought of p."

Some explanation is in order. There is a sense of
the term, 'thought', which is roughly similar in meaning to
'interesting statement', as when someone says of a claim
just made, "now there's a thought," or when someone offers
to "share some thoughts" with others. This first sense of
'thought' is primarily a public one.

In talking this way, an unexpressed thought need
not be significantly different from those which happen to
have been expressed, simply because it could have been expressed in full at that time. Unexpressed thoughts are, in fact, nothing but complete sentences on the verge of being spoken, and to claim to have an unexpressed thought is often just another way of saying, "I have something else to say," or perhaps a promise to continue the conversation at a more appropriate moment. These actual and possible sentences can be characterized as "explicit thoughts." I am intentionally avoiding the notion of thoughts as sentence-like mental events or things in the mind, since this does not seem like a can of philosophical worms that needs to be opened here.

This is quite different from a second sense of 'thought' imbedded in such expressions as 'our thoughts are with you', and 'she is very highly thought of'. There is no suggestion here of the utterance of any specific sentence on the part of any thinker. Nor is the complaint, 'I can't find the right words to express my thoughts', an unusual or problematic claim.

Very often, sentences reporting thoughts become false if 'thought' is interpreted as a language-specific and complete sentence in the head. For example, suppose that Jack and Jill are walking through a forest, and Jack suddenly flails his arms behind him. Upon being asked to explain his action, he might claim quite truthfully, "I thought Jill was right behind me." Yet it might not be
true that Jack had the explicit thought, 'Jill is right behind me'. Again, if Jack had been asked at the moment when the action occurred, where Jill was, he might also say "I think that Jill is right behind me." Nevertheless, if asked simply what he was thinking, the response might have been, "There is a rattlesnake on the path ahead of us."

Clearly, the explicit thought involved here is this latter sentence, the thought about rattlesnakes, even though Jack might claim otherwise if questioned in a leading fashion, say if asked to produce a reason for an act or to describe the location of Jill. This is not to say that Jack is making these things up, only that these other sentences are not the sorts of things we shall mean when we refer to "explicit thoughts." These other things are perhaps best called "beliefs" or "amorphous thoughts" or perhaps "background thoughts."

Thus, there is a sense of the term, 'thought', which requires that thoughts be private, mental events, accessible only to the thinkers of the thoughts, and not always readily accessible even to them. Attempts to convey this second type of thought to another person through words is sometimes very unsuccessful and frustrating. These "amorphous thoughts" are not a part of our theory of 'about'.

Jerry Fodor has argued for the existence of a structure, "hardwired" into our brains, which is
representational/linguistic in nature. This innate "brain-language" allows us to (a) perceive, rather than merely sense, and (b) learn languages other than the brain language. This is the language of thought, it is private, innate, and in its more physiological aspect, inaccessible even to the thinker. Thus, even though a small portion of our internal computation might occur in English (our explicit thoughts), the bulk of our thought-processes (amorphous thoughts) will occur in this private language and much of it will never be expressed. The investigation by Fodor concerns itself with the entire range of this "mental activity," but for our purposes we require much less.

Those thoughts we shall make use of are readily accessible and easily analyzed. A paradigm case of this sort of thought is found in the following example. Fred and Georgia are staring at a painting. Suddenly, Fred says, "that shadow looks like a satanic figure."

Fred has just uttered a sentence-token which exemplifies a sentence-type. What Fred has thereby expressed is an explicit thought. We shall call any such (actual) expression of an explicit thought a "thought-token," to distinguish it from an unexpressed explicit thought, although this distinction will not be central.

If Georgia had said, "a penny for your thoughts," thereby prompting Fred's remark, the utterance would still
be a thought-token of an explicit thought. On the other hand, suppose Georgia had said, "I think that that shadow looks like a satanic figure, don't you?" Fred's mere acquiescence, or his disposition to assent to an explicit query of this sort should not count as a thought-token, nor should we be able to say with reasonable certainty that the sentence was ever really Fred's explicit thought.

Further, suppose that just prior to claiming that the shadow looked like a satanic figure, Fred's imagination was running wild with images of demons and monsters, and he was experiencing feelings of dread and foreboding. These images and feelings are not in themselves explicit thoughts, nor are any of the internal processes which Fodor's theory would have us believe must be occurring for Fred to be perceiving, feeling or imagining anything at all. Thus it can be seen how our approach differs from that of some other philosophers. Our theory does not require its user to take an ontological stand on the issue of mental events, since explicit thoughts are nothing but sentences.

What we shall be singling out whenever we use the term 'thought-token' will always be utterances or inscriptions of sentences within a natural language, which are exhibited at a given time. It shall only be from the set of explicit thoughts, actualized by p in the form of thought-tokens, that evidence for a claim of the form 'W is
about \( k \) for \( p' \) shall be drawn.

For the purposes of proving that some \( W \) is about \( k \) to \( p \), we need evidence in the form of thought-tokens, but for the purpose of stating the theory in a manner that gives it some explanatory value (that is, explicitly stating what is meant by the claim '\( W \) is about \( k \) for \( p' \)'), we need the more general notion of explicit thoughts which includes those sentences which would have been produced at that time by \( p \) if properly stimulated and not inhibited by other external or internal factors (for instance, laryngitis, or fear of ridicule). In the above example, where Fred is experiencing feelings of dread, the feelings are neither thought-tokens nor explicit thoughts, but the sentence which he would utter upon being asked what was on his mind, is an explicit thought.

Does this commit us to the view that works can not be about anything to viewers without a language? If the viewer has a language which is simply not understood by us, then there is no problem. But if the viewer has no language at all, as for example a snake or an infant human, the theory seems to deny the possibility that any work could be about anything to such a viewer at the time of viewing. This result does not seem to be too strong. *Animal Farm* is most likely not about the Soviet Union for a snake. Even if some snake were to behave the same way everytime it was confronted with a copy of *Animal Farm*, say
hissing twice, and no other object produced this behavior, we would still be hard-pressed to conclude that the book was about anything for the snake, unless the snake could communicate some sort of explanation to us for its behavior. To do this latter task, however, would arguably be to articulate a language. Thus, language is necessary for someone to be such that W can be about something for him or her, even though works need not be in a language for them to be about something.

One further point to notice is that, even though all explicit thoughts are sentences, not all sentences are explicit thoughts. Explicit thoughts are a finite subset of the set of sentences, consisting, one might say, only of those sentences which are ever actually "entertained."

This notion might seem overly simplistic, and indeed it would be if we were proposing an entire epistemology. But we are simply trying to narrow down a class of behaviors to those behaviors relevant for establishing what a work is about for an individual.

No one would deny that sentences sometimes are uttered under such circumstances, nor would anyone deny that when they do get uttered they express thoughts. If we have no reason to doubt the sincerity of our subject, then there is no reason to suspect that he is in fact "thinking something other than what he said he was thinking." An example of this latter notion would be if two students are
viewing a work of art for a class project in art criticism, there may be good reason to suspect that one or the other might withhold certain explicit thoughts from their discussion so as to have something to write about later. This does not alter the fact that under circumstances more favorable to free and open speech, they would say more things (express more explicit thoughts) than they actually do in present circumstances, and this is all we require.

It is in terms of such sentences that a workable definition of 'about' can be produced, and the introduction of the term 'explicit thought' is intended to do as little violence to the language as possible. If it should turn out that there is a difference between thoughts--the private, mental event--and explicit thoughts as here defined within a natural language, then 'about' is to be understood as being defined in terms of these actual and counterfactual thought-tokens, and not in terms of mental events. The existence of explicit thoughts, their accessibility to the investigator, their logical structure, are far less problematic than the corresponding features of any sort of mental event.

The reason for requiring these features should be obvious. Our theory is intended to give us, among other things, a criterion for deciding whether a work \( W \) is or is not about some object \( k \) for some individual viewer \( p \). Such an issue needs to be decided on empirical grounds, subject
to confirming and disconfirming evidence. If there is to be a standard method of collecting, presenting, and analyzing this evidence, and if the evidence is to consist of "thoughts," then clearly the only thoughts we can afford to be concerned with are those which can be elicited in the form of sentences in a natural language.

One further bit of nomenclature: for the sake of brevity I will sometimes say, for some sentence $S$ "$p$ explicitly thinks that $S$," or even more briefly, "$p$ thinks that $S$." This should not be confused with the claim that $p$ believes that $S$, which shall remain undefined. Sentences of the form 'p thinks that S' should be taken as abbreviations for claims to the effect that either $p$ is currently claiming that $S$, or if $p$ had just been asked to share his thoughts he would currently be claiming that $S$.

The approach we shall be taking for our theory is simple. The fundamental notions of 'about' upon which everything else will be based are similar to Goodman's two notions 'absolutely about' and 'rhetorically about'. 'Relatively about' will have no place within our theory. Goodman's modified definitions will be applied only to that small class of sentences which we have termed explicit thoughts, and in practice will only apply to the even smaller class of sentences expressed by thought-tokens. So as to avoid confusing either of these two quasi-Goodmanian notions with 'about simpliciter, we shall call them 'about
"de re" and 'about de dicto' and reiterate Goodman's original warning, that these are merely technical terms, and go even further by stating that they are not intended to capture anything of the normal English term 'about'. With the aid of these highly technical concepts we will define a sense of 'about' which is quite close to that of normal discourse.

'About De Dicto'

Introduction

If we are to articulate a causal theory of 'about', the most obvious problem will center around aboutness claims which fail to refer. As was previously suggested, the causal chain cannot include a non-existent entity among its links, and so something else must be substituted. The most plausible suggestion is that a work is about Pickwick to an individual if the work suggests some explicit thoughts to the individual, which are themselves about Pickwick. But won't this lead us in a circle, since we would then be defining 'about' in terms of 'about'? Not exactly. Since works of art are not always sentences, and since explicit thoughts are always sentences, we will be defining a general term by means of a much more limited one. In fact, Goodman's "technical" senses of 'about' can be effectively reintroduced at the level of explicit
thoughts with only a few minor modifications. Therefore, as a first step toward defining suitable terms for our theory, let us recall Goodman's definitions for 'rhetorically about' from chapter II:

(Def. 6) Expression $E$ occurs as a term of $S$ if and only if $E$ either is a predicate in $S$ or occupies one of the argument places of a predicate in $S$.

(Def. 7) A statement $T$ follows term-differentially from $S$ with respect to a term $E$ of $T$ if, and only if, $T$, but no generalization of $T$ with respect to any term of $T$ that is part of $E$, follows logically from $S$.

(Def. 8) $S$ is Pickwick-about if and only if it yields some statement $T$ term-differentially with respect to "Pickwick".27

As stated, these definitions apply only to statements and expressions occurring within statements. Since we are dealing with explicit thoughts and thought-tokens, not statements, some modifications are clearly in order. Goodman never seemed to feel the need to declare the nature of a statement in his paper, since these details could be assumed as logical background (or, if you prefer, swept under the carpet), and considered to be extraneous to the real issue at hand. Unfortunately, since a crucial property of each member of our fundamental evidence set for any aboutness claim must be that it exists physically and is the end product of a causal chain, we must be somewhat less vague in our use of terms.

Simply rewriting (Def. 6)-(Def. 8) and substituting
the term 'sentence-token' for every occurrence of the term 'statement' (and supplying it elsewhere as required), will not be satisfactory. This is because sentence-tokens are not widely accepted as the sorts of things which are bearers of truth-values, while only something that bears a truth-value can "follow logically" from anything else.

Therefore, let us briefly consider the variety of plausible alternatives to 'sentence-token' currently available for this crucial role in our definition.

**Sentence types.** A sentence type is that which sentence tokens exemplify. It is a complete, grammatical string of words within a natural language. As such, it may contain any of the following items: (a) Indexicals, such as 'here', 'now', 'yesterday', 'I', 'you', and so forth; (b) non-denoting terms, names, or definite descriptions, such as 'unicorn', 'Santa Claus', or 'the square circle'; (c) ambiguous or equivocal terms and expressions, such as 'bat', as in "There is a bat in the room."

Whereas 'I am cold' and 'I am cold' as they appear on this page are two distinct tokens of the same sentence, the following items are tokens of distinct sentence types:

(S51)  I am cold.
(S52)  J'ai froid.
(S53)  Yours truly is cold.

**Statements.** Sentences spoken or written in a
context sometimes make statements. Two distinct sentences can make the same statement. One example would be the
three sentences exemplified above, all of which make the
same statement, namely that the speaker of the sentence is
cold at the time of utterance. The person being referred
to will be different for different utterances of any of the
sentences, but the statement actually made by the
utterances will remain constant. Thus, statements, like
sentences, may contain indexicals, but unlike sentences,
are not confined to a single natural language, as exampled
by (S51) and (S52).

Propositions. Propositions are those things which
sentences express (as opposed to 'make'). The phrase, 'I
am cold', if spoken successively by Fred and then by George
serves upon each utterance to exemplify the same sentence,
and to make the same statement. But they express different
propositions, namely that at 12:15 P.M. on November 1st,
1986 in New York City, Fred is cold, and that at 12:16 P.M.
on November 1st, 1986 in New York City, George is cold,
respectively. Like statements, identical propositions may
be expressed in different languages, on different
occasions, and by different speakers. Unlike statements,
propositions do not retain the indexical character of their
corresponding sentences. Thus, propositions do not change
with time (they are eternal), nor do their truth values
change with the circumstances surrounding their utterance.
The sentence, 'I am cold', taken as a type actually expresses no proposition at all, since the indexical 'I' does not serve to single out an individual or class of individuals of which to predicate 'is cold'. Thus, ambiguous terms, indexicals, and failures of reference are never a part of any proposition.

Of these three candidates, it is not perfectly clear that there is a uniquely correct choice for our purposes. Statements and propositions seem to have the drawback of requiring something of an ornate ontological commitment, while sentences and statements seem replete with ambiguities and indexicals.

Of these objections, the latter seems to be the easiest to deal with. For example, words such as 'I' and 'me' can be replaced by the full name of the speaker or a term which unambiguously denotes the speaker. 'Here' can be replaced by the name of the location of the speaker or a definite description locating the speaker relative to some named location, 'now' can be replaced by a specification of the exact time, date, and time zone, and so forth.

