The dialectic of ambiguity
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CHAPTER 3: THE LINGUISTIC ASPECT

Active ambiguity has been defined by presenting a communicative, or linguistic clause and an interactive, or relevance clause. In order to be actively ambiguous, an expression must admit of several interpretations within its context of use, that is, it must be contextually ambiguous. And in order to be contextually ambiguous, it must be semantically ambiguous, that is, capable of expressing different meanings in various possible contexts of utterance. Contextual ambiguity originates partly from features of natural languages and partly from features of communicative situations. In this chapter, the nature and origin of semantic (section 1) and contextual ambiguity (section 2) will be discussed. Part of the origin of contextual ambiguity must be found in the deliberate choice of argumentative strategies: an equivocator may choose expressions and construct environments for them in such a way that he or she may profit from the resulting confusion. Because the interactive effects of using actively ambiguous expressions are discussed in the next chapter, part of the causal background of contextual ambiguity will be dealt with there.

1. FEATURES OF NATURAL LANGUAGES: SEMANTIC AMBIGUITY

This section deals with semantic ambiguity. Section 1.1 discusses a taxonomy of ambiguity and unclearness provided by Van Eemeren and Grootendorst. Section 1.2 deals with the approach to ambiguity and vagueness by De Groot and Medendorp. Naess examines several ways of defining 'sameness of meaning'. These definitions suggest a series of ambiguity definitions that will be dealt with in 1.3. One of these definitions resembles the starting point of Pinkal's supervaluational taxonomy of indeterminate expressions that will be examined in 1.4.

1.1. UNCLEAR AND AMBIGUOUS LANGUAGE ACCORDING TO PRAGMA-DIALECTICS

Van Eemeren and Grootendorst distinguish between unclear language and ambiguous language (1992, chapter 18). There are, in this account, four types of unclearness. These will be considered first. An expression is unfamiliar if its meaning is unknown to the party addressed. A sentence is implicit with respect to communicative function, if it is not clear what kind of speech act has been performed by uttering the sentence (“do you know the time? - I do”). An expression is referentially indefinite if it is not clear to whom or what the speaker is referring (“Bush dislikes Hoessein” - which Bush?). An expression is vague if it is predicated of someone or something that must be considered a borderline case (Johan Cruyff uses Dutch in a poetic way - however, his strange phrases can alternatively be seen as grammatical mistakes). Moreover, an unclearness may reside in the connection between larger parts of the text: does that paragraph contain his own argument or his account of her argument?

Of these types referential indefiniteness and vagueness are potential sources of active ambiguity. If a name or a definite description is referentially indefinite, there may exist various interpretations of the expression that might become relevant for the course of the discussion. The connection between ambiguity and vagueness will be discussed below when dealing with supervaluationism. Unfamiliarity with meaning, however, does normally not lead to multiple well-specified interpretations.
Implicitness with respect to communicative function and unclearness concerning the connection between parts of a text may lead to ambiguity in a practical sense, but active ambiguity has been restricted to the propositional content of utterances.

Van Eemeren and Grootendorst distinguish between three kinds of ambiguity. If an expression is referentially indeterminate it can also be seen as referentially ambiguous. A word is semantically ambiguous, if it has several meanings: leaf both means 'some part of a plant' and 'a piece of paper'. If the grammatical structure of an utterance leads to ambiguity then the ambiguity is called syntactic: I'm not going with you because it's raining might give a reason for not going or deny a reason for the decision to go with you.

Referential ambiguity, vagueness and syntactic ambiguity provide examples of, what we call, semantic ambiguity and can become the basis of a contextual or active ambiguity.

1.2. DE GROOT AND MEDENDORP ON ELLIPSIS

De Groot and Medendorp (De Groot and Medendorp 1986) present a practical approach to vagueness and ambiguity. Vagueness is discussed in terms of colligenda, ambiguity in terms of complenda.

Vague terms and colligenda

De Groot and Medendorp are inspired by Von Mises's characterisation of vagueness (De Groot and Medendorp 1986, 139-148). If we have a predicate X, we may define the set (\(\mathcal{X}\)) as the set of cases for which the question 'is this an X or not?' is relevant. Thus, if X is table we may choose the set of pieces of furniture as (\(\mathcal{X}\)). The meaning of table can be characterised by stating subsets of (\(\mathcal{X}\)): the subset of cases for which all relevant users of the term answer 'yes' to the question “is this an X?” and the subset of cases for which they answer 'no'. A term is vague if there is a non-empty subset of (\(\mathcal{X}\)) that contains cases such that some users answer 'yes' and some answer 'no' to the question. Moreover, this disagreement is ‘there to stay’, a phrase that suggests that the disagreement between the respondents is not resolvable by empirical examination of the controversial cases (142). This last subset is the indeterminacy area for the term and contains the borderline cases of a term.

However, De Groot and Medendorp reject the use of sets and subsets as too rigid for the purpose of analysing concepts in the social sciences and humanities. If one describes the meaning of a complicated, vague term to the best of one's capabilities, the 'subsets' of borderline cases, positive cases and negative cases can still be indefinite in various respects. This indefiniteness is inescapable according to the authors.38 Such a vaguely indicated collection can be called a colligendum, Latin for 'that which must be further collected or defined'. Thus the meaning of a vague term can only be given by colligenda. Using colligenda instead of sets has an advantage: it avoids the wrong suggestion that a notion is only really defined if it is rigidly defined in terms of sets. A predicate is vague if its meaning is not complete and can be completed in a number of ways. Its incompleteness is indicated by the

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38 Stated in terms to be discussed below in section 1.4, the authors take higher order vagueness into account.
circumstance that different competent users of the predicate have opposed views on whether or not to apply it to borderline cases.