Ambiguous terms are ambiguous between two or more distinct meanings in such a way that (1) only one of the possible meanings was actually intended, or (2) more than one meaning was intended. In either sort of ambiguity, the problematic word or phrase could always be replaced by either (1) a single, unambiguous word or phrase, or (2) a
disjunctive phrase which expresses all intended meanings. If this cannot be done, if for some reason the sentence is irredeemably ambiguous, then presumably it expresses no proposition anyway, and so does not provide a convincing counterexample.

Thus, we shall confine ourselves when discussing logical transformations of sentences, or logical relations between sentences, to those sentences which have first been disambiguated and deindexicalized in a satisfactory manner. We shall refer to such sentences as clarified sentences. Many sentences need to be clarified, even sentences which are not obviously indexical in order to change them from transitory truths into eternal truths. 'John F. Kennedy is the president of the United States of America' was false in 1942, true in 1962, and false again in 1982. This sort of problem can only be avoided if every sentence were clarified so as to proclaim its own temporal and spatial frame of reference in a manner similar to that suggested above. This, we shall assume is doable for enough relevant sentences to get the theory off the ground.

Definitions

Consider the following Goodmanesque story. As human beings, born and raised in a human society, we have had frequent exposure to and instruction concerning many objects which we come to associate together. Never having
seen a real unicorn, for example, we can nevertheless recognize paintings, sculptures, and stories featuring unicorns. Pictures may range from (trick) photographs and cinematography to pen and ink sketches, to highly stylized logos, to childish scrawls in crayon. There seem to be few objective features in common with and peculiar to them all. Nevertheless, our abilities of recognition are amazingly acute, and the consensus is enormous. In fact, we grow up being taught to distinguish this category of objects, unicorn-objects, to coin a term, from others, say from Pegasus-objects, or from centaur-objects. The existence of these unicorn-objects is unproblematic, and they all have the perceivable properties that they do independently of whether there is indeed such a thing as a unicorn. It is precisely such perceivable properties of unicorn-objects which allow us to classify them, and not an imperceivable relationship which they bear to any set of possible entities, unicorns.

Contained in the set of all unicorn objects for some society are undoubtedly many sentence-tokens, or if you will, unicorn-sentence-tokens. Thus we shall loosely define a unicorn-sentence as any sentence, the tokens of which are conventionally classified as unicorn-objects.

One possible objection to this approach might be that we seem to be begging the question, since to say that \( p \) classifies \( S \) as a unicorn-object would seem to be to say,
roughly, that \textit{S} is about unicorns to \textit{p}.

This is not quite true. Many sentences in \textit{Animal Farm} are about Soviet Russia, yet none of them would be classed as Soviet-Russia-objects. Alternatively, the sentence

\begin{equation}
(S54) \quad \text{This shirt is the color of blood}
\end{equation}

is presumably a red-shirt-object, due to the conventional meanings of all the terms. But if \textit{(S54)} were to be spoken on a "Star Trek" episode by one (green blooded) Vulcan to another, then \textit{(S54)} might not be about a red shirt to a frequent viewer of the program. Thus, the ability to classify objects into different groups is an important part of 'about', but it is not the whole story.

Obviously, this notion must remain somewhat vague, since it is tied to an ever changing set of people for whom there exist everchanging conventions for classifying unicorn-objects. In the case of individuals, however, we can say that

\begin{equation}
(\text{Def. 11}) \quad \text{a sentence } S \text{ is a unicorn-sentence for } p \text{ iff } p \text{ classifies tokens of } S \text{ as unicorn-objects.}
\end{equation}

We may want to say on occasion that for a certain sentence \textit{S} a given term occurring in \textit{S} is a unicorn-object itself, and that \textit{S} is a unicorn-sentence solely in virtue of its containing this term. For example, in T.H. White's
The *Once and Future King*, there occurs the following sentence.

(S55) She made a royal gesture of acknowledgement and held out her hand to the animal.28

Within the context of the paragraph, "the animal" is a unicorn. It would be nice to be able to say that (S55) is a unicorn-sentence, and that it is so because of the expression 'the animal' taken in proper context. This further points up the reason for dealing with tokens, since, removed from its immediate context, (S55) need not be a unicorn sentence at all. This is clearly not the same sort of case as (S54), since in (S55) 'the animal' is simply used as an anaphora, replacing the previously used expression 'the unicorn', whereas in (S54), knowledge of certain biological features of the speakers within the fiction is essential before ascertaining what color "the color of blood" might be. Thus we introduce the following definitions.

Since it is sentences which we are taking to be the primary bearers of truth values, and it is sentence tokens which are to be the products of causal processes, we need some modifications of Goodman's definitions together with new definitions relating these two items. (Def. 12) is a modification of (Def. 6), and (Def. 13) is new, but fairly straightforward, since the introduction of a new
terminology for terms occurring within sentence-tokens seems pointless.

(Def. 12) An expression $E$ occurs as a term of sentence $S$ iff $E$ is either a predicate in $S$ or occupies one of the argument places of a predicate in $S$.

(Def. 13) Where $S^*$ is a token of a sentence $S$ the token(s) corresponding to any expression occurring as a term of $S$ is/are a term of $S^*$.

For one sentence to be said to follow term-differentially from another, the appropriate logical relationship need not exist between the actual sentences themselves, but only between their clarified counterparts, as discussed above. Thus, a revised version of (Def. 7) is offered in (Def. 14).

(Def. 14) A sentence $T$ follows term-differentially from sentence $S$ with respect to an expression $E$ iff

1. where $D(X)$ stands for the disambiguated, deindexicalized clarification of $X$, there are two sentences, $D(S)$ and $D(T)$, such that $E$ occurs in both $T$ and $D(T)$; and

2. $D(T)$ follows logically from $D(S)$; and

3. no generalization of $D(T)$ with respect to any term of $D(T)$ that is a part of $E$ follows logically from $D(S)$.

In place of Goodman's definition of 'Pickwick-about' and his definition schema for '——-about', we shall offer definitions for 'is a unicorn-term for $p$' and 'is about de dicto for $p$', together with a definition schema for 'is a ———-term for $p$'.

It might be argued that the approach taken is unnecessarily complicated, since we could just as well define a unicorn-term as any inscription resembling 'unicorn'. This is shown to be a bit too simplistic, however, by (S55) above, where 'the animal' is the relevant unicorn-term. Furthermore, a sentence may contain a generally well known fictional name of a unicorn, and thereby be a unicorn-sentence, yet not contain the actual term 'unicorn'. For this reason, we need a way of defining 'unicorn-term' so as to include within its extension words other than 'unicorn', without also including every word in the language. (Def. 15) serves this purpose, since all that is required is that the term in question be essential for the recognition of the sentence as a unicorn-sentence by \( p \), and any number of features could serve this purpose.

(Def. 15) Term \( t \) occurring in sentence-token \( S^* \) (a token of sentence type \( S \)) is a unicorn-term in \( S^* \) for person \( p \) iff (1) \( S^* \) is a unicorn-sentence for \( p \) and (2) there is some term \( t' \) such that if every occurrence of \( t \) within \( S \) were to be replaced by an occurrence of \( t' \), thereby resulting in a different (grammatically acceptable) sentence \( S' \), then no token of \( S' \), would be a unicorn-sentence for \( p \).

For example, in comparing the sentences, (S55) and (S56) below, it is clear how some terms may be substituted for the expression 'the animal' so that the resulting sentence could not be classified as a unicorn sentence by an observant reader.
(S55) She made a royal gesture of acknowledgement and held out her hand to the animal.

(S56) She made a royal gesture of acknowledgement and held out her hand to Gawain.

To claim that the term 'the animal' as it occurs in (S55) is a unicorn-term to Fred is simply to claim that even though Fred classifies (S55) as a unicorn sentence, (S56) would not be so classified, were it to occur in place of (S55).

It should be noted that our definition contains a counter-to-fact conditional. In some respects, this is a strength of the definition, while in others, it is a weakness. It is a weakness, because the logical analysis of the counter-to-fact conditional is somewhat problematic, and thus saddles us with a logically weak link at the very start of our proposed definition. It is a strength, on the other hand, because if the definition is to have testable consequences, there should be a way of predicting, on the basis of the theory, the results of manipulating certain aspects of the test situation. The most natural way of expressing theories of this sort is to incorporate subjunctives in their formulation, and thereby establishing a proper relationship between evidence, hypothesis, prediction, and hypothesis testing.

Based on the model definition given in (Def. 15), we give the general form for a large class of definitions.
For each actual definition, some sequence of letters stand in the place occupied by the '_____' of definition (Def. 16).

(Def. 16) Term \( t \) occurring in sentence-token \( S^* \) (a token of sentence type \( S \)) is a _____-term in \( S^* \) for person \( p \) iff (1) \( S^* \) is a _____-sentence for \( p \) and (2) there is some term \( t' \) such that if every occurrence of \( t \) within \( S \) were to be replaced by an occurrence of \( t' \), thereby resulting in a different (grammatically acceptable) sentence \( S' \), then no token of \( S' \) would be a _____-sentence for \( p \).

Being a unicorn-sentence is a sociological feature of some sentences. Being unicorn-about, as defined by Goodman in definitions (Def. 8) and (Def. 9), is a logical feature of some sentences. By the preceding definitions, the two need not coincide. Thus it is possible that some occurrence of \( S \) could be a unicorn-sentence yet not be unicorn-about. For example, 'Fred is a unicorn or Fred is not a unicorn' does not yield any sentence term-differentially with respect to the term 'unicorn', and is therefore not unicorn-about. Nevertheless, some individual might conceivably classify tokens of this as unicorn-objects, and for him, it would indeed be a unicorn-sentence.

Furthermore, there is no guarantee that every sentence that is unicorn-about will be recognized by every individual as a unicorn-sentence. For the purposes of our definition of 'about', however, there must be a coincidence
of both of these properties, that is, the properties of being a unicorn-sentence and being unicorn-about. Thus, we define:

(Def. 17) Sentence S is about unicorns de dicto for an individual p iff

1. p perceives a token of S, call it Sx;
2. Sx contains a term t;
3. t is a unicorn-term for p; and
4. S follows term-differentially from itself with respect to t.

Thus, in the sentence mentioned earlier, 'either Fred is a unicorn or Fred is not a unicorn', even though someone might think of this as a unicorn-sentence, the fact that it does not follow from itself term-differentially with respect to 'unicorn' prevents it from being about unicorns de dicto for anyone. While at the same time, merely containing the term, 'unicorn' will not make any sentence be about unicorns de dicto for an individual unversed in the fine art of identifying unicorn-objects.

Goodman himself implicitly suggested the notion of a _____-object in Languages of Art, and was clearly striving for a similar notion in "About," but the two concepts are not all that closely related. Being _____-about is a logical feature of some sentences, while being a Lincoln-picture is a causal/statistical relation between artifacts and members of a society. There is no obvious
way of bridging this gap because sentence-types do not participate in causal/statistical relations with things, and sentence-tokens are not unanimously thought to participate in logical relations. Yet the foundation for our theory seems to require something that participates in both logical and causal relations. By simply requiring for 'about de dicto' both that a sentence be _____-about as well as that some token of the sentence contain something that serves as a _____-term for p, the Gordian Knot has been cut.

'About De Re'

Corresponding with Goodman's central definition, 'absolutely about', is our definition of 'about k de re'. This definition can remain fairly close to Goodman's original definition.

Whereas a crucial aspect of 'about de dicto' is the perceptual relation between an individual p and a sentence-token S* so that what S is about is to some extent a function of how S* would affect, or actually does affect p, this is not the case with 'about de re'. In fact, 'is about de re' expresses a relationship holding between sentences and objects while 'is about de dicto' may be used whether or not there is an object denoted by a term or expression within S. Thus we define:

(Def. 18) A sentence T follows differentially from sentence S with respect to an object K iff
(1) Where D(X) stands for the disambiguates, deindexicalized clarification of X, there are two sentences, D(S) and D(T); and

(2) D(T) follows logically from D(S); and

(3) D(T) contains an expression E denoting k; and

(4) No generalization of D(T) with respect to any part of k also follows logically from D(S).

The issue of whether or not T follows differentially from S with respect to k thus involves only the following things: (1) a clarified version of S and T, (2) a logical relationship between T and S, (2) a denotative relationship between some expression contained in T and an object k and (3) a finite number of logical operations to be performed on parts of the expression E.

In other words, sentences do not follow differentially from other sentences for anyone, as was the case with 'following term-differentially from', where a unicorn-term is always a unicorn-term for p.

Finally, we define,

(Def. 19) Sentence S is about object k de re iff some sentence T follows differentially from S with respect to k.

Thus, (S57) is about me de re.

(S57) I am sleepy.

This is because the clarified sentence D(S57) corresponding to (S57) follows from itself differentially
with respect to Robert Boyd Skipper.

\[ D(\text{S57}) \quad \text{Robert Boyd Skipper is sleepy between 12:15 and 12.17 P.M. CST on October 6th, 1986, in Houston, Texas.} \]

Recall that for 'about de dicto' we required that S must follow from itself term-differentially with respect to some term t. This requirement ensured that the relevant t must be actually contained in S. For 'about de re', however, just as for Goodman's 'absolutely about', the relevant expression E need not be contained in S, so long as some appropriate sentence, which follows logically from S, does contain E.
CHAPTER IV

A CAUSAL THEORY OF 'ABOUT'

Overview

Based on the material presented in chapter III, a tentative statement of a causal theory of 'about' may be given.

First, from our discussion in the Introduction, in order for an object to be about something, it must be an artifact of some agency, that is, it must in some way be worked upon, created or designed, but not necessarily by a human. Hence we shall always talk of a "work" being about something, rather than mere "natural objects" being about something.