**Ambiguous terms and complenda**

De Groot and Medendorp discuss ambiguity from a similar perspective. Expressions taken in isolation are often very incomplete, and we can extract their meaning only if we take the linguistic context and the communicative situation into account. With contexts and situations the meaning of an expression changes, due to an incompleteness that is comparable to ellipsis. Just as elliptic expressions are to be completed by adding missing parts (*I weigh 73* can be elliptical for *My weight is 73 kilos*), most expressions can only be understood properly if one adds missing elements obtained from the context of utterance. In addition to ellipses in the narrower sense, ambiguity includes synecdoches, metonymies and metaphors. For this broader concept of ellipsis De Groot and Medendorp introduce the neologism *complenda*, Latin for 'things to be completed' (68-74). 39

A *complendum* is a flexible instrument. If it is used in a communicative situation, then the reader or listener adapts himself automatically and assigns it a suitable meaning. They give the word *test* as an example. In different linguistic contexts, it is to be completed in different ways. For example: *the score on the test* and *the score on the variable measured by the test* mean the same. This implies that in the first expression *test* refers to a variable measured by the test, while in the second it refers to the instrument and not to a variable (69).

Complenda are terms with incomplete meanings, while colligenda are (part of) incomplete meanings themselves. Thus, ambiguous as well as vague terms are characterised by the ways they can be made more precise. One may show the ambiguity of *test* by completing its meaning in several ways: *test in the sense of a variable measured by an instrument* and *test in the sense of an instrument to determine the value of a variable*. Dealing with ambiguity and vagueness as incomplete expressions is practical because it suggests a simple way of dealing with them if their use leads to trouble in communication (see section 5 of chapter 4).

A potential divergence in completing a meaning may provide a source of active ambiguity if, within the context of utterance, it remains unclear in what direction to reduce the incompleteness or if the parties complete meanings in distinct ways. Such incompleteness of meaning is exploited in a systematic way in supervaluational semantics that will be discussed in section 1.4.

**1.3. Naess on the ways meaning may diverge**

Naess is concerned with the issue of what people mean when they say things, in particular in situations where others might express disagreement with what has been said (1966, 8). He considers it important to develop a method for answering this

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39 In another paper, De Groot presents a definition of *complenda* that refers to interactive effects, and that bears some resemblance to the present definition of active ambiguity: “All passages, statements, or expressions in a text which (1) fall short in precision, (2) involve the risk of inducing sloppy thinking, and (3) can be phrased more precisely by inserting linguistic elements (words, adjuncts, clauses) by which omitted links, conditions, or explanations are filled in, are called *complenda*” (1988, 163).
question, because the answer will help to improve the quality and effectiveness of communication, argumentation in particular. When we argue, we normally use a language by which we can express only vaguely and ambiguously what we have in mind, if we have something definite in mind at all. Therefore, we need an interpretation of someone’s utterances, before we can apply logic to them. The practical issue of interpretation arises from the fact that “one word sequence can have more than one meaning and a number of different word sequences can have the same meaning” (1966, 8). “Any application of logic, … can be said to presuppose a theory of interpretation” (1966, 10). Naess provides a set of devices that helps to develop a justified account of what is meant by some utterance. The study of these devices is the semantics of cognitive communication (Naess 1953, 2).

Since the issue of what an expression means should not be separated from the way people use the expression, Naess calls for an empirical investigation of meaning. He prepares such investigations by providing and examining many concepts and methods. For instance, he develops a series of alternative definitions of what it could mean for two expressions to be synonymous. For each of the resulting concepts of synonymy, Naess proposes one or more empirical tests by which it can be decided whether expressions are synonymous. Naess’s aim is to transform obscure statements concerning meaning, synonymy, ambiguity, interpretation, preciseness, etc., into more precise and better testable empirical hypotheses.

Naess introduces detailed procedures that help interlocutors to formulate their thoughts in such a way that they can understand each other to a sufficient degree. The major working-method is to make formulations more precise. Given statement A, uttered by person P, what should person Q understand by it? Q could reflect on what statements A could have been expressed by P and formulate these different statements in more precise ways. Next, Q could ask P: did you mean this, or did you mean that?

Naess is primarily interested in improving the efficiency and reasonableness of communication. In that context, the following two kinds of ambiguity are of central importance. An expression \( T_0 \) is said to be actively receiver ambiguous for person Q, if person P invites Q to accept or reject \( T_0 \), while Q is incapable of answering because he is uncertain about how to interpret \( T_0 \). Q cannot terminate her process of interpretation and has to suspend the process (1953, 75). An expression \( T_0 \) is said to be actively ambiguous in communication (in the situation) if P asserts \( T_0 \), Q expresses acceptance or rejection, and \( T_0 \) expresses a different meaning for P than for Q (1953, 76). Both concepts correspond with the notion of contextual ambiguity, that is, ambiguity within a context of utterance.

Naess gives the following skeletal definition of ambiguity (semantic ambiguity, in our terms), where \( a' \) refers to the \( i^{th} \) occurrence of expression \( a \) (1953, 28):

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40 In Naess’s view, a theory of interpretation has the following tasks: to clarify how the same expression can have different meanings and how different expressions have the same meaning, to draw the consequences from this and to evolve a suitable terminology to discuss these subjects effectively and precisely (1966, 15).
41 I have adopted the term active ambiguity for the reason that it suggests the ambiguity to be interactionally relevant. Naess’s concepts of active ambiguity, however, do not contain clear relevance conditions.
expression $a$ is ambiguous $\Rightarrow$ there is at least one pair of instances, $a^i$ and $a^j$ of $a$ such that $a^i$ and $a^j$ do not express the same meaning, but each a different meaning.\(^{42}\)

Naess uses the distinction between an *expression* as a more abstract entity, and the *occurrences* of an expression that can be found in a text (1953, 12).\(^{43}\) An expression in Naess’s use is a sequence of letters. All instances of the letter-sequence *Naess* in this paragraph are to be taken as *different occurrences* of the *same expression*. An occurrence of an expression is to be identified with reference to other parts of a text. Expressions are word forms, letter-sequences, and seem, according to his usage, to be identified with reference to graphical or phonetic configurations.\(^{44}\) Naess formulates at least six distinct interpretations of *synonymity*\(^{45}\), but without connecting them to his definition of semantic ambiguity. Below, his definition of semantic ambiguity will be specified in the directions indicated by his accounts of synonymity. He supplies the concepts of synonymity with empirical methods for testing whether two expressions are synonymous. None of the tests are presented as an attempt to fix a concept of synonymity “which might once for all give to such a term a rather definite meaning” (1953, 352). They rather indicate different concepts that relate to the term *synonymy* as different intelligence tests, each of which expresses a different concept of intelligence, relate to *intelligence* (1953, 351). Just as it is too early to choose a definite meaning for *intelligence*, he thinks it too early to settle the meaning of *synonymy*.

**Normative ambiguity**

If there exists a rule or a normative definition that proclaims or implies $a$ and $b$ to mean the same (in some field of application), then $a$ and $b$ are said to be *normatively synonymous* (352-4). Normative synonymy is an empirical concept and must be understood as normative in the sense that language users that are committed to the indicated rule or definition are committed to understanding $a$ and $b$ to mean the same. For instance, “Prime number and *Primzahl* mean the same because according to mathematical terminological rules, both shall designate numbers which are not divisible except by 1 and themselves” (1953, 352).

Lack of synonymity between expressions that are not devoid of meaning is called *heteronymity* by Naess (1953, 26-7). Naess suggests that we can say that two expressions are heteronymous in this normative sense if there is a rule according to which the expressions do not mean the same but each something else (352).

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\(^{42}\) The addition *but each a different meaning* is not vacuous, for there are cases in which some $a^i$ and $a^j$ do not express the same meaning and where $a^i$ or $a^j$ does not express any meaning at all. More specific versions of ambiguity can be obtained at by adding relata. For instance, $a$ could be ambiguous within one specific text, over two texts, in the usage of one person, or in the usage of two (groups of) persons.

\(^{43}\) Naess is focused on written texts, but his concepts can easily be adapted to speech.

\(^{44}\) Moreover, in two different copies of this text one finds two different copies of the same occurrence of *Naess* in this very sentence. A copy of an occurrence of an expression is to be identified with reference to the physical medium. Copies are tokens, occurrences are less abstract types, expressions more abstract types.

\(^{45}\) Instead of *synonymy*, Naess uses the term *synonymity*, probably because he wants to avoid confusion between the vague colloquial meaning of this term, and the technical meanings assigned to it by him.
Applying this definition of heteronymity to the skeletal definition of ambiguity we can reconstruct the following *normative concept of ambiguity*. An expression \( a \) is normatively ambiguous if and only if there exists a rule or norm that states that \( a \), occurring in one group of occurrence places, differs in meaning with \( a \) occurring in another group of occurrence places. An example of such a norm would be: “the term *meaning* in the expression *the meaning of a sentence* shall not mean the same as in the expression *the meaning of life*”. Another example would be: “In this book, occurrences of *he* shall be taken to mean the same as *he* or *she*, except at occurrences where it is clear that *he* refers to a male person”.

This semantical ambiguity concept provides one possible source of active ambiguity. If \( a \) is normatively ambiguous it may lead to a situation where \( a \) may plausibly express various meanings. This might be the case if the norm is vaguely stated or if \( a \)'s context of use is specified to an insufficient degree, so that it remains unclear in what group of occurrences \( a \) finds itself. The receiver might not be able to figure out how to interpret some specific occurrence of \( a \), or the interlocutors might apply the norm differently to one and the same occurrence of \( a \).

**Descriptive ambiguity**

Two expressions are said to be *descriptively synonymous* if by competent people they are said to mean the same in use. As a special case, Naess defines the following subtype: “there is an assertion by a competent person \( P \) to the effect that \( a \) as used by him means the same as \( b \)” (1953, 359). There are mathematicians who say that *Primzahl* and *prime number* mean the same, consequently these terms are descriptively synonymous.

Descriptive synonymity can be tested by asking readers of a text whether or not substituting \( b \) for \( a \) at some place in the text changes the text’s meaning. According to Naess, many analytic philosophers adopt a version of this method: they ask the question themselves and their own answer determines their view of synonymity (1953, 361). He thinks the concept to be of limited use, because it slurs over the distinction between the hypothesis ‘\( P \) means the same by \( a \) and \( b \)’ and the hypothesis ‘\( P \) made an assertion that he means the same by \( a \) and \( b \)’. Naess does not deal with the issue of who qualifies as competent. A plausible example of descriptive synonymity is constituted by the items in a dictionary which can be seen as containing implicit assertions by experts on lexical semantics that such and such a phrase means the same as another. An assertion to the effect that two expressions are descriptively synonymous resembles an appeal to expert opinion.

Along the lines of Naess’s definition, two expressions can be said to be *descriptively heteronymous* if by competent people they are said not to mean the same in use, and they both express some meaning. An expression \( a \) can be said to be *descriptively ambiguous* if and only if there are two occurrences of \( a \) at \( i \) and \( j \) such that competent people describe \( a_i \) and \( a_j \) as meaning something different.

There are some specific situations in which this concept might be useful. First, a discussant can say that expression \( a \) means something different at different occurrences in his or her own contributions. Second, a discussant can say that an expression means something different to her at different occurrences in the contributions of the other party. Third, a discussant can say that some expression means something different at occurrence \( i \) in one’s own contribution and at occurrence \( j \) within a contribution of the other party. If the discussant qualifies as
competent, or can be backed up by a competent authority, then \textit{a} is descriptively ambiguous. In these special cases, we can treat the say-so of an interlocutor as an indication (although neither a necessary nor a sufficient condition) for the expression’s being actively ambiguous.\footnote{This criterion for ambiguity resembles a criterion that Hamblin discusses (see section 3 of chapter 2).}

An expression \textit{a} can be descriptively ambiguous without being actively or even contextually ambiguous: it might be fully clear in its context of utterance what \textit{a} expresses. Nonetheless, descriptive ambiguity is of interest for dealing with active ambiguity. It will be contended that a party has a right to say that an expression is ambiguous according to his or her use of words. If that description of one’s own use of language is not ruled out by commonly accepted rules for the proper use of natural language, then the other party has to accept that this expression really \textit{is} contextually ambiguous (but not yet that the ambiguity is relevant for the discussion).