Second, a work W is about an object k only if W is about k for someone, and at some time. This is of course, only a necessary condition. Providing a sufficient condition or set of conditions would be a highly problematic matter. To do so, we would have to define the set of individuals in whom ultimate authority rests. Conceivably, this set could vary with different contexts. For example, in a court of law, it might be the jurors, in a marketing survey, it might be the target group for an advertising campaign, and so forth.
Third, for \( W \) to be about \( K \) for an individual \( p \) at a time \( t \), \( p \) must produce some explicit thoughts about \( K \) (either \textit{de dicto} or \textit{de re}), which thoughts are the end product of a causal chain initiated by \( p \)'s observation of \( W \). A few other factors must be introduced to take into account some of the presuppositions uncovered through the examination of the four sample aboutness arguments in chapter III.

Fourth, for \( W \) to be about \( K \) for some group of individuals \( G = \{p_1, \ldots, p_n\} \) at \( t \), it is not necessary that every individual member of \( G \) be such that \( W \) is about \( K \) at \( t \) for them. It shall only be required that \( W \) be about \( K \) for a statistically significant subset of a random sampling from \( G \). The size of this subset cannot be stated independently of the uses for which the theory will applied.

In the sections that follow, we shall attempt to (1) make plausible and specify the various aspects stated above in rough outline; (2) show how the theory in its final form meets all the requirements suggested in chapter III; and (3) discuss some of the broader implications of the theory for various other fields.

'Is About For \( p \')

Existence and Belief

\( W \) must exist if it is to be the starting point of a
causal chain. This conforms perfectly with normal usage, since under hardly any circumstances would we normally say that a non-existent work is about something. We often say of a work in progress that it will be or is going to be about something. But unfinished works exist just as much as finished works, and thereby qualify for being about something. Books, not actually existing but described within works of fiction, may be claimed within the fiction to be about something, but this counts as discourse within fiction, not as normal discourse.

The preceding remarks also seem to apply to 'about \( k \) for \( p \)' as well as to 'about \( k \)' simpliciter. To say that \( W \) is about \( k \) for \( p \) is to say that \( W \) exists and that \( p \) exists, but not necessarily that \( k \) exists. For example, a poem could be about unicorns, but not for Santa Claus. This point, as obvious as it may seem, has some interesting consequences. At first glance, the sentence, '\( W \) is about \( k \) for \( p \)', seems equivalent to '\( p \) believes that \( W \) is about \( k \)'. One might therefore be tempted into trying to define 'being about \( k \) for \( p \)' solely in terms of 'being about' and 'belief'. This attempt fails to a counterexample.

Case I

Fred has heard rumors of the existence of a certain book \( B \), purportedly about some \( k \), and Fred comes to believe these rumors. As a matter of fact, no such book exists.

In case I, Fred believes that \( B \) is about \( k \), yet \( B \)
cannot be about k for him, because that would entail the existence of E, contrary to the details of case I.

This sort of counterexample turns out to be quite virulent, with respect of the introduction of notions such as 'believes that'. We had already adopted an approach in chapter III which eschewed such mentalistic terms, but it is perhaps informative to dwell somewhat on the sorts of problems entailed by any attempt to incorporate them into the definition. For example, we might try to simply define 'W is about k for p' as

(1) W exists; and

(2) p believes that W is about k.

This suggestion fails to another counterexample.

Case II Fred is viewing a poor photocopy of the Mona Lisa in which some of the scattered fuzz strongly resembles a parade of elephants in the background. Fred has never seen the original Mona Lisa, and as a result of this viewing he comes to believe that the Mona Lisa is at least partially about elephants.

In case II, the Mona Lisa exists, and Fred believes that the Mona Lisa is about elephants, but it would quite misleading to say that the Mona Lisa itself is about elephants for Fred. To conform to normal usage, we should only say that the photocopy of the Mona Lisa is about elephants for Fred.

In general, the very idea of introducing the notion
of belief, at least as a substitute for that of observation, as an element of aboutness-for-\( p \) seems misguided. Even though \( p \)'s believing that \( W \) is about \( k \) could make plausible the claim that \( W \) is about \( k \) for \( p \), the presence of an occurrent belief concerning what \( W \) is about is neither a necessary nor a sufficient condition for \( W \) being about \( k \) for \( p \).

This can be shown easily. The two cases above show that \( p \)'s belief that \( W \) is about \( k \) is not a sufficient condition for \( W \) being about \( k \) for \( p \). The fact that an occurrent belief of \( p \) to the effect that \( W \) is about \( k \) fails even to provide a necessary condition is due to a peculiar characteristic of belief: people can believe almost anything. Suppose that \( W \) does not mention \( k \), but is in fact about \( k \) for some \( p \). Suppose further, that \( p \) has a faulty notion of 'is about'. This faulty notion (a legacy of the metalinguistic theories discussed in chapter I) requires that \( W \) contain explicit mention of \( k \) for \( W \) to be about \( k \). Furthermore, the concept of 'is about for \( x \)' does not even enter into \( p \)'s belief system at all. For example, he might say, "Sure, I'm reminded of \( k \) by \( W \), but that is not what \( W \) is about." Here then is a case in which \( W \) is about \( k \) for \( p \), yet \( p \) does not believe that \( W \) is about \( k \), nor does \( p \) believe that \( W \) is about \( k \) for \( p \). Therefore, \( p \)'s belief that \( W \) is about \( k \) is neither a necessary nor a sufficient condition for \( W \)'s being about \( k \) for \( p \).
But, one might object, just because p does not have the right word to go with the relation, this does not mean that p actually disbelieves in the existence of the relation. This is exactly the sort of problematic features of belief which the formulation of our theory is intended to avoid. If p believes S, and S entails Q, can we infer that p believes Q? Perhaps p should believe Q, perhaps p would eventually come to believe Q if p pursued the matter, but it does not seem a defensible conclusion that p thereby believes Q. Thus, if our theory is correct, and if p believes all the necessary and sufficient conditions for W being about k for p, it still need not follow that p thereby believes that W is about k for p.

Still, we might not feel perfectly comfortable in separating these two phrases: 'p believes that x is F' and 'x is F for p', since in much conversational English, any sentence beginning with the phrase 'for me' does not normally differ in meaning from the corresponding sentence beginning with the phrase 'I believe that'. 'For me, snow is white', means simply 'I believe that snow is white', in most cases. But even though these phrases are often substituted for one another, there is still a very important difference to be found by looking at some more uncommon situations.

For example if Fred were to claim in all sincerity that for him, snow is green, one natural way to make sense
of Fred's claim is to suppose that he has a vision problem of which he is fully aware, which results in snow appearing green to Fred, but that he believes reality to be otherwise, that is, Fred believes that snow is white. Thus, x's being F for p is not exactly the same as p's believing x to be F.

Thus, for W to initiate a causal chain, W must exist, p must exist, and there must be some interaction between W and p other than a belief formation. A natural relation to require would be observation. Mere belief does not seem to be a good substitute for observation, but neither does mere physical proximity. In other words, we surely need to rule out cases where p is in the presence of W, but is either not aware of W or is only minimally aware of W for the duration of the relevant time span. For example, of a person who reads a paragraph or a page before realizing that they have been daydreaming and missed the entire passage, it would not normally be said that the passage is about anything for them.

Putting all this together, we can conclude that one necessary condition of 'W is about something for p' must be the following:

(1) p exists, W exists, and p has attentively observed W during a time span, T={t₁ ... tₙ}.
Explicit Thoughts and 'About'

For \( W \) to be about \( k \) for \( p, p \) must at least have some explicit thoughts about \( k \) de dicto or de re as a result of observing \( W \). For example, if Fred, while looking at the Mona Lisa, claims or is in a state such that he would claim, if queried, that her smile is seductive, then at that time, this constitutes at least some evidence that the Mona Lisa is about seductiveness (or the class of seductive things or the property of being seductive) for Fred.

It does not seem to be necessary that Fred actually have an explicit thought to the effect that the Mona Lisa is about seductiveness. This can be seen by looking at the sorts of things presented as evidence in the four sample aboutness arguments presented in chapter III.

In argument (1), the reader was reminded of certain historical events and personages and also reminded of certain fictional events and characters within the novel. The presupposition was that there were too many parallels between these factual and fictional events and characters of *Animal Farm* to be explained by mere coincidence. Clearly, if the facts and personages were little-known, there would not be much point in this exercise in parallelism. But since anyone versed in political history could be expected to continue the list on his own based on the cues provided in the text, it must be assumed as part
of this sort of aboutness argument that the story itself has the power to generate explicit thoughts about Soviet Russia in an educated audience. Sentences to the effect that *Animal Farm* is about Soviet Russia only form the conclusion of this argument, not the evidence for it, but at least twelve of the sentences composing the argument either mention Russia, or refer to it.

In argument (2) a similar process is followed, wherein the reader is reminded of, or perhaps for the first time exposed to, some of the teachings of Karl Marx. Clearly, it is a presupposition for this sort of argument, that anyone who seriously took the ideas presented within *The Treasure of the Sierra Madre* and acted upon them, would be basing his action on a Marxist foundation. Hence, any work which taught its viewers to think (explicitly) Marxist (explicit) thoughts is a work about Marxism.

There is an interesting point to note here. If the naive viewer were to watch the movie, never realizing the source of the economic theory presented within it, and adopt the view as his own, he would only be thinking thoughts about Marxism *de re*. The purpose of aboutness argument (2) is to make the audience have explicit thoughts about Marxism *de dicto* as well, thereby "exposing" the film as political propaganda.

Similarly, in arguments (3) and (4), the purpose of each argument is to make explicit various thoughts the
careful observer of each work might be plausibly expected to have. The strength of all of these arguments rests almost entirely on the question of whether or not the things mentioned in them are reasonable things to think about while carefully examining the work with a view to understanding it.

Thus, we shall not require in our definition that \( p \) explicitly think that \( W \) is about \( k \), or that he explicitly think that it is about \( k \) for \( p \), but only that \( p \) simply have some explicit thoughts about \( k \).

**Objection**

But if all that is required is that some explicit thoughts, any explicit thoughts, about \( k \) be produced by \( p \), this raises a problem for our entire approach to the definition. Suppose that \( p \), as a result of carefully observing \( W \), has an explicit thought of the form, ‘\( W \) is not about \( k \)’. It would seem that by our proposed definition as it currently stands, \( W \) must be about \( k \) for \( p \), no matter how much \( p \) might protest, since the very sentence used to express his objection would itself be about \( k \), at least de dicto. Surely this is wrong, surely we would want to be able to claim that *Animal Farm* is not about Fermat’s last theorem without that very claim being self-defeating.

This objection seems especially dangerous since it strikes at the heart of our enterprise. If we do not
consider everything that the observer may be prepared to claim with respect to the work, then it would seem that we cannot really know what the work is about for the observer. Yet to take into account all explicit thoughts about \( k \) for \( p \), even those to the effect that \( W \) is not about \( k \), is to override the rationality of the viewer in favor of a simplistic word count of his verbal output. This goes contrary to both common sense and courtesy. Normally we take an intelligent viewer as not uttering a contradiction whenever he denies that some \( W \) is about some \( k \).

The most obvious and direct way of ruling out this sort of counterexample would be to exclude from the evidence set of an aboutness claim all explicit thoughts which are logically equivalent to the sentence, \('W is not about \( k'\). Unfortunately, any such ad hoc solution would be suspect due to the appearance of the word 'about' within the *definiens*.

More specifically, the notion of "logical equivalence" will not work here. If we are able to ascertain exactly which sentences are logically equivalent to \('W is not about \( k'\), we must thereby know the necessary and sufficient conditions of \('W is not about \( k'\), and presumably also the necessary and sufficient conditions for \('W is about \( k'\). Yet this is exactly what our definition is trying to establish, hence any such clause would introduce a vicious circularity into the definition.
A More General Objection

So, the objection cannot be ruled out so easily. Even if some way was to be found of ruling out sentences of just that form, still other problems suggested by the above argument arise. The above objection is a specific problem arising from a particular sentence one might encounter. More generally, however, it would not seem plausible that just any sort of explicit thought about \( k \) could be cited as justification for the claim that \( W \) is about \( k \) for \( p \).

Consider the following case:

Case III  Whenever Fred looks at a portrait of Napoleon, he is reminded strongly of his Uncle Toby, and invariably starts to tell Uncle-Toby-stories to anyone unfortunate enough to be within earshot.

To say in this case that portraits of Napoleon are about Uncle Toby for Fred seems to be stretching the normal English usage of ‘about’ somewhat. Normally, we would say that Fred is simply being reminded of Uncle Toby by the portraits, and this is not all there is to ‘being about’. What is therefore needed is a distinction between ‘\( W \) is about \( k \) for \( p \)’, and ‘\( W \) reminds \( p \) of \( k \)’. If the general objection can be handled, there should be no difficulty in answering the specific objection.

Solution: Dispositions and Intentions

Let us first consider the matter from another perspective. There seem to be three effective ways of
disproving an aboutness argument. First, one might claim that he or she is not in the least bit reminded of $k$ by $W$, and hence that whatever it is that makes the arguer think of $k$ must be idiosyncratic to him. This is perhaps a way of countering arguments (3) and (4). Second, one might object that the artist had no way of knowing that certain elements in $W$ might produce explicit thoughts about $k$ in the observant and sufficiently educated members of his audience. This would be the case if one is citing as evidence an obscure reference, or a virtually imperceptible feature of the work, as one might claim concerning argument (4) where the drawing on the wall could be anything and the male/female symbolism of bottles and glasses seems rather farfetched. Third, one might deny the plausibility of the claim that the artist had any way of knowing of the existence of $k$, as for instance, if Animal Farm had been written long before the events of the Russian Revolution.

By way of a further strengthening of this latter point, one popular example of this sort of reservation is met in disputes on the so-called "prophetic" poetry of Nostradamus. It is felt that if one grants the premise that these poems are indeed about events occurring long after the poet's death, then one is forced to accept the conclusion that Nostradamus must have had knowledge of these events. Thus, if confronted with one of the poems and asked whether or not it is about some historical event
E there could only be good reason to hesitate if it were somehow felt that the author must be cognizant of $k$ for his work to be about $k$. Indeed, when one agrees that any of these poems are about twentieth century events, one feels like one is committing oneself to far more than a purely semantic claim. It feels like one has fallen into acquiescing to some sort of philosophical position vis a vis the scope of the author's knowledge. There must be something beyond coincidental resemblance for us to agree with those who are convinced that some poem could be about some event. Furthermore, if coincidence were all there was to aboutness, then all disclaimers in the front of novels would be pointless.

Therefore, the following three expectations seem to be inherent in that notion of 'about' which comes into play for the purposes of argumentation: (1) Anyone with a relevantly similar background to that of the arguer can be expected to have similar explicit thoughts about $k$. (2) The artist who made $W$ could be reasonably expected to intend that his work would elicit explicit thoughts about $k$ from the observers of $W$ who have a background education appropriately similar to that of the artist. (3) It is plausible that the artist was aware of the existence of $k$ at the time when $W$ was produced, or was aware of the existence of appropriate $____$-objects.

Let us reconsider Case III in the light of these
findings. In this case, none of the above mentioned aspects seem to be present. First, if confronted with someone who has never met Uncle Toby, Fred could not reasonably expect that person to be reminded of Toby, even by being shown a photograph of Toby himself, much less by being shown a portrait of Napoleon. Second, there is presumably no way that Fred could reasonably expect any artist from the time of Napoleon to have produced a painting intended to jostle his audience into discussing Uncle Toby whenever they looked at the painting. And third, it is not plausible that the artist was a prophet and painted his vision of the future Uncle Toby, yet disguised the work by giving it a misleading title, such as Portrait of Napoleon.

Consider the first point more carefully, though. Suppose the resemblance between Napoleon and Toby is quite striking, so that anyone who has ever met Toby is immediately reminded of him whenever they view a portrait of Napoleon. Suppose further, that Uncle Toby becomes the president of the United States of America, so that virtually everyone in the country is reminded of Toby whenever they see a portrait of Napoleon. Still, we would not want to say that portraits of Napoleon are about Toby for all these people, no matter how many are reminded of him. Still further, suppose that a portrait is found of a man looking exactly like Toby/Napoleon who is dressed
like Napoleon. There is no date on the painting. Our tendency is to think, in such cases, that if there is any way for the artist to have known of the existence of president Toby, then and only then is the work about Toby, and it is even perhaps a satirical comment upon him. If the artist died before Toby was born, then the painting is simply a portrait of Napoleon.

Thus, if an arguer wished to make a work be about some \( K \) for \( p \), by means of an aboutness argument, \( p \) must at least be persuaded that the work could have been intended to remind its viewers of \( K \). To require that the argument actually demonstrate that the work was so intended would perhaps be demanding too much. All that seems necessary here is that it be demonstrable to any viewer who accepts some notion of intentionality that it is not impossible for the artist to have intended to bring to mind thoughts about \( K \) in viewers of \( W \). This is a very weak requirement indeed, since viewers who do not accept a notion of intentionality present no problem, and those who do accept it must have very strong evidence to be able to deny even the possibility that the artist's intention was such and such.

Explicit statements by artists as to their intentions are rare, and those statements which exist are notoriously misleading. Nevertheless, an explicit statement by the artist to the effect that they wished the viewer to be reminded of \( K \) by \( W \) would be some evidence, and
might contribute to W's becoming about $k$ for $p$.

Even if the actual intention is there, not just the possibility of such an intention or even the plausibility to $p$ of there having been such an intention, this should still not be enough by itself without some sort of causal impact on the observer. This can be seen from the following case.

Case IV  An artist intends to portray Toby as Napoleon, but botches the likeness so badly that no one familiar with either Napoleon or Toby would be reminded of either simply by looking at the work. Fred, who has been informed of this intention by a reliable source, upon observing the painting for some time in an attempt to find the resemblance, finally gives up.

Here, the intention actually is present, but the observer, through no fault of his own, fails to be reminded of the intended referents. What is the most plausible verdict for this case? Perhaps, we might be willing to concede, the work is about Uncle Toby for the artist, but not for Fred, willing as Fred may be to accommodate.

How does this case help us resolve our specific problem raised above? Fred has attentively observed the painting. As a direct result of this observation he says, "This looks nothing like Uncle Toby." This explicit thought is about Uncle Toby, both de re and de dicto. He is also disposed to assent to sentences of the form, 'The artist intended viewers of this work to be reminded of
Toby'. Yet the work is not about Uncle Toby for Fred. Something is missing. Clearly, the disposition is the source of trouble for this case. Fred could not have acquired his disposition to assent to the appropriate sentences as a causal result of his observation of the work because he brought this disposition with him to his viewing of the portrait. There was a distinct causal chain leading up to Fred's acquiring this disposition, which, we may suppose, never included the painting at all. For example, the person who told Fred that the painting depicted Toby/Napoleon might even have been referring to another painting altogether.

Thus, for a work to be about something for a viewer, the appropriate dispositions either (1) are acquired as a consequence of observing the work, or (2) would have been acquired as a consequence of observing the work if actually acquired as a consequence of some other chain of events independent of the observation of the work.

'Reminds'

The term 'reminds' has been used a bit loosely up until now, and it is not clear exactly how or whether it should fit into a definition of 'about'. One feature of being reminded by W of X is that it is not the sort of thing that happens to us unawares. When we are reminded by X of something, it is not uncommon for the first thing that
hits us to be the awareness that we are being reminded, even if the knowledge of what it is that we are being reminded of momentarily eludes us. Thus, it is not paradoxical to claim, "You remind me of someone I used to know, now who is it?" Being reminded of $K$ by $W$ is a completely different event from being caused to think about $K$ by $W$. For example, Fred may be manipulated into talking about Garri Kasparov de re by being engaged in a conversation in which he makes some claims which use the phrase, 'the current world chess champion', yet not be reminded of Kasparov, by virtue of the fact that Fred has never heard the name of the man or anything about him. Furthermore, in the case where one is reminded of someone, whose name is not forthcoming, we have an example of being reminded of $K$ without producing explicit thoughts about $K$.

Which one of these notions is the relevant one for 'about'?

The disadvantage of using 'being reminded of $K$' as a part of our definition is clearly that it is a suspiciously mentalistic notion. If it is indeed possible to be reminded of $K$ without producing any explicit thoughts about $K$, this seems more of a negative feature than a positive one. The major advantage to incorporating 'being reminded of' is simply that 'being caused to produce explicit thoughts about $K$' is a slightly weaker notion than 'being reminded of $K$', since producing explicit thoughts
about \( k \) does not always involve previous experience of \( k \), whereas being reminded of \( k \) does. But there is no reason that this feature can not be simply tacked on to the weaker notion, if in the future it becomes apparent that it is necessary.

To return to the argument, we need not require of \( p \) that he or she actually have an explicit thought to the effect that the artist intended for \( W \) to make \( p \) himself produce explicit thoughts about \( k \) or even that it is possible for the artist to have had such intentions. What does seem essential though, is for \( p \) to have acquired, at the time of his observing \( W \) or shortly thereafter and as a direct result of his observing \( W \), a disposition to assent to sentences of the form, 'It is not impossible that the artist intended for some viewers of \( W \) to produce explicit thoughts about \( k \)'.

Thus, if Fred produces explicit thoughts about Uncle Toby as a result of looking at portraits of Napoleon, yet he is not also disposed to assent to claims that the artist could have intended to "bring Toby to mind" in some of his viewers, then the work cannot be about Toby for Fred. Fred is merely reminded of Uncle Toby by portraits of Napoleon.

Suppose that Fred is suffering from paranoid delusions. As a consequence of this, every similarity between things, even similarities that are obviously
coincidental, are sources of suspicion for Fred. He is therefore disposed to assent to the claim that the artist intends to remind Fred of Toby. In this case we would be inclined to agree that the work actually could be about Toby for Fred. This is corroborated by the proposed definition, since the specific content of Fred's disposition is a result of viewing the work, even if Fred's "paranoid attitude" existed prior to the viewing.

Notice also that the disposition in question does not have to incline p to include all viewers of W among the people that the artist could have intended to remind of k. Recall the aboutness argument concerning The Treasure of the Sierra Madre. If the arguer expects to convince anyone of the claim that this movie is about Marxism, he cannot always expect them to be familiar enough with the history of economic thought to come up with the connection themselves. After filling in their background somewhat, one can expect that they will admit that the movie could have been intended to remind some people of the theory proposed by Marx. This would be sufficient for the argument.

Thus, in summary, the following conditions must appear in a final definition of 'about':

(2) During t, or shortly thereafter, p has produced a non-empty class of explicit thoughts Q={s₁, ..., sₘ} such that each member of Q is either about k de dicto, or about k de re; and
(3) During \( t \), or shortly thereafter, either (i) \( p \) has acquired a disposition (which \( p \) did not have prior to \( t \)) to assent to sentences of the following forms, or (ii) \( p \) would have acquired such a disposition (had he not already had it) to assent to sentences of the following forms:

(a) 'It is not impossible that the artist who made \( W \) intended some of the careful observers of \( W \) to produce explicit thoughts about \( k \) as a result of viewing \( W \); and

(b1) 'It is not impossible that the artist who made \( W \) was aware of the existence of \( k' \), [when some of the \( s_i \) are about \( k \text{ de re} \)]; or

(b2) 'It is not impossible that the artist who made \( W \) was aware of some sentences which are about \( k \text{ de dicto} \) at some time before producing \( W \), [when \( k \) is fictional].

(4) There are appropriate causal links existing between the observation of \( W \) by \( p \) at \( t \), and both the production of \( Q \) as described in clause (2) and the acquisition of the appropriate dispositions as described in clauses (3)-(3b2).

For example, suppose Fred is looking at an abstract painting entitled *A Study*, in which the following letters appear, 'mentary, my dear Wat'. As a result of viewing this painting, Fred has the explicit thought, 'A Study in Scarlet was one of my favorite Sherlock Holmes novels'. This explicit thought is about Sherlock Holmes, de dicto, it is about *A Study in Scarlet*, both de re and de dicto, and also about Fred, de re (once the sentence has been deindexicalized). As a direct result of viewing this painting, Fred acquires a disposition to assent to the following sentences, (1) 'It is not impossible that the artist who made *A Study* intended some of the careful
observers of the work to produce explicit thoughts about *A Study in Scarlet* as a result of viewing the painting'; (2) 'It is not impossible that the artist who made *A Study* was aware of the existence of *A Study in Scarlet*'; (3) 'It is not impossible that the artist who made *A Study* was aware of some sentences which are about Sherlock Holmes *de dicto* at some time before producing *A Study*. Therefore, *A Study* is about *A Study in Scarlet* and about Sherlock Holmes to Fred.

On the other hand, Fred did not acquire the disposition to assent to either of the following sentences: (1) 'It is not impossible that the artist who made *A Study* intended some of the careful observers of the work to produce explicit thoughts about Fred as a result of viewing the painting'. (2) 'It is not impossible that the artist who made *A Study* was aware of the existence of Fred'. Therefore, the painting is not about Fred for Fred, even though he produced at least one explicit thought about himself *de re* as a result of viewing the work.

Finally, we must consider whether the fourth clause, stipulating that there must be appropriate causal links between W and the members of Q, is really a necessary condition of 'is about for p'. Suppose we left it out of the definition entirely.

Case V Bernie is looking at a painting by a famous artist A and suddenly "recalls," albeit mistakenly, that someone had described this work
to him as being about Man's inhumanity to Man. Bernie observes the painting, thinks explicitly about inhumanity, and has a newly acquired disposition to assent to certain sentences of the form, 'A could have intended W to produce thoughts about Man's inhumanity to Man in the viewers of W'. He can find no support for this belief in the painting, however, since he has confused this painting with another, in his memory.

In case V, we would surely not normally want to say that W is about inhumanity for Bernie, since a crucial element is missing, an appropriate relationship between the painting and the thoughts about inhumanity. Mere copresence is not sufficient, nor is simple temporal succession.

An alternative version of case V, call it V', would be if the nameplates for two paintings had been switched by a malicious prankster, and the plate that Bernie looked at seemed to indicate that the painting's title was 'The Inhumanity of Man to Man'. Bernie might then be puzzled, but nevertheless willing to agree that the artist might have wanted to arouse certain thoughts in the viewers, and so forth. His primary evidence would then be, not the painting itself, but the "title" of the painting.

Intuitions would diverge on the whether the painting is about inhumanity for Bernie in this case (V') or not. The source of divergency, however, lies not in the definition of 'about', but in the definition of 'work'. If we took the viewpoint that the work is just the painting,
then by our definition, the work is not about inhumanity for Bernie. Alternatively, if we took the viewpoint that the work in question is the combination of painting and title, and thus this work differs from the one that occupied the same spot the week before, then the work is about inhumanity for Bernie. Since these results are in accord with our natural language intuitions on the matter, and do not decide an ontological and aesthetic issue \textit{a priori}, this case (\textit{V'}") provides some confirmatory evidence as to the adequacy of the proposed definition of 'about'.

To return to the original case \textit{V}, if Bernie had not erroneously recalled hearing something about this painting, but nevertheless wound up thinking about Man's inhumanity to Man, and acquired the same dispositions as in the original case \textit{V}, we naturally tend to think in terms of a causal explanation for these behavioral changes. The obvious next step seems to be concluding that the work is about Man's inhumanity to Man for Bernie if, and only if, the painting itself somehow gave rise to these explicit thoughts and altered dispositions in Bernie. As obvious a candidate as causality might be, there are problems with clause (4) as it stands. These shall be brought out and dealt with in the discussion of clause (5).

The new clauses (2) - (4) seem to deal adequately with both the general and the specific objections. Consider first the specific objection, wherein p produces
an explicit thought of the form 'W is not about k'. The immediate natural reaction of a bystander overhearing such a remark spoken aloud would be to ask "who ever said it was?" In fact, it would be a rather unusual situation if someone were to just announce without preamble, that Animal Farm is not about Fermat's last theorem. This sounds like a random sort of remark which could have been occasioned by the reading of virtually any work of fiction one might select, but certainly not "caused" by a work. The fact that the remark occurs after a reading of Animal Farm in particular is causally irrelevant.