**Truth conditional ambiguity**

Two sentences are said to mean the same in a truth-conditional sense if the conditions under which the one is true are identical with the conditions under which the second is true \cite{1953}.\footnote{One specific version of this concept goes: ‘‘The sentence \textit{a} for [person] \textit{P} \textsubscript{1} in [context] \textit{S} \textsubscript{1} means the same as the sentence \textit{b} for \textit{P} \textsubscript{1} in \textit{S} \textsubscript{1}’’ means the same as ‘‘There is no set of conditions under which \textit{P} \textsubscript{1} in \textit{S} \textsubscript{1} would hold \textit{a} to be true and not \textit{b}, or hold \textit{b} to be true and not \textit{a}’’ (1953, 367).}

Because the term \textit{true} is unclear for many persons, particularly if applied to intricate scientific formulations, Naess proposes to replace it with \textit{accept} or \textit{accept as tenable}. He presents three kinds of questionnaires that constitute tests for three slightly different versions of the truth conditional concept of synonymity. The basic idea is the following: given a text in which \textit{T} occurs, a test subject is asked whether he can imagine circumstances in which he accepts \textit{T} and rejects \textit{U} if \textit{U} would replace \textit{T} in the text, or vice versa.\footnote{According to Naess, the truthconditional concept is just one version of a more general concept of the synonymity concept of cognitive weight. The concepts \textit{true} and \textit{acceptable} are members of list of concepts that share an important characteristic: highly probable, strongly confirmed, proved, perfectly certain, false, highly improbable, strongly disconfirmed, disproved, perfectly uncertain. The skeleton concept of cognitive weight synonymity goes: ‘‘\textit{T} and \textit{U} means the same for \textit{P} in \textit{S} shall mean the same as \textit{P} in \textit{S} cannot imagine any conditions under which he would attribute a cognitive weight, \textit{W} \textsubscript{P}, of the list \textit{L}, to one of the formulations, but not to the other, and at least one of the weights is attributed to one of the formulations’’ (1953, 372).}

Naess raises the objection that it is unclear what test persons will understand by the request to ‘imagine’ circumstances. Moreover, it remains as yet unclear whether their imagination is tested or the synonymity of the expressions.

Truth conditional heteronymy of \textit{a} and \textit{b} for person \textit{P} in a situation \textit{S} might mean that there is a set of conditions under which \textit{P} in \textit{S} would hold \textit{a} to be true and not \textit{b}, or hold \textit{b} to be true and not \textit{a}. Defined in a more operational manner, \textit{P} is able to describe circumstances under which he accepts \textit{a} while not \textit{b}, or vice versa.

Semantic ambiguity of a sentence \textit{a}, in a truth conditional sense, could be taken to mean that there are occurrences of \textit{a} at \textit{i} and \textit{j}, such that \textit{P} can imagine
circumstances in which he accepts $a_i$ and rejects $a_j$ or vice versa.\footnote{In my view it would be interesting to loosen the requirement by substituting ‘rejects’ by ‘doubts’.} I can imagine a circumstance in which I am going to fish all day at the riverside and in which I accept your statement \textit{You’re going to the bank} in a part of the conversation on fishing and where I reject \textit{You’re going to the bank} in a part on finance.

Semantic ambiguity could really play a role in the exchange if $a_i$ is accepted while $a_j$ is rejected (or called in question) in the actual circumstances, or if there is reason to believe that in the future course of the discussion $a$ at some occurrence will be accepted, while at another will be rejected (or called in question). However, it will be contended that, even in such a case, an extra linguistic restriction must be satisfied. The person making a distinction between various meanings of $a$ must be able to \textit{state} those meanings, and those meaning should not be ruled out by a semantic expert such as a dictionary. Such an extra requirement is needed in order not to lose the distinction between real and alleged contradiction.

The test for truth conditional ambiguity can be useful for a party who wants to find out whether a seemingly inconsistent pair of concessions can be resolved by making a distinction between meanings. It seems to be suited as a heuristic device for tracking down would-be active ambiguities.

This account of synonymity and ambiguity forms the foundation of truth conditional semantics. In the next section on supervaluationism, we will examine one particular truth conditional approach to ambiguity.

\section*{Argumentational ambiguity}

The truth conditional concept (like the other cognitive weight concepts of synonymity) is considered part of an even more general concept of synonymity, that of \textit{sameness of argumentational status}. Two sentences $T$ and $U$ are said to have the same argumentational status with respect to a reference group of sentences if each member of the reference group is either a pro-argument for both $T$ and $U$, or a contra-argument for both $T$ and $U$, or irrelevant for both $T$ and $U$ \footnote{Naess here seems to commit a slip of the pen, because he gives the following (preliminary) definition that does not express what he clearly wants to express: “Two sentences will be said to have the same ‘argumentational status’ in reference to a group of sentences, if it holds good for each member $T_i$ of that group, that each member is either a pro-argument, contra-argument or irrelevant in relation to $T_i”’ (1953, 373).}.

Whether $T$ and $U$ are argumentationally synonymous for person P is to be tested by confronting P with a list L of statements. P should be asked questions like: “Consider the list, L, containing formulations that possibly would, to you, express arguments for or against $T$, or for or against $U$, as you have interpreted $T$ and $U$. For each member of the list, we ask you to answer the following questions: 1a) Do you consider it, if established, as an argument pro $T$? 1b) Do you consider it, if established, as an argument pro $U$? 2) In case you have answered positively to 1a) and 1b): Would you consider the strength of the pro-argument in relation to $T$ equal to the strength of that argument in relation to $U$? 3a), 3b), 4 correspond to 1a), 1b), 2, concerning contra-arguments”\footnote{A problem is that ‘auxiliary hypotheses [are] necessary in order to construct inference links between argument and the crucial sentences’ (376).} (1953, 374). If for all members of L the answers to 1a), 1b) are the same and the answers to 3a), 3b) are the same, and the questions 2 and
4 are either not answered or positively answered, then $T$ and $U$ have the same argumentational status with respect to $L$.\textsuperscript{52}

Heteronymity in an argumentational sense would mean difference in argumentational status. Hence, if there is a member of $L$ that is a pro-argument for $T$, but not for $U$, or a contra-argument for $T$, but not for $U$, or vice versa, or if there is a difference in strength, then $U$ and $T$ are heteronymous. Along these lines, a sentence $T$ can be said to be argumentationally ambiguous, given reference group $L$, if and only if there are two occurrences of $T$ on $i$ and $j$ and there is a member of $L$ such that it is a pro-argument for $T_i$, but not for $T_j$, or a contra-argument for $T_i$, but not for $T_j$, or vice versa, or if there is a difference in argumentational strength.