We tend, when looking for a causal sequence leading up to the making of a seemingly irrelevant remark in cases like these, to look elsewhere than the work itself when seeking out the initiating and explanatory cause. This tendency can perhaps best be explained (or excused) as a result of our unwillingness to believe that a good artist would allow themselves to produce a work that had the persistent effect on the audience of leading them astray, say through the deliberate inclusions of references, suggestions and allusions, which have no significance whatsoever for the "meaning" of the work. If a work consistently produces the same effect, for example, making all of its appropriately educated audience start thinking explicit thoughts about Fermat's last theorem, there is a natural willingness on the part of any audience to conclude
that the effect must be (or at least "could have") been a "conscious conceit."

Thus, if there is something in \( W \) itself which automatically brings to mind \( k \) in many members of the audience, and this could have been intentional on the part of the artist, we become suspicious of the truthfulness of \( p \)'s claim that \( W \) is not about \( k \) for him. While if there is nothing in the work to elicit explicit thoughts about \( k \) in an observant audience, then we are suspicious of the causal source for \( p \)'s remark, since it was clearly not \( W \) itself.

Likewise, with the general objection. The spontaneous production of explicit thoughts nowhere caused by the work under observation strongly hints at the interference of some extraneous causal sequence.

For example, if someone has at one time seen a movie made from a book, and later reads the book, the fact that the reading results in many explicit thoughts about the actors and actresses does not necessarily make the book be about the actors and actresses for the reader, by the definition. This is as it should be. First, if the movie watcher knew that the author died before the actors and actresses were born, clause (3b1) would be violated, since the author would not have known of the existence of the performers at the time of writing. Second, if the physical description of the characters in the novel could not possibly apply to the actors or actresses, then clause (3a)
would be violated, since the author could not have expected that his description would have brought up explicit thoughts about those particular people.

On the other hand, if (1) the reader has either forgotten having seen the movie, or (2) has no reason to doubt the plausibility of intentional references to specific people (as when a novel is written in which characters are clearly based on certain actors and their well known mannerisms), or (3) the novel is a spinoff from the movie, we might reasonably expect there to be frequent occurrences of explicit thoughts about a certain actor on the part of an observant reading audience. This would be some evidence that the book was about the actor for the reader.

As one interesting consequence of the theory in its current state, there will be some circumstances in which it will be possible by definition to overrule any objections made by the observer of a work and claim that the work is about something to the observer. In particular, if as a direct causal result of attentively observing W, p suddenly becomes willing to agree that it is plausible that the artist intended some of the observers of W to have explicit thoughts about k, and that it is plausible that the artist was aware of the existence of k (for example), and if also as a direct causal result of this observation and without prompting, p nevertheless spontaneously starts denying that
W is about \( k \), then the theory would allow one to conclude that \( W \) really is about \( k \) for \( p \), even over his protests.

This consequence, however, far from being a counterexample, seems to be a highly desirable outcome. A theory of the sort suggested here must be sensitive to the rationality of the observer, while not slavishly upholding the sanctity of an observer's irrational whims. Anyone observing the behavioral changes in \( p \) would naturally become suspicious that (1) someone had suggested to \( p \) at some previous time that \( W \) was about \( k \) and that the current explicit thoughts are a response to that previous event, or (2) \( W \) is so effective at causing \( p \) to produce explicit thoughts about \( k \) that there is some other cause or reason intervening to provoke the outbursts ("methinks the lady doth protest too much"), or (3) \( p \) must have already had the disposition to assent to the relevant sentences even before observation of \( W \), or (4) \( p \) is being deceitful in some other fashion. In any event, such circumstances would be confusing enough that there might not be a clear-cut answer to the question of whether or not \( W \) is about \( k \) for \( p \), and hence many such cases would fail to provide a convincing counterexample.

An Alternative Approach That Fails

The introduction of dispositions into our definition brings up another possibility. Perhaps we need
not require that \( p \) be caused to produce any explicit
thoughts about \( k \) at all. As long as we are using
dispositions, perhaps all that is needed is for \( p \) to be
disposed to assent to certain sentences which are about \( k \),
either \textit{de dicto} or \textit{de re}, were \( p \) to be presented with these
sentences. This would greatly simplify the definition.

One possible formulation might run as follows:

\begin{quote}
(Def. 20) Let \( A = \{ \text{The set of all sentences about } k \text{ \textit{de dicto}} \)
or \textit{de re}, to which \( p \) is disposed to assent
before viewing \( W \}. \)

Let \( B = \{ \text{The set of all sentences about } k \text{ \textit{de dicto}} \)
or \textit{de re} to which \( p \) is disposed to assent during
and shortly after viewing \( W \}. \)

\( W \) is about \( k \) for \( p \) iff there is some sentence
\( T \) contained in \( B \) and not contained in \( A \).
\end{quote}

This definition, while not even mentioning
causality at all, assures us that during \( p \)'s observation of
\( W \) there is a change in the sorts of sentences about \( k \) to
which \( p \) is disposed to assent. We could, if we needed,
further stipulate certain causal requirements concerning
the reasons for this change. Presumably the causal
stipulations would allow us to rule out such sentences as
'It is 10:25 A.M. and there is a woman standing at my
left', as evidence that the Mona Lisa is about a woman.
This approach has some serious problems. Consider the
following case:
Case VI

Fred is attentively viewing the Mona Lisa. He notices many things about it that he had never noticed in the reproductions he had studied prior to his current visit to the museum. One fact that he does not notice on this, his first viewing of the original, is that the Mona Lisa is a portrait of a woman, that is, he never once mutters aloud, "This is a portrait of a woman," nor would he, if asked what he was thinking, say anything of the sort. This is because he had studied copies of the Mona Lisa enough that so obvious a thought has long since ceased occurring to him.

The supporter of (Def. 20) might argue as follows:

Surely Fred can see that the portrait is about a woman, since he would agree that it is, if asked. Therefore, (Def. 20) succeeds where a definition depending on explicit thoughts about k would fail.

There are at least two objections to this line of reasoning.

First, it is not clear that Case VI supports (Def. 20) at all. The Mona Lisa, at that time, could have been about a woman for Fred, of course, but the fact of the matter seems to be that it was not. During the time that Fred was standing there, one of the many things that the Mona Lisa was not about for him was women, since thoughts of women were presumably the furthest things from his mind. Later, Fred will most likely fill out the obvious gaps from his memory, and the Mona Lisa will come to be about women for him, but at the moment of viewing he was attentive to other aspects of the work.
Recalling an earlier example, if Fred has just finished reading *Animal Farm*, but has taken it entirely at face value, momentarily forgetting everything he ever knew about Soviet Russia, then we *could* give him the benefit of the doubt and say that *Animal Farm* is about Soviet Russia, even for Fred. We could do this, but it would be a gross misrepresentation of the facts. The situation is this: Fred didn't get it; he missed the point.

If we accept (Def. 20) then it makes no sense to specify an individual *for whom* \( W \) is about \( k \), since not only does obtuse Fred get to lay claim to all the insights of others, but also to the results of all the careful and detailed analyses that ever has, will or could be done to *Animal Farm*, provided only that he is capable of understanding the analysis and would have an opinion of it were it to be presented to him after having read the book. This is because, for any sentence \( S \) that a possible analysis might contain, Fred, after reading *Animal Farm*, presumably will have acquired a disposition to either accept \( S \) or to accept not-\( S \). But whatever \( S \) is about *de dicto* or *de re*, not-\( S \) is also about.\(^2\) But since Fred does not differ significantly from anyone else in this respect, it would make no sense to say that *Animal Farm* could be about different things for different people. Surely this is an undesirable result for the concept of 'is about for p'.
For the second reason to reject (Def. 20) consider the following case.

Case VII  Fred is viewing a painting A which he has never seen before, and has never had described to him. All Fred knows is the title of the painting and the name of the artist.

Before viewing the painting, if Fred had been presented with sentence T, 'painting A contains a depiction of a camel', he would not be disposed either to accept or reject T. But while viewing A he acquires the appropriate disposition, either to accept T or to accept the denial of T, depending on the nature of A. So Fred has acquired a new disposition during the viewing of the painting, and the acquired disposition is causally related to the work in an appropriate way, therefore A is about camels for Fred. The same argument applies for any object at all, so A turns out to be about everything for Fred.

An obvious corollary to the above two arguments is that anything is about everything for everyone, the very situation we must try to avoid.

Perhaps there is a way of salvaging (Def. 20) by refining it so as to allow W to be about more things for p than p is currently explicitly thinking about, yet not resulting in W's being about everything. For example, the definition could be expanded to include all explicit thoughts, produced by all past present and future viewers
of the work, to which \( p \) would assent if asked after viewing \( W \) but not before. Alternatively, the definition could be expanded to include all sentences \( p \) himself will ever produce to which he is disposed to assent after viewing \( W \), but to which he would not have assented before viewing \( W \). All these moves are possible, but wrong-headed, since any decision as to how much we wish to expand the definition beyond what \( p \) is currently talking about or prepared to mention sheds no light on what \( W \) is in fact currently about for \( p \).

A Problem With Clause (4)

Whereas this definition might serve quite well in most circumstances, there are still some problems with the notion of causality which become apparent upon considering some more exotic cases. In particular, it does not seem that the requirement in clause (4) is stringent enough. Surely, when specifying the connection between the observation of \( W \) and the production of explicit thoughts, or the acquisition of certain dispositions, there must be more of a connection than just any causal connection. This seems to avoid some of the more commonplace notions, like meaning, or significance, and by doing so, leaves room for various absurd counterexamples. For instance, what if the causal chain involved is at least partially electronic, instead of entirely neurophysiological?
Case VIII  Bart is strapped into a chair with electrodes stuck into his brain. Whenever an object is lowered to a certain point within Bart's field of vision it triggers a mechanical switch that fires an electrode. It just so happens that this stimulus causes Bart to pronounce the syllables, 'time is money, time is money ...' until the current is turned off. At the same time, Bart finds himself temporarily disposed to assent to any sentence uttered by a man in a white smock, for example, 'this painting could have been intended by the artist to make its viewers think about Time'. Sometimes this disposition disappears after the current is turned off, and sometimes it does not. On one particular occasion, the Dali painting entitled "The Persistence of Memory" is used to set off the switch.

This seems to meet all of conditions set forth in the definition. Bart is observing the painting, he produces explicit thoughts about time _de dicto_, he acquired a disposition to assent to sentences which coincidentally have the proper form, and there is a causal link between the presence of the painting and both the disposition and the explicit thoughts about time. Yet intuitively, this should not be sufficient to conclude on the basis of the test alone that "The Persistence of Memory" is about time for Bart (even though it might in fact be about time for Bart). In other words, it is felt that the changes in Bart's behavior are better explained through reference to the electrical apparatus, than through reference to the painting, 'about' and time.

Some modifications of the theory seem called for, so as to rule out cases where the causal connection between
the observation of \( W \) and the linguistic and dispositional effects do not seem appropriate. In doing so, however, we must be wary, lest we start legislating the types of causal chains available for artists to incorporate into their art. Many such restrictions would smack somewhat of the *ad hoc*, and a theory based upon them would always be in danger of being refuted by the inventiveness of some future artist. As for example, if some future artforms were to involve the direct stimulation of the observer's brain in some fashion.

Among the features of case VIII to notice are the following: (i) almost any object other than the one actually used would have had the same effect, because (ii) it is the mere physical presence of \( W \), and not the perception of \( W \) which sets in motion the causal sequence resulting in the utterance, and (iii) asleep or awake, concentrating or daydreaming, the same effect would have occurred. We can take advantage of these features in one of two ways. First, we could require that the causal chain reach back from the explicit thoughts produced only so far as the perception, thereby avoiding non-perceptual causation, as through implanted electrodes. Second, we could place restrictions, not on the causal chain itself, but on the necessary character of the initiating cause.

**A Solution That Fails**

Suppose, as a mentalistic solution, we require that
the start of the causal chain be internalized, by saying
that there must be a causal chain connecting the production
of explicit thoughts and acquisition of new dispositions
with a perception or a sensation, rather than with an
observation of W (which tends to make W itself be the
starting point). This attempt fails if we alter case VII
in the following way:

Case IX Bart is hypnotized. The next painting he
perceives will now result in his muttering,
"time is money . . ." and feeling disposed to
assent to sentences of the form, 'this painting
could have been intended by the artist to make
its viewers think about time'. As a matter of
mere coincidence, the next painting turns out to
be the Dali work, et cetera.

Because the master hypnotist has ordained it to be
so, Bart is fated to exhibit all the behavior which one
might require as necessary and sufficient for an observer to
infer that "The Persistence of Memory" is about time for
Bart. Yet this circumstance is unacceptable, since Bart is
not responsible for his behavior, and so his behavior is
not a reliable indicator of whether or not the work is
indeed about time for him.

Backing up even further into the recesses of Bart's
mind, to overcome the problem raised in case IX, one could
require that there be a causal link between the perceived
content of W and the dispositions or explicit thoughts
about W. But then, the hypnotist would only have to get
Bart to begin his talking about time the moment he noticed anything at all about the painting. One might then try backing up further, but beyond here the distinction between the beginning and the end of the causal chain starts to blur. The only point at which one could no longer have a master hypnotist forging a new link in the chain would be the point where there is no chain at all. So internalizing the causal chain seems doomed to failure.

**A Second Solution That Fails**

The second approach is one which takes its cue from Goodman. The major difficulty with all the previous examples seems to be that the beginning of the causal chain could have been many things, yet the same results would have followed. We could metaphorically characterize this feature of the viewing situation as its being generalizable with respect to W.

As a first attempt at making this notion less metaphoric and more literal, let us say that p produces an explicit thought T differentially with respect to W iff p produces T upon perception of W, and it is not the case that, for all x, p would have produced T upon perception of x, all other circumstances being equal.

Notice that the mere fact that some object other than the one actually used would have produced the same results is irrelevant here. What is important is that not
every object would produce the same result. The fact that Fred would think the same things upon seeing a clever forgery as he does upon seeing the original only means that Fred cannot tell the two apart. The original, upon perception, can still be about something for Fred, and will probably be about all the same things as the forgery for Fred. But poor old Bart strapped to his chair cannot tell the difference between a painting and a parsnip, and this seriously curtails the reliability of his explicit thoughts and dispositions when we search for evidence that W is about k for Bart.