A problem with this version of ambiguity is that it makes ambiguity fully determined by relations in justification and refutation, as test subjects view them. We can, however, imagine circumstances where an opponent has not yet been persuaded at stage $n$ of a thesis $T$ by an argument $U \text{ so } T$, while at a later stage, $n+i$, she is persuaded by the argument $U \text{ so } T$, while actually for this person $T$ means the same in both cases. The plausible explanation, different from an ambiguity in $T$, could be that between stages $n$ and $n+i$, the opponent has been persuaded of the acceptability of the warrant If $U$ then $T$. If we adopt this account of argumentational ambiguity as it stands, it will be difficult to distinguish between cases where a party becomes convinced of certain statements (or where a party maintains inconsistent beliefs about the justificatory force of a reason) and cases where an ambiguity should explain divergent opinions about justificatory force.

Like ambiguity in a truth conditional sense, passing the test might provide an indication for satisfaction of the relevance condition of active ambiguity. But in a similar way we have to add restrictions in order to avoid losing the distinction between genuine and pseudocontradiction.

**Occurrence synonymity and ambiguity**

Naess develops a method for investigating meaning called *occurrence analysis*. The idea behind it is to approach the slogan *meaning is revealed by use* empirically, by stipulating ways to investigate how terms are actually used. Occurrence synonymity is tested in a different way than the concepts in the other synonymity accounts. The test is not based on a questionnaire of some kind. Instead, an analyst makes plausible inferences from P’s use of an expression at different places in a text. Whether or not several expressions are synonymous in this sense can be tested even if the author is absent.

The crucial concepts by which *occurrence synonymity* is defined are ‘occurrence class’, ‘occurrence implicate’ and ‘occurrence inference’. An occurrence class $S_a$ is a set of occurrences of the expression $a$. An occurrence implicate is an answer to the question: “[w]hat can be inferred from this sentence, by simple means, about the cognitive meaning of the designation under consideration, with a fairly high degree of certainty and without departing appreciably from the actual wording of the author?” (1953, 276). The formulation of an occurrence implicate is to be interpreted as if it was used by the author. An occurrence inference $F_i(a)$ is an occurrence

\textsuperscript{52} There is a plausible way of generalising this method by also picturing the members of $L$ as theses and comparing the justificatory force of $T$ and $U$ as arguments for these theses.
implicate reformulated in conformity with the usage of terms of the analyst (1953, 283-286).

We can skip Naess’s definition of occurrence synonymity and present his definition of occurrence-heteronymity directly: “[expression] a is occurrence-heteronymous with [expression] b within the occurrence classes Sa and Sb in relation to the two sets of occurrence inferences F1(a),… and G1(b),…,” shall mean the same as “What is said about [the concept] ‘a’ or [the denotata] a’s according to the set of occurrence inferences F1(a),…, is inconsistent with what is said about [the concept] ‘b’ or [the denotata] b’s according to the set of occurrence inferences G1(b),…” (1953, 398). That what is said by some occurrence inference F(a) is inconsistent with what is said by some occurrence inference G(b) means that substituting the expression a for b, or b for a, in these occurrences inferences leads to contradiction.

As an example Naess takes the expressions democracy and bourgeois democracy as they occur in two texts. Suppose we can from text 1 construct the occurrence inference F1, No plutocracies can be democracies in the sense of the author and from text 2 G1, Some plutocracies can be bourgeois democracies in the sense of the author. An inconsistency can be derived by disregarding reference to the author and substituting one of the expressions at issue for the other: No plutocracies can be democracies and Some plutocracies can be democracies. Thus, democracies as used in text 1 is heteronymous with bourgeois democracies as used in text 2.

Ambiguity in terms of occurrence heteronymity can be defined in this spirit in the following way. Expression a is ambiguous within the occurrence class Sa if and only if there are non-empty subclasses Sa and S'a of Sa such that S'a is associated with a set of occurrence inferences F'(a),…, and S''a is associated with a set of occurrence inferences F''(a),…, and what is said about the concept ‘a’ or about the denotata of expression a by F'(a),…, is inconsistent (in the special sense indicated above) with what is said about the concept ‘a’ or about the denotata of expression a by F''(a),….

Because the test for occurrence ambiguity is based on justificatory relations, just like truth conditional and argumentational ambiguity, adoption of this concept brings with it similar disadvantages: passing the test might indicate a semantic ambiguity, but it might also indicate a real inconsistency in the position of one writer, or a real disagreement between the writers of two texts.

Passing such a test could be an indication for satisfaction of active ambiguity's relevance condition. The indication, however, is not very strong. In a discussion on the issue of whether the savings bank can be found next to the river bank, the word bank will probably come out as occurrence ambiguous, without bank being actively or even contextually ambiguous.

Naess’s concepts of semantic ambiguity

To summarise the five synonymity concepts, a sentence a can be said to be semantically ambiguous if (1) there is a norm to the effect that a expresses different meanings at different places, or (2) there is some competent person who describes a in such a way that it expresses different meanings at different places, or (3) there are circumstances in which a is true at one place as well as false at another place, or (4) there are statements that support or refute a at one but not at another occurrence, or (5) mixing up inferences drawn from two groups of occurrences of a would lead to a contradiction.
These concepts are presented as intrapersonal synonymity concepts, that is, synonymity for one person or for one group of persons. Naess also indicates how they can be used to construct interpersonal synonymity tests. In spite of their being very laborious, he defends the importance of interpersonal synonymy tests as follows: these notion of synonymy play a role at the background of communication, “as a kind of supreme court in matters of terminology” (1953, 377). In section 2.2 we will discuss his account of how semantic ambiguity between contexts may turn into contextual ambiguity.

1.4. THE SUPERVALUATIONAL THEORY OF LANGUAGE

In this section a semantic approach called supervaluationism will be examined. This is one of the extant approaches to vagueness (Williamson 1994, Keefe 2000). Pinkal (1995) has adopted this approach in order to classify the ways in which linguistic expressions may lead to problems of interpretation. One of the starting points of this approach is a truth conditional methodology: it can be seen as providing a sophisticated version of truth conditional ambiguity.

Vagueness

Keefe gives a threefold characterisation of vague predicates (Keefe 2000, 6-7). A vague predicate $P$ has borderline cases, it has fuzzy edges and it is possible to construct a sorites argument by putting $P$ to use.\(^{53}\)

$P$ admits of borderline cases, that is, there are entities or events such that it is unclear whether or not they are $P$.\(^{54}\) It is clear that someone like Davy, who is 2.00 meter, is tall, and that Andy, being only 1.60 meter, is not tall. But it is unclear whether or not Barry, being 1.80 meter, is tall. Moreover, the unclearness can not be taken away by obtaining more factual knowledge about the borderline cases: we know everything there is to know about the height of Barry, but we are not able to say whether or not he is tall.

$P$ has fuzzy edges. There is no sharp boundary between on the one hand possible entities or events that are clearly $P$ or clearly not $P$ and on the other hand the borderline cases of $P$. Cindy, being 1.90 meter might be a borderline case of tall, just like Barry, but she might also be tall, like Davy. The property of being a borderline case of a borderline case is known as higher order vagueness.

$P$ is susceptible to a sorites argument. The following premises seem to be acceptable. (1) Davy, being 2.00 m, is tall. (2) If a person x is tall, then someone y who is only 1 mm shorter is also tall. This second premise is the induction premise of a sorites argument. This premise can be argued for by saying that 1 mm cannot make the difference between someone’s being tall or not. Or, if we accept that the difference of 1 mm between two persons cannot be perceived (in normal circumstances), it can be argued for by saying that if one accepts that x is tall and y differs only in an imperceptible height, one has to accept that y is tall also. Using reasons (1) and (2), a long chain of arguments can be set up, in which reason 2 is used to justify acceptance of reason 3, and so on.

---

\(^{53}\) Her theory also deals with vague names, but here we will restrict ourselves to predicates.

\(^{54}\) If there are borderline cases in the actual world, then the vagueness is extensional (for example work of art), if they exist in possible worlds only the vagueness is intensional (tiger).
again and again together with the newly derived proposition. Given that Davy, being 2.00.00 m is tall, someone of 1.99.99 m is tall, and so (using the newly derived proposition and 2 again), someone of 1.99.98 is tall, ..., Cindy, being 1.90.00 is tall, ..., Barry, being 1.80.00 m is tall, ..., Andy, being 1.60.00, is tall. However, we know that Andy is clearly *not* tall. Therefore we have a contradiction and we have used the sorites argument to derive a *sorites paradox*.

According to Keefe, theories of vagueness have to address two tasks: to identify the logic and semantics of vague expressions, and to deal in an adequate way with the *sorites paradox*.

Precisifications

Supervaluationists deal with the meaning of a vague predicate \( P \) by examining \( P \)'s *precisifications*. This notion will be explained following Pinkal's account (1995).

Pinkal defines 'precisification' (called *specification* by K. Fine 1975) for expressions that are used within some context of utterance. Take a conversation where one interlocutor utters *Davy is tall*. Suppose *tall* allows within this context of four readings: at least 1.70 meters, at least 1.80 meters, at least 1.90 meters, at least 2.00 meters. Davy, as we have seen, is 2.00 meter. The sentence is true on all readings and so, it is said, we may evaluate the sentence as true, or, as Keefe would say, *supertrue*. If someone utters *Andy is tall* then we may evaluate it as false, or *superfalse*, because it is false on all its readings. Barry is 1.80 meter and *Barry is tall* is true on the first and second reading, but false on the third and fourth. Thus, we cannot evaluate this sentence simply as true or false, which is indicated by saying that the sentence is *indeterminate*.55

<table>
<thead>
<tr>
<th>true</th>
<th>Davy is tall</th>
</tr>
</thead>
<tbody>
<tr>
<td>indefinite</td>
<td>Barry is tall, Cindy is tall</td>
</tr>
<tr>
<td>false</td>
<td>Andy is tall</td>
</tr>
</tbody>
</table>

*Figure 1.*

The vague predicate *tall* has in a similar way a positive, a negative and an indefinite domain. As used in the conversation where it allows of four readings and where we are talking about Andy, Barry, Cindy and Davy we may check whether or not a person satisfies *tall*. If a person satisfies a predicate on all readings it is in that predicate’s positive domain. If on all its readings it does not satisfy a predicate, it is in its negative domain. If satisfaction depends on the reading, the object is in the predicate’s indefinite domain.

<table>
<thead>
<tr>
<th>positive domain of <em>tall</em></th>
<th>Davy</th>
</tr>
</thead>
<tbody>
<tr>
<td>indefinite domain of <em>tall</em></td>
<td>Barry, Cindy</td>
</tr>
<tr>
<td>negative domain of <em>tall</em></td>
<td>Andy</td>
</tr>
</tbody>
</table>

*Figure 2.*

55 Indeterminacy is not dealt with as a third truth value: complex sentences are not evaluated by taking the supertruth, superfalsity and indeterminacy of its constituents into account, as we will see.
Pinkal defines the notion of a precisification using evaluations of expressions in contexts of utterance. The expression *is more precise than* is to be taken as equivalent with *is a precisification of*.

"An expression $\alpha$ in context $c$ is more precise than expression $\beta$ if and only if the sense/denotation of $\alpha$ in $c$ is more precise than the sense/denotation of $\beta$ in $c$" (Pinkal 1995, 55).

Further, he provides the definitions of *being more precise than* for propositions and predicates.

"Let $d_1$ and $d_2$ be possible denotations of predicate expressions [in a context of utterance $c$]: $d_1$ is more precise than $d_2$ [in $c$] if and only if (i) the positive (negative) domain of $d_1$ includes the positive (negative) domain of $d_2$ [in $c$], and (ii) at least one object from the indefinite domain of $d_2$ belongs to the positive or negative domain of $d_1$ [in $c$]" (Pinkal 1995, 55).