This definition of 'produces differentially,' while bringing us closer to a solution, still has a few problems. In the case of Bart, there is little trouble. We can use any painting we wish to flip his switch all day long and get the same results. But not everyone is so accommodating a knee-jerk phrase-utterer. For example, we find that although some people will utter similar catch-phrases quite frequently, the variations are noticeable enough to make them count as different sentences. Even in the case of Bart, not every object in the universe may be substituted for W, but only some of those which are heavy enough to trip the switch, small enough to fit into the room, and so forth. Obviously, some refinements are necessary.
Discretionary Sets

Suppose we introduce the concept of a "discretionary set," a set of works for which there is no significant difference in p's behavioral responses. Thus, when Fred may not be affected in an appreciably different manner by the Mona Lisa and a clever forgery of the Mona Lisa, we can say that his discretionary set with respect to the Mona Lisa includes some forgeries, but is in general very small. Bart's discretionary set with respect to "The Persistence of Memory" is quite large. Some people have a single discretionary set which includes all the mature work of Jackson Pollock while others are affected differently by different Pollock works.

The basic approach would be to try excluding the so-called "evidence" of Bart's behavior on the grounds that his discretionary class with respect to the painting is too large.

Although this seems in general to be a useful notion, as it would allow us to express in terms of behavior alone the degree of "sensitivity" a viewer has toward a work, it does not help in resolving the dilemma concerning Bart. This can be seen by imagining an exaggerated caricature of a Freudian art critic, Abe, who sees male and female symbolism in every work of art he looks at. Imagine Abe to be viewing "The Persistence of Memory." With respect to Abe, there will be no significant
difference in his behavioral responses to any work of art, and could not therefore be considered by the theory to be different from Bart.

The theory would tell us to discount the evidence of Abe's behavior in the same way we discounted the evidence of Bart's behavior, on the grounds of Abe having an excessively large discretionary set. But, sadly, intuition tells us that everything is about sex for Abe, unlike in the case of Bart, where we simply did not feel a conclusion could be drawn one way or the other. "The Persistence of Memory" might be about time for Bart, and it might not. We do not want to discount Abe's behavior as worthless for use as evidence, and we do want to discount Bart's behavior, so we need a distinguishing characteristic.

**A Solution That Works**

Even if 'universalizability' fails to the trick, the notion of 'variability' might nevertheless be useful. For example, in the case of Bart, if the electronic stimulation is varied (presumably, even to a minor degree), there will be a variation in the behavior produced, say if the electrodes are removed, and re-implanted elsewhere in his brain; but if one painting is substituted for another, there is not the slightest difference in the behavioral output. Thus, the relevant features of the setup include
the wires, the electrodes, the current, and so forth, but do not include the paint, the brush strokes, Dali's choice of palette, and so forth.

For Abe, on the other hand, there is nothing that could be varied which will produce a change in behavioral output. Presumably, he is so determined to find sexual imagery that he will find it in any work at all, and under any circumstances, in a museum, at home, in good or poor lighting or strapped to a chair.

Now imagine a third person, Clarence, who is simply standing in an art museum, looking at "The Persistence of Memory." Clarence responds to this painting in a different fashion than he would to any other painting, even another Dali, but does not respond differently from the way he would respond to a clever forgery. Furthermore, by altering the lighting, the carpeting, the number of people looking at the work, and so forth, the fact that the work is about time for Clarence does not change, but upon substitution of the Mona Lisa, a noticeable difference is produced.

These three cases suggest the possibility of a solution based on drawing a distinction between the work of art and the environment in which the work is observed.

Let us characterize the "anaesthetic environment" as any objects or parts of objects which exhibit a wide latitude of variability before their alteration results in
an appreciable change in the behavior of a viewer. Let us also characterize the "aesthetic environment" as any objects or parts of objects, which tolerate only minor variations before resulting in significant differences in the behavior of the observer. For example, it often does not matter for the appreciation of a painting whether it is viewed in one museum or another, or in the privacy of one's living room. Sometimes, however, slight variations in the lighting will make an enormous difference. In such cases, the room itself should be considered as part of the anaesthetic environment of display, and the lighting as a part of the aesthetic environment of display. Again, if there are people standing next to Clarence, talking, the extent to which Clarence is distracted (that is, the extent to which he produces a different set of explicit thoughts than he would were there no other people around) is the extent to which he cannot prevent the passage of conversation from the anaesthetic into the aesthetic environment of the work.

Obviously, the distinction between these two environments will vary among individuals. Since the descriptions of these two environments do not mention the work itself, the work can fall into either one of these environments, or partially within one, and partially within another. It is desirable, for a better appreciation by an individual of any work, for the work itself to fall
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(Def. 21) A work of art $W$ is about $k$ to a person $p$ at time $T$, iff

1. $p$ exists, $W$ exists, and $p$ has attentively observed $W$ during a time span, $T = \{t_1, \ldots, t_n\}$; and

2. During $T$, or shortly thereafter, $p$ has produced a non-empty class of explicit thoughts $Q = \{s_1, \ldots, s_m\}$ such that each member of $Q$ is either about $k$ de dicto, or about $k$ de re; and

3. During $T$, or shortly thereafter, either (i) $p$ has acquired a disposition (which $p$ did not have prior to $T$) to assent to sentences of the following forms, or (ii) $p$ would have acquired such a disposition (had he not already had it) to assent to sentences of the following forms:

   (a) 'It is not impossible that the artist who made $W$ intended some of the careful observers of $W$ to produce explicit thoughts about $k$ as a result of viewing $W$'; and

   (b1) 'It is not impossible that the artist who made $W$ was aware of the existence of $k'$, [when some of the $s_i$ are about $k$ de re]; or

   (b2) 'It is not impossible that the artist who made $W$ was aware of some sentences which are about $k$ de dicto at some time before producing $W'$, [when $k$ is fictional];

4. Both the production of $Q$ and the acquisition of the appropriate dispositions is a causal result of the observation of $W$ by $p$ at $T$; or, if actually acquired as a causal result of some other event, would have been acquired as a result of observation of $W$ by $p$ at $T$;

5. It is not the case that there is an aesthetic environment operative for $p$ at $T$ which does not include $W$.

The negative phrasing of clause (5) allows for the painting to be about sex for Abe, since (5) is satisfied vacuously.
**Consequences**

'Is About K For G'

Armed with a definition of 'is about K for G', the definition of 'is about K for G' where G is a group of individuals, follows automatically. It is clearly not the case that a book or a movie must be about K for every member of a group to be able to say legitimately that it is about K for the group. In fact, when we speak of the general viewing public, it will only be a small percentage of viewers whose response will be relevant. Thus, it is plausible that we only need to say the following.

If a random sample S(G) of members of G is taken, and W is found to be about K for at least x percent of the members of S(G) at some time T, then W is about K for G.

For various purposes, the "degree" to which W is about K to G can be stipulated, for example, 'is strongly about' for cases where W is about K for a simple majority of the members of S(G), or 'is minimally about' where W is about K for a percentage of S(G) deemed insignificant.

'Is Really About'

What can we say about the expression, 'is really about'? This seems to be the most interesting notion, and the one towards which our theory should be ultimately
directed. When an aboutness argument is presented, as in the four sample arguments, the intent is not to argue that \( W \) is about \( k \) idiosyncratically for the arguer, although some people might only be interested in exhibiting this to others. Normally, the arguer tries to convince his audience that the work itself really is about \( k \), regardless of who the viewer might be. The approach would be similar, whether the argument is presented to one other person or to a large audience. The approach consist in the following steps: (1) Point out certain features of the work, and show how they could (and hopefully do) cause explicit thoughts about \( k \) to be produced in a suitably educated audience. Sometimes this step requires educating the audience in a suitable fashion. (2) Raise certain questions for explicit consideration: Could the artist have been aware that the techniques used would produce the effects that they actually did produce, and could it have been an artist's intent to use these techniques to produce these effects? If \( k \) exists, could the artist have been aware of the existence of \( k \)? If \( k \) does not exist, could the artist have been aware of sentences containing \( k \)-terms?

If the arguer can accomplish step (1) and can reach an affirmative response on all three questions raised in step (2), then his case is normally felt to be strong enough to even overrule explicit objections from the artist. A common method of overruling artist's objections
is to hypothesize so-called "unconscious intentions."
Since this argument is felt to be so strong, this could
easily be all that is meant by the claim that \( W \) is really
about \( k \). Thus, one might propose as a definition of
'really about', as it is apparently used in natural
language, the following list of conditions:

(1) \( W \) is about \( k \) for some \( p \) at some time or other,
that is, it at least must be about \( k \) for
someone.

(2) If \( k \) exists, the artist who made \( W \) was in fact
aware of the existence of \( k \).

(3) If \( k \) does not exist, the artist was in fact
aware of the existence of sentences containing \( k \)
terms.

(4) The artist who made \( W \) was in fact aware that \( W \)
was likely to cause explicit thoughts about \( k \) in
appropriately educated members of the audience.

(5) The artist in fact intended \( W \) to cause explicit
thoughts about \( k \) in appropriately educated
members of the audience.

It should be noted that in this list, there are
several concepts which have not been defined, notably,
'intend', and 'aware'. The reason for this is twofold.
First, the notions which are most clearly accessible are
the technical ones, 'is about \( k \) de dicto', 'is about \( k \) de
re', 'is about \( k \) for \( p \) at \( t \)', while the popular notion, 'is
about' simpliciter, is lost in the dark morass of natural
language and folk psychology, and so can only be
approximated by means of a purely technical vocabulary.
Second, the approach taken by the causal theory avoids commitment to non-behavioral notions to whatever extent possible, so as to remain totally neutral concerning the ontology assumed. This must be done if a language for discussing these issues is to be proposed and accepted.

To illustrate how amenable to alternative ideologies and ontologies the causal theory of 'about' is, there follow various alternative and incompatible definitions of 'really about'.

W is really about k iff W is about k for the maker of W during the act of making W.

W is really about k iff W is about k for "the Artworld" (inclusive of the artist).

W is really about k iff (1) W is about k for the proletariat, and (2) any artist working at the time W was made could be expected to produce works about k for the proletariat.

W is really about k iff (1) W is about k for any certified psychiatrist, and (2) the artist is known to have a neurotic fixation on k.

W is really about k iff W is about k for the group of individuals consisting of anyone who was ever or will ever be exposed to W.

My own personal favorite is the last, since it takes into account only the audience which counts as far as the reputation of the work goes, and requires no additional commitment beyond the existence of work, the existence of viewers, and the viability of sampling techniques. Works that last a long time thus become more and more difficult
to label, as one generation after another of viewers come
to be and pass away.

**Loose Ends**

At the beginning of chapter III, there was a list
of four things which should be accomplished by any adequate
theory of 'about'. Some of these have been taken care of
in the course of explicating the theory. Others still need
to be dealt with.

(1) An adequate theory of 'about' should allow all
four of the sample aboutness arguments to be
stated without absurdity.

(2) An adequate theory of 'about' should meet the
master argument given in chapter II.

Clearly, since our entire approach has been based
upon the four aboutness arguments, one of which was an
argument which refuted the master argument, the first two
issues have already been dealt with.

(3) An adequate theory of 'about' should have some
relevance to the understanding of the Fregean
concept of 'sense'.

As will be recalled from the discussion of Frege on
pages 34-36, the 'sense' of a sentence was proposed as that
mysterious something which explains the cognitive
difference between true statements of the form 'a=b' and
those of the form 'a=a'. The restrictions and requirements
were as follows: (1) The sense of a sentence is not
language-specific; (2) it is not the reference; (3) it is not a thought; (4) it is a function of the senses of the parts of the sentence. Frege was primarily interested in a truth-functional analysis of language, and so the topic of 'sense' does not appear too often in his work. It is clear, however, that the causal theory of 'about' could have a significant bearing on this issue.

It would be too careless to say that the sense of a sentence is simply the set of all things that the sentence is about to all people. Sentences can be about fictional characters as well as real ones, and we do not need to clutter up the universe right away over this issue. Furthermore, we can expect that different occurrences of the same sentence can have different senses, just as their references can differ. As a first pass at a causal theory of sense, therefore, the following looks promising:

The sense of a particular sentence-token $S^x$ is the ordered pair whose first element is the set of all objects that the token is about for everyone who observes $S^x$, and whose second element is the set of all explicit thoughts whatsoever caused by $S^x$ when observed.

It seems necessary to include both of these features, because neither one is adequate by itself. If, to use Frege's own example, two sentence tokens resembling 'a=a' and 'a=b' were to be written upon a blackboard for the observation of an individual, and shortly thereafter
erased, it is plausible that the sets of objects that each sentence was about for the viewer would not differ, but that 'a=a' made the viewer produce an explicit thought about John Galt de dicto, a fictional character who "based his philosophy on the premise that A is A." On the other hand, 'a=b' resulted in no such explicit thoughts.

To take it from the other direction, imagine a possible world, identical to our own, with the exception that unicorns actually existed at one time. In this world, the same sentence token (if it is not contradictory to speak this way) which is about unicorns in both worlds would presumably not differ with respect to the explicit thoughts generated, but would differ greatly with respect to the set of all things the sentence token is about. In our world, this is the empty set, in the other world, it is non-empty.

The definition offered above, seems to have most of the features required for it to be a sense. It is not a thought, it is an ordered pair containing sets of objects and sets of sentences. It is not a reference either, and certainly not what Frege would call a reference of a sentence: "the True" or "the False." It is not language-specific, as any work of art, including non-linguistic works will have a corresponding sense, as here defined. And finally, the sense of a sentence is a function of the senses of its parts, because it is precisely its parts, not
just its terms or the expressions occurring within it, but its physical parts as well, which produce the precise causal effect upon the observer of the sentence token.

There are obviously some interesting consequences in pursuing a causal theory of sense, as has been suggested here only in a crude fashion. The necessary point, however, has been made.