"Let $p$ and $q$ be propositions: $p$ is more precise than $q$ [in a context of utterance $c$] if and only if (i) $p$ is true (false) [in $c$] under all states of the world under which $q$ is true (false) and (ii) $p$ is true or false [in $c$] under circumstances under which $q$ is indefinite" (Pinkal 1995, 54).

The sense of an expression itself can be said to be indefinite in context $c$. *Context* does not refer directly to the objective utterance circumstances that can influence the sense of an utterance, like the participants in communication, their specific roles, time and place of utterance, accompanying gestures, etc., but rather to the beliefs about these objective circumstances: "information and assumptions about the objective circumstances of utterance that are at the participants' disposal for the purposes of determining the sense of an utterance" (66-67). Given this view, a context can be said to be incomplete or unspecified to various degrees. The more a context is left unspecified, the more readings an expression will allow, and the more indefinite that expression's sense will be.

Let us apply these definitions to the predicate expressions *tall* and *at least 1.90 meter*. If we restrict our attention to Andy, Barry, Cindy and Davy, the following table pictures the three domains.

<table>
<thead>
<tr>
<th></th>
<th>tall</th>
<th>at least 1.90 meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive domain</td>
<td>Davy</td>
<td>Davy, Cindy</td>
</tr>
<tr>
<td>indefinite</td>
<td>Barry, Cindy</td>
<td></td>
</tr>
<tr>
<td>negative domain</td>
<td>Andy</td>
<td>Andy, Barry</td>
</tr>
</tbody>
</table>

*Figure 3.*

Thus, *at least 1.90 meter* is a precisification of *tall*. The following table shows that *Eve is at least 1.90 meter* is a precisification of *Eve is tall*.

<table>
<thead>
<tr>
<th>state of the world:</th>
<th>Eve is tall</th>
<th>Eve is at least 1.90 meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eve is 1.60 meter</td>
<td>false</td>
<td>false</td>
</tr>
<tr>
<td>Eve is 1.80 meter</td>
<td>indefinite</td>
<td>false</td>
</tr>
<tr>
<td>Eve is 2.00 meter</td>
<td>true</td>
<td>true</td>
</tr>
</tbody>
</table>

*Figure 4.*

---

56 Pinkal does not mention the context of utterance in these definitions, but he does so elsewhere. Therefore, this *relatum* is added between brackets in his definitions.
Pinkal’s theory allows for different levels of precision. An example he gives is *The Santa Maria was a fast ship*, which can be precisified to *The Santa Maria was a fast ship when compared to our modern motorised ships* (false on all its further readings) and *The Santa Maria was a fast ship for a sailing vessel* (still indefinite). The latter is indefinite because it can be understood as expressing the same as *The Santa Maria was a fast ship for a sailing vessel compared to a modern sailboat* (false on all further readings) and *The Santa Maria was a fast ship for a galleon* (still indefinite). This may go on for a while. The indefiniteness of a sentence must be the result of at least one true and at least one false reading.

Supervaluational approaches, like Pinkal’s or Keefe’s, are concerned with the semantics of vague or ambiguous expressions. Although they talk about truth of sentences on certain precisifications, these evaluations are only instrumental for determining the proper evaluation of the sentence containing vague or ambiguous parts. This is nicely summarised by the slogan *truth is supertruth*, that is, our informal concept of truth is captured only by the supervaluational concept of truth on all precisifications.

This marks an important difference between the notion of a precisification and the notion of a clarifying or disambiguating reformulation (Barth and Krabbe 1982) or precization (Naess 1953, 1966, Van Eemeren and Grootendorst 1992). These latter notions are meant as devices by which a vague, ambiguous or unclear expression can be replaced in communication in order to improve the communicative functions of speech acts. In supervaluational theory however, precisifications are not meant to improve language but to explain and clarify the meaning of vague and ambiguous expressions.

### Reasoning with vagueness

The basic principles of the supervaluational theory about reasoning with vague terms will be explained by reference to the basic theory, a theory that does not allow for more than two levels of precision: vague and completely precise.

An atomic sentence is evaluated by taking all its precisifications into account. If true on all precisifications, the sentence is true, if false on all it is false, if true on some and false on others, it is indefinite. Complex sentences are not evaluated in a truth-functional way by applying a function that has the constituent parts as arguments. A complex sentence is evaluated by first evaluating all its precisifications.

The lack of truth functionality can be shown with the following example. *Barry is tall* and *Cindy is tall* are both indeterminate, as we have seen. In order to evaluate the complex sentence *Barry is tall or Cindy is tall* we have to evaluate it in all its precisifications. Because *tall* has four precisifications, so has the complex sentence.57

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Barry is at least 1.70 meters or Cindy is at least 1.70 meters</em></td>
<td>true</td>
</tr>
<tr>
<td><em>Barry is at least 1.80 meters or Cindy is at least 1.80 meters</em></td>
<td>true</td>
</tr>
<tr>
<td><em>Barry is at least 1.90 meters or Cindy is at least 1.90 meters</em></td>
<td>true</td>
</tr>
<tr>
<td><em>Barry is at least 2.00 meters or Cindy is at least 2.00 meters</em></td>
<td>false</td>
</tr>
</tbody>
</table>

Figure 5.

57 The theory does not allow mixed precisifications, such as 'Barry is at least 1.70 or Cindy is at least 1.90'. A precisification is part of a way of making the language as a whole precise. So, in a precisification, every occurrence of *tall* means the same.
crossed reading of a complex sentence (where different occurrences are disambiguated differently) are allowable.