(4) An adequate theory of 'about' should have some testable consequences.

The theory we have been considering is intended as a definition of 'about', not as a criterion. It is intended to capture the normal uses of 'about' in aesthetic contexts, but with a precision that should allow for its extension into other contexts as well. Although it might be natural to explain 'is about' in terms of an internal mechanism operating during and shortly after the observation of a work by an individual, an understanding of the exact nature of this mechanism does not determine our ability to use the word, 'about'. In fact, to say that W is about k for p is to say that p will behave in certain ways, and not necessarily that p will hold certain beliefs.

No attempt has been made to establish the boundaries between which different variables must range nor are any of the aesthetic debates hereby settled.

There are, however, certain testable consequences
of the theory which follow.

Since the theory is a causal theory, the existence of a certain causal chain of events should be something that can be established through experimentation. One way of doing this might be as follows.

Test group A will consist of 100 people who have been exposed for an appropriate length of time to some work of art W and instructed to observe it carefully. Perhaps they will be instructed to sit through a showing of a movie, perhaps they will contemplate a painting for as long as they deem necessary to appreciate it, perhaps they will read a short story in a single sitting. Ideally, W is a work with the following features, (1) the artist claims that W is about some relatively well known individual \( k \); (2) critics agree that W is about \( k \), or at least that it is to some extent (successfully) about \( k \); and (3) W does not mention \( k \) by name, does not contain a representation of \( k \), does not contain the sound of \( k \)’s voice, and does not contain a definite description of \( k \) (for example, ‘the president of the United States in 1953’). No member of A should already be familiar with W, or have any opinion (before exposure to W) as to what W is about.

Control group B also consists of 100 people who have been exposed for an equivalent amount of time to another work Q which is of the same artform as W, that is, another painting, movie, short story, or the like, but is
not claimed by either the artist or the critics to be about K.

After observing the respective works, each member of A and of B is shown a list of 20 names of relatively well-known individuals, among which is buried a name of K. The subjects are then instructed to select a name, but are given no criterion for making the selection.

Since the selection of a name of K counts as indicating an earlier production of explicit thoughts about K, we could expect from our theory a significant difference in the scores of the two groups. The theory predicts that shortly after the observation of a work about K, there is a causal process going on which involves the production of explicit thoughts about K. The experiment tests the explicit thoughts actually produced for biases in the direction of K.

A similar test could be run along the lines of Jung's word association tests. Instead of asking the subject to select a word from a list, Jung would request a verbal response to each word read from the list to the subject. The response could be anything at all, but needed to be given as quickly as the subject was able. Certain words in the lists would require considerably more response time than others, and Jung speculated that these words, since they varied from subject to subject, indicated areas of neurotic complexes. The extended response time
sometimes carried over to the words following the problematic one, indicating, according to Jung, a greater degree of "psychic energy" invested in the complex.

For our second testable consequence, similar lists containing certain topics (agreed upon by artists and critics alike as topics dealt with in W), rather than names of individuals, imbedded within them, could be presented in the style of word association tests. If the average response time for each group diverged significantly on certain key topics, this could indicate the tendency of W to provoke processing of these topics by the test subjects.

The test needs to be administered immediately after observation of the work, as the existence of a causal chain is presumably only of a fairly short duration. However, variations of the test suggest themselves in which the two phases of the experiment are separated by a ten or fifteen minute interval in which the subject has been instructed to "think about" the work.

There are many sources of experimental error that need to be safeguarded against, of course. The prominent appearance of one of the names from the list in news headlines might interfere with the results. If W is a baseball story, and the only baseball player on the list is K, then the results might be somewhat suspect. If only a tiny fraction of the members of group A and B have ever heard of K, then the results are meaningless. Thus, a
certain amount of discretion and expertise in experimental design is necessary.

Since our proposed test is purely imaginary, we can expand the number of subjects to a number large enough to ensure that at least 100 members of both groups are reasonably familiar with the relevant biography of \( K \), thereby ruling out this last problem.

Countless variations of these tests suggest themselves. The purpose of these two suggestions is simply to establish the existence of some sort of causal relationship between the observation of a work of art and the production of certain classes of explicit thoughts.

Two major questions arise.

(1) Suppose that the results turn out negative, that is, either there is no significant difference between the two groups, or there is a negative correlation between the observation of \( W \) and the selection of the name of \( K \). What can we conclude from this with respect to the theory?

Since we are merely imagining these tests, we can imagine that we have screened the test for all conceivable sources of error, and that our sample size is sufficiently large for the results to be quite an accurate representation. Under these circumstances a negative result would indicate that exposure of a class of individuals \( A \) to work \( W \) is not sufficient for the production of thoughts in class \( A \) about \( K \). The explanation
of this lack of sufficiency could take several forms.

First, the arbitrary choice of one name from a list of twenty might not be a good test for the ongoing production of explicit thoughts. Unfortunately, it is hard to imagine another approach that would always avoid giving too much information to the subject. The theory says that \( p \) would produce an explicit thought about \( k \) de dicto or de re if prompted, but to ask each member of A and B to write an essay or even a sentence might perhaps be too sticky a test to implement. This, it appears, is the least likely alternative.

Second, the theory could be incorrect as it stands, that is, \( W \) is indeed about \( k \) to group A, but there is not a corresponding propensity in the members of A to produce explicit thoughts about \( k \) de dicto or de re. This would mean that the production of explicit thoughts is not a necessary condition for \( W \)'s being about \( k \) for group A. This in turn would imply that production of explicit thoughts is not a necessary condition for \( W \)'s being about \( k \) for \( p \) either. It might, nevertheless, still be a sufficient condition, and the definition would need to be modified so as to consist of a disjunction of various conditions rather than a conjunction as it currently does. Further testing would be required.

Third, the theory could still be correct, but an insignificant number of individuals in A "got it," that is,
W was never really about k for group A in the first place. This explanation would be a denial of one of the underlying assumptions of the experiment, namely that because the artist and the critics say that W is about k, it must also be about k for the members of A. This might be a faulty assumption, since it is not an assumption guaranteed by the theory.

(2) Since this third response is always available, could anything refute the theory? The problem that this raises is a fundamental one. If we had a foolproof method of determining when some work is or is not about some object to some group (so that we could test our theory without running the risk of incurring this third response), we would have no need for the theory. Therefore, an apparent failure of our theory such as this one might in fact simply be a startling consequence, a surprise to the artist and critics alike: the work fails as a work about k.

We need not worry about unfalsifiability. Although it is true that an initial negative results would simply point out a need for further testing, repeatedly negative results would seriously call into question the claim that our proposed definition effectively captures the meaning of the expression, '... is about ... for ...'. Even so, at least something of interest would have resulted with respect to our understanding of the meaning of the word 'about'.
Conclusion

The causal theory of 'about' has met challenges which previous theories could not. It has called upon the work of Nelson Goodman to provide the technical notions of 'about de re' and 'about de dicto' with respect to a certain class of sentences. It has produced a precise definition of 'about for p', as its "bridge" concept. This concept, while itself partially a "technical" one is closely related to the natural language notion of 'about for someone'. Here, the theory stops, as further developments are matters for aestheticians, lawyers, psychologists and so forth, whose needs require differing definitions. Our theory is merely intended to provide a neutral language within which the propriety of some application of 'about' may be discussed precisely, and in a non-question-begging fashion.

As a last issue, we shall present some possible topics upon which this theory might foreseeably have an important impact.

Aesthetics

Throughout much of the earlier discussion, areas of application for the causal theory of 'about' have been suggested, notably in the establishment of a neutral technical vocabulary for certain aesthetic debates. For example, the question of how much significance should be
granted to the voices of the critics, how much to the artist, and how much to one's own "personal experience" of the work, when trying to decide what the work is "really" about?

Even beyond this, the theory is open to many more developments. For example, there is much material in recent philosophical journals dealing with theories of metaphor. A common assumption in many of these theories, but by no means all of them, is that there is a difference between metaphoric and literal sentences with respect to either what they mean, or how they mean. It is sometimes claimed that a certain sentence has a literal meaning distinct from its metaphoric meaning. Another way of putting it would be that metaphors say different things than literal sentences and about different subjects.

The causal theory of 'about' offered here should have a direct bearing on the topic of metaphor. To take Max Black's famous example, if the sentence, 'Man is a wolf' is to say something literally about wolves, but metaphorically about rapacity, then we obviously need a theory of 'about' capable of explaining appropriate uses of 'is literally about' as well as 'is metaphorically about'.

A major contribution of the causal theory of 'about' is that it does not require that meaning be divided into two camps. In fact, exactly the same steps would be taken to establish both claims, namely that the sentence is
about rapacity and that it is about wolves. The only thing that seems to allow us to distinguish between 'S is literally about k' and 'S is metaphorically about k' is the presence in or absence from S of some term denoting k.

Thus, a future development of the causal theory of 'about' could be a causal theory of metaphor.

**Jurisprudence**

The terms used throughout have been defined in ways that are most apparently useful for the aesthetician. Indeed, it is hoped that a neutral language and a useful set of criteria have been established for empirically grounding future discussions in aesthetics. Even so, it is possible for other fields to be enriched by adoption of the definitions proposed here as well.

Perhaps the most clearcut example of this would be jurisprudence. If someone were to file suit against an author on the grounds that a purported work of fiction written by the author is in fact a collection of libelous allegations against the plaintiff, it would be necessary to establish the following issues:

1. The work is about the plaintiff.
2. The work asserts various false claims about the plaintiff.
3. These false claims are asserted with malicious intent on the part of the defendant.
These claims resulted in financial loss or loss of esteem for the plaintiff among the members of his (professional) community.

In current practice, this sort of charge is practically impossible to establish. Clearly, the most important issue to resolve is the first, since if the work is not about the plaintiff, the plaintiff has no grievance. For example, a work can assert false claims and those claims may be asserted with malicious intent about anyone who happens to be relevantly similar to some particular character within the work, and yet the work may still not be about the plaintiff, simply because the author had no way of knowing of the existence of the plaintiff.

Suppose it were to be demonstrated that the work was about the plaintiff by showing that if the names of every character were replaced by the names of real people, then the resulting work would be a factual report. This might establish that the work was about the plaintiff, if the jury is convinced by the argument from design, but it would destroy the possibility of establishing the second issue, namely that some false things were claimed about the plaintiff. And conversely, if it is shown that various false things are said in the work about the plaintiff only if they are taken as being about the plaintiff, then how can it be established that the work is really about the plaintiff at all?
Acceptance of our proposed definitions would change this situation dramatically, since 'being about', as here defined, does not depend upon reference, so a work can fail to refer to person $x$, and still be about $x$. The question of whether or not the work is about $x$ rests on the causal effects and the willingness of the jury to agree that those effects could have been intended. Actual intent is not important to establish for this first issue, so it might be thought of as a case of "guilty until proven innocent" for special issue (1). Of course, this situation gets rectified in special issue (3), since the establishment of malicious intent is another matter entirely, and the charges stand or fall on this issue. Furthermore, it is no crime to simply write about another person.

Censorship and Pornography

This brings up another area, the area wherein it might be considered a crime to write about something: the area of censorship. A somewhat apocryphal story exists to the effect that Ravel's "Bolero" was banned from public performances at one time due to its feared effect upon "impressionable young girls." The censorship of a work of pure music on such grounds seemed ludicrous to modern listeners, who felt that the sounds were only what the listener makes of them. However, "Bolero" has reemerged into "popular consciousness" recently through the movie 10.
Thanks to this movie, "Bolero" is firmly established in the minds of most people with exactly the same sorts of associations which the earlier censors must have feared. The problem with enforcing censorship and monitoring for forbidden topics is that a thin veneer can disguise a highly suggestive passage or remark, in such a ways as to stymie the more literal-minded of the morality police. For a censor to establish that a work should be banned, he must first establish what the work is about, so as to decide whether it is about a forbidden topic. Only then can it be established exactly what is said about the topic.

Coda

The task of elaborating a causal definition of 'about' is not complete. There is much work left to be done. 'About' is a word that is difficult to avoid in many contexts, and our understanding of its proper use has long been confused with many other terms. For this reason, a complete study of 'about' would impinge upon many areas not dealt with in this paper. Reference, intention, and meaning, are the more obvious topics. The theory of 'about' needs to find a niche inside a theory of semantics, a theory of aesthetics, a theory of fictions. We could have, and perhaps should have, brought into our discussion such issues as possible worlds, semiotics, intentional objects, narrative voice, rhetoric, and metaphor. We
should have examined the writings of Wittgenstein, Russell, Peirce, Husserl, Meinong, Barthes, Jakobson, Eco, the medievals.

The positioning of a theory of 'about' within the grand scheme of philosophy is a difficult matter. From the start, it is as if one must declare a school, a leaning, a metaphysic, an ontology. I have limited myself, in producing this theory, to a very small ontology. In doing so, I have perhaps alienated more of my potential audience than I have won over. I can only hope that I have succeeded in doing one thing: by working within the confines of a limited ontology, and within the strictures of a discipline normally thought of as antipathetical to all poetic enterprise, I have nevertheless shown how it is possible to remain sympathetic to the nuances of language and art. By producing a definition of 'about' which can be acceptable to all, even the most hard-nosed ontologists, I have tried to push back the barriers which currently separate analytical philosophy from aesthetics.

Since my fundamental definition can always be supplemented by any number of additions, I would much rather have erred on the side of saying too little than of presupposing too much.
APPENDIX A

SENTENCES EXHIBITED IN THE TEXT

Introduction

(S1) I was just about to leave.

(S2) What sort of mischief are you about?

(S3) He will be up and about shortly.

(S4) What was the movie about?

(S5) It was about two hours long.

(S6) Go on about your business.

Chapter I

(S7) An aboutness claim is a metalinguistic claim which states a relation between words and other words, but does not state a relation between words in an object language and objects.

(S8) Mr. Pickwick is a fictional entity.

(S9) Unicorns do not exist.

(S10) 'The sentence S is about Q' often means 'Q is the grammatical subject or nominative to the verb (or main verb)'.

(S10*) 'S is about k' often means 'the term "k" is the grammatical subject of S'.

(S10**) 'Sentence S is about Q' is true if and only if there is a disambiguated translation of S, call it D(S), and a disambiguated translation of 'sentence S is about Q', call it D(C), and there is a term, t, such that t is synonymous with 'Q' and t appears in both D(S) and D(C).

(S11) I climbed Helvellyn.

(S11*) Pickwick climbed Helvellyn.
(S12) 'Sentence S is about Q' sometimes means 'the sentence S contains Q, and Q is a noun or pronoun or phrase equivalent to a noun or pronoun occurring in no matter what grammatical position in the sentence.'

(S13) 'S is about Q' sometimes means 'Sentence S is a part of a conversation or discourse and S or all or most of the other sentences in that conversation or discourse are alike in containing the noun or virtual noun Q and no other noun is common to them.'

(S14) 'Sentence S is about Q' means for philosophers, 'S contains the logically proper name N or else the description D and Q is logically named N or else the characteristics signified by D do belong to Q and nothing else.'

(S14') 'Sentence S is about k' means for philosophers, 'S contains an expression E which either denotes k and only k, or truthfully describes k and only k.'

(S15) 'S is about* k' is equipollent to 'the expression "k" or an expression synonymous with "k" occurs in S'.

(S16) 'S is about k' is equipollent to 'S is about* k'.

(S17) The sentence, 'Yesterday's lecture was about Babylon' is about the word 'Babylon' and not about Babylon.

(S17*) The sentence 'Yesterday's lecture was about* Babylon' is about the word 'Babylon' and not about Babylon.

(S18) The sentence, 'Yesterday's lecture was about Babylon' is about the word 'Babylon'.

(S19) The sentence, 'Yesterday's lecture was about Babylon' is about Babylon.

(S20) 'Yesterday's lecture was about Babylon' is about* the word 'Babylon'.

(S21) The expression 'the word "Babylon"' or an expression synonymous with 'the word "Babylon"' occurs in 'Yesterday's lecture was about Babylon'.
(S22) The expression 'Babylon' or an expression synonymous with 'Babylon' occurs in 'Yesterday's lecture was about Babylon'.

Chapter II

(S23) Sentence S is about every object denoted by any individual constant occurring in S.

(S24) S is about every class which constitutes the extension of a n-place predicate occurring in S.

(S25) If sentence S is about k, then any other sentence, R, which is L-equivalent to S, is also about k.

(S26) A categorial sentence is only about those things comprised in the extension of its subject term.

(S27) Anything is such that if its being a crow materially implies its being a crow, then it is evidence for theory X.

(S28) If statement S is about an object or class, k, and kCj, or kej, then S is also about j.

(S29) If S is about class k, and jCk, or jek, then S is also about j.

(S30) There are distinct objects or classes, j, k, and there is a statement S such that S is about k and S is not about j.

(S31) A statement about set A is also about any subset of A or any sets containing A.

(S32) A statement can be about something without being about everything.

(S33) Aroostook County grows potatoes.

(S34) George Washington wore a wig.

(S35) Let us say that a statement T follows [from S] differentially with respect to k if [1] T contains an expression designating k and [2] follows logically from S, while [3] no generalization of T with respect to any part of that expression also follows logically from S.
(S36) Fred raises (some) fat pigs and every pig raised by Fred is fat.

(S37) Fred raises pigs.

(S38) Fred either raises pigs or doesn't raise pigs.

(S39) If anything raised by Fred is not fat, then it is not a pig.

(S39*) (x)(if anything raised by Fred is not fat it is not an x).

(S40) If statement S is about object or class k, and k either contains or is contained in some j, then there is some statement Q expressing this relation between k and j.

(S41) If Q is a truth of logic, then S is absolutely about j as well as k.

(S42) If Q is contingent, then S and Q are about j relative to each other.

(S43) There are distinct objects or classes j, k, and there is a statement S such that S is absolutely about k and S is not absolutely about j.

(S44) The square circle is divisible by zero.

(S45) Mr. Pickwick wore purple.

(S46) 'Furniture' and 'fire' both occur in the sentence: 'Fire burns furniture.'

(S47) Animal Farm is about Soviet Russia.

(S48) Animal Farm is not about Fermat's last theorem.

(S49) All animals are equal.

(S50) For some work of art W and for some objects, x, y, x / y, with neither x nor y being mentioned, depicted, denoted, designated, or referred to in any way, by any part of W, it is nevertheless possible for W to be about x and not about y.

Chapter III

(S51) I am cold.
(S52) J'ai froid.
(S53) Yours truly is cold.
(S54) This shirt is the color of blood.
(S55) She made a royal gesture of acknowledgement and held out her hand to the animal.
(S56) She made a royal gesture of acknowledgement and held out her hand to Gawain.
(S57) I am sleepy.

D(S57) Robert Boyd Skipper is sleepy between 12:15 and 12:17 P.M. CST on October 6th, 1986, in Houston, Texas.
APPENDIX B

DEFINITIONS OCCURRING IN THE TEXT

(Def. 1) Statement \( T \) follows differentially from statement \( S \) with respect to \( k \) iff

(1) \( T \) contains an expression \( E \) which designates \( k \); and

(2) There is some theorem \( P \) in logic such that one application of Modus Ponens to \( S \) and an appropriate substitution instance of \( P \) yields \( T \); and

(3) For any statement \( T^* \) which is the result of a legitimate application of UG to either \( E \) or some term contained in \( E \), there is no theorem \( P^* \) such that one application of Modus Ponens to \( P^* \) and \( S \) yields \( T^* \).

(Def. 2) \( S \) is absolutely about \( k \) iff some statement \( T \) follows differentially from \( S \) with respect to \( k \).

(Def. 3) Statement \( U \) is an explicitly unitary consequence of \( W \), only if

(1) \( U \) is expanded to eliminate all descriptions and class abstractions, all statement connectives other than conjunction and disjunction, and all negations applied to expressions containing another negation, a quantifier, a conjunction or a disjunction; and

(2) every disjunction in \( U \) is outside the scope of every existential quantifier; and

(3) every conjunction sign in \( U \) is, with reference to \( W \), irrevocably within the scope of an existential quantifier. (Conjunction signs are thus captive only if they can be neither freed from the scope of existential quantifiers nor eliminated.)

(Def. 3\#) Statement \( U \) is an EUC of \( W \), iff \( U \) is a logical consequence of \( W \), and conditions 1, 2, and 3 of (Def. 3) are met.
(Def. 4) U is a unitary consequence iff U is a statement that is logically equivalent to some EUC.

(Def. 5) S and Q are about K relative to each other iff some unitary consequence T of S \land Q follows differentially with respect to K from S \land Q, but not from either S or Q alone.

(Def. 6) Expression E occurs as a term of S if and only if E either is a predicate in S or occupies one of the argument places of a predicate in S.

(Def. 7) A statement T follows term-differentially from S with respect to a term E of T if and only if T, but no generalization of T with respect to any term of T that is part of E, follows logically from S.

(Def. 8) S is Pickwick-about if and only if it yields some statement T term-differentially with respect to "Pickwick."

(Def. 9) S is _____-about if and only if S yields some statement T term-differentially with respect to "______ ."

(Def. 10) Any sentence (either an utterance or an inscription) which (1) is actually produced by an individual p on a specified occasion, either spontaneously, or upon being asked (under circumstances conducive to free speech and honesty) to share his or her thoughts, or (2) is such that it would be produced were such a request to be made (in such circumstances and on that occasion), we shall call an "explicit thought of p."

(Def. 11) A sentence S is a unicorn-sentence for p iff p classifies tokens of S as unicorn-objects.

(Def. 12) An expression E occurs as a term of sentence S iff E is either a predicate in S or occupies one of the argument places of a predicate in S.

(Def. 13) Where S* is a token of a sentence S the token(s) corresponding to any expression occurring as a term of S is/are a term of S*.

(Def. 14) A sentence T follows term-differentially from sentence S with respect to an expression E iff 

(1) Where D(X) stands for the disambiguated,
deindexicalized clarification of X, there are two sentences, D(S) and D(T), such that E occurs in both T and D(T); and

(2) D(T) follows logically from D(S); and

(3) no generalization of D(T) with respect to any term of D(T) that is a part of E follows logically from D(S).

(Def. 15) Term t occurring in sentence-token S* (a token of sentence type S) is a unicorn-term in S* for person p iff (1) S* is a unicorn-sentence for p and (2) there is some term t' such that if every occurrence of t within S were to be replaced by an occurrence of t', thereby resulting in a different (grammatically acceptable) sentence S', then no token of S' would be a unicorn-sentence for p.

(Def. 16) Term t occurring in sentence-token S* (a token of sentence type S) is a _____-term in S* for person p iff (1) S* is a _____-sentence for p and (2) there is some term t' such that if every occurrence of t within S were to be replaced by an occurrence of t', thereby resulting in a different (grammatically acceptable) sentence S', then no token of S' would be a _____-sentence for p.

(Def. 17) Sentence S is about unicorns de dicto for an individual p iff

(1) p perceives a token of S, call it S*;

(2) S* contains a term, t;

(3) t is a unicorn-term for p; and

(4) S follows term-differentially from itself with respect to t.

(Def. 18) A sentence T follows differentially from sentence S with respect to an object X iff

(1) Where D(X) stands for the disambiguated, deindexicalized clarification of X, there are two sentences, D(S) and D(T); and

(2) D(T) follows logically from D(S); and

(3) D(T) contains an expression E denoting X; and
(4) No generalization of D(T) with respect to any part of K also follows logically from D(S).

(Def. 19) Sentence S is about object K de re iff some sentence T follows differentially from S with respect to K.

(Def. 20) Let A={The set of all sentences about K de dicto or de re, to which p is disposed to assent before viewing W}.

Let B={The set of all sentences about K de dicto or de re to which p is disposed to assent during and shortly after viewing W}.

W is about K for p iff there is some sentence T contained in B and not contained in A.

(Def. 21) A work of art W is about K to a person p at time T, iff

1) p exists, W exists, and p has attentively observed W during a time span, T={t₁, ..., tₙ}; and

2) During T, or shortly thereafter, p has produced a non-empty class of explicit thoughts Q={q₁, ..., qₘ} such that each member of Q is either about K de dicto, or about K de re; and

3) During T, or shortly thereafter, either (i) p has acquired a disposition (which p did not have prior to T) to assent to sentences of the following forms, or (ii) p would have acquired such a disposition (had he not already had it) to assent to sentences of the following forms:

(a) 'It is not impossible that the artist who made W intended some of the careful observers of W to produce explicit thoughts about K as a result of viewing W'; and

(b1) 'It is not impossible that the artist who made W was aware of the existence of K', [when some of the q₁ are about K de re]; or

(b2) 'It is not impossible that the artist who made W was aware of some sentences which are about K de dicto at some time before producing W', [when K is fictional];
(4) Both the production of \( Q \) and the acquisition of the appropriate dispositions is a causal result of the observation of \( W \) by \( p \) at \( t \); or, if actually acquired as a causal result of some other event, would have been acquired as a result of observation of \( W \) by \( p \) at \( t \); 

(5) It is not the case that there is an aesthetic environment operative for \( p \) at \( T \) which does not include \( W \).
NOTES

Introduction

1Silvano Arieti, Interpretation of Schizophrenia

2Ibid., p. 35.

Chapter I

1Gilbert Ryle, Collected Papers. Vol. 2:

2Ibid., pp. 82-84.

3Bertrand Russell, "On Denoting," in Logic and
York: G. P. Putnam's Sons, 1956; Capricorn Books, 1971),
pp. 41-56.

4Ryle, p. 82.

5Ibid.

6Ibid.

7Ibid.

8Ibid. pp. 82-83. This definition has been
restructured so as to retain parallelism with previous
ones. In the text, the passage begins as follows: "This
seems to mean that the sentence S is part of a conversation
or discourse and that S and all or most ...." The
remainder is identical to our version.

9Ibid., p. 83.

10Alexis Meinong, "The Theory of Objects," in
Roderick Chisolm's Realism and the Background of
76-86.

11Terence Parsons, Non-Existent Objects (New

12Gottlob Frege, "On Sense and Reference," in
Peter Geach and Max Black, Translations from the
Chapter II


2The following presentation of some of the more basic tenets of information theory is a summarization of material from chapter 10 of Mathematical Psychology: An Elementary Introduction, by Clyde H. Coombs, Robyn M. Dawes, and Amos Tversky (Englewood Cliffs: Prentice-Hall, 1970), pp. 307-326.

3Putnam, 126-127.


7Goodman, p. 253.

8Ibid.

9Ibid., p. 262.

10Ibid., p. 261.

11Ibid., p. 263.

12Both Patton and Ullian expressed reservations on this matter.

13Goodman, p. 267.

14Ibid.

15Ibid.

16Ibid.


21 Ibid., 130-131.

22 Ibid., 131.


24 Ibid., 311.

Chapter III


2 Ibid., pp. 17-22.

3 Ibid., pp. 29, 32.

4 Ibid., p. 50.

5 Ibid., p. 29.

6 Ibid., p. 44.

7 Ibid., pp. 47-48.

8 Ibid., pp. 55-58.

9 Ibid., 58-62, 82-83, et passim.

10 Ibid., pp. 60, 72 et seq.

11 Ibid., pp. 18-19.

12 Ibid., pp. 26, 27.

13 Ibid., p. 27.
14Ibid., p. 56.
15Ibid., p. 55.

16The dialogue for this argument was transcribed from the soundtrack of a Laser Videodisc version (from CBS/Fox Video) of The Treasure of the Sierra Madre, (Warner Brothers, 1948)


18Ibid., p. 62.
19Ibid., p. 263.


22Ibid., pp. 92-94.


25I am thinking here in particular of some of T. S. Eliot's works, and perhaps some of the later Cantos of Ezra Pound.

27 These definitions can be found on pages 108 and 109 in the text, or in Appendix B.


Chapter IV


2 This results is derived by J. S. Ullian in "Corollary to Goodman's Explication of 'About'," *Mind* 71 (1962): 545.
BIBLIOGRAPHY