If a speaker applies a vague predicate $P$ to a case $c$ that is borderline with respect to $P$, then we should interpret the speaker charitably. Thus, if she says that Barry is tall, it might be sensible to concede that. The reason is that Barry is indeed tall on a somewhat loose interpretation of the term. In such a case, the meaning in context of the vague predicate is not characterised by all precisifications, but by a subset of them. In cases like these, its meaning is adapted for the issue at hand. The term tall now means something like rather tall or at least 1.80 meters. If the speaker says, at another moment, that Barry is not tall it might also be reasonable to grant that, because, undeniably, Barry is not tall on a stricter interpretation of the term: quite tall or at least 1.90 meters. When predicated of borderline cases, vague expression may come to behave as if they were ambiguous. In this way, the listener can be forced to utter a seemingly contradictory statement: Barry is tall as well as not tall. In these situations it would be reasonable to give the interlocutor a right to disambiguate different occurrences of tall in different directions. 58

A supervaluational taxonomy of indefiniteness

An expression is said to be semantically indefinite if it can assume different context specific senses (Pinkal 1995, 71), that is, if, in its context of utterance, it can be precisified in several directions. In order to classify indefinite expressions, Pinkal uses three related notions: possible precisification, admissible precisification and natural or standard precisification. The adjectives possible, admissible and natural/standard are treated as basic terms and are not defined in any precise way.

The first distinction in the domain of semantically indefinite expressions is the one between vagueness and ambiguity. The criterion used by Pinkal is a subjective one and makes use of the way we perceive the precisification spectrum of an expression. The precisification spectrum refers to the ways an expression might possibly be made more precise (whether or not these precisifications are admissible or standard). An expression is ambiguous if its precisification spectrum is perceived as discrete and if it has a determinate structure due to the fact that some of the possible precisifications are standard readings of the expression. If the spectrum is perceived as

58 Keefe, however, argues against viewing vagueness as a kind of ambiguity (156-7). Every way of making an ambiguous expression precise presents an actual meaning of the term, whereas none of the precisifications of a vague term presents a meaning of the vague term, only the complete set of precisifications does. We cannot say that an ambiguous sentence expresses an ambiguous proposition although we can say that a vague sentence expresses a vague proposition. However, if $P$ is predicated of a borderline case $c$ and the listener is either not sure in what more sharp reading to take it, or if the listener adopts a somewhat different reading than the speaker does, the vagueness may become relevant. On the one hand, there are precisifications that make $Pc$ come out true, and, on the other hand, there are those that make it come out false. Consequently, the parties involved should have the option of dealing with $P$ as if it were ambiguous, and improve $P$ for the purpose of having a discussion. Parties in a discussion should be able to replace a vague term with a more precise one, even if that leads to reformulations that have stipulative and innovative aspects. Some supervaluationists emphasise the similarities between vagueness and ambiguity, even from a semantical perspective. Fine says that “vagueness is ambiguity on a grand and systematic scale” (1975, 282) and that both kinds of expression have the same truth conditions.
The linguistic aspect

continuous and lacks structure due to standard readings, then it is vague. First, several kinds of ambiguity will be discussed, second I will discuss vagueness.

Lakoff's ambiguity test declares an expression, like the verb *hit*, ambiguous between two readings, like *collide* and *hammer*, if the construction of a sentence, like *John hit the wall, and so did Bill*, does not allow a widest sense reading. Thus in a situation where John collides with the wall while Bill hammers on it *John hit the wall, and so did Bill* does not allow an admissible and true interpretation. Other expressions that do not allow a widest sense are *bank* or *ball*: there are no standard or natural senses like "river edge or financial institution" and "round object or celebration". An expression that does have a (standard) widest reading is *clever*, which is shown by the assertion *Christopher Columbus was clever and so was Robert Koch*. This sentence can be called true, even if we assume that they were clever in completely different ways. Another example Pinkal gives is that of *American*, which can be understood in the widest sense including Canadians and Latin Americans (78-9). Expressions are ambiguous in the narrow sense, if and only if they do not have a standard widest reading. If an expression does have a standard widest reading, it is classified under multiplicity of use (79). Multiplicity of use includes many expressions that are ambiguous between readings that are systematically connected to each other and that are consequently potential sources of confusion or uncleanness in conversation.

Ambiguity in a narrow sense has two subkinds, homonymy and polysemy, distinguished by Pinkal by utilising the criterion of the precisification imperative. For ambiguities in a narrow sense there is not a standard widest sense reading. But within this class of ambiguities one may distinguish on the one hand polysemous ambiguities such that a widest sense reading, although non-standard, can be nevertheless admissible, and on the other hand homonymous ambiguities such that any widest sense reading is inadmissible (although still possible in principle).

The latter kind of ambiguities obey the precisification imperative: one may use an homonymous term only if precisified in a certain way. Referential ambiguity of pronouns, like *he*, and definite descriptions, like *the bearded man*, behave like homonyms and are classified in the same category. An example of homonymy is *pen*. There is no situation, supposedly, in which one may predicate *pen* to some object without the need to be clear whether a ballpoint or an enclosure is meant. Pinkal's example of polysemy is *fast*, that is in some contexts ambiguous between a dispositional and an actual reading without there being a standard widest sense. However, "[c]ases in which the ambiguity between actual and dispositional readings is irrelevant to communication do not require precisification" (84): we may say that a Porsche that passes at 180 km/h is *fast* without the need of making clear in what reading it is meant. The difference between the two readings might be irrelevant for the conversation at issue and so, the widest sense reading is in such a context admissible.

However, I would contend that even if a term is homonymous, it seems possible to think up a conversation in which the distinction between two readings is ambiguous.

59 Pinkal describes the candidate for the widest sense of *ball* as "round object and celebration" (78), wrongly I think, for that sense would even be narrower than "round object" and narrower than "celebration".

60 Pinkal's criterion of the precisification imperative resembles the dialectical criterion that an expression may only be criticised justifiably as actively ambiguous if the distinction between its readings matters to the course of the dialogue. One difference is that the dialectical criterion can also be applied to expressions that are either vague, multiple in use or polysemous.
irrelevant or taken to be irrelevant by the interlocutors. To use the example again: if a farmer who owns a ball-point and a chicken run, argues for the thesis that there is something he owns, whatever it is, the reason I own a pen is presumably an acceptable reason that proves his thesis. And the opponent does not gain anything by getting into the contextual ambiguity of pen.

We have seen that if an expression's precisification spectrum is perceived as continuous it may be called vague. Pinkal calls an expression purely vague in case the expression does not allow of a natural or even of an admissible precisification. An example is green in its colour sense. Any precisification in terms of some specified range of the colour spectrum is, although possible, neither natural nor admissible. Pinkal is of the opinion that pure vagueness obeys the precisification interdiction (100). I do not agree with this label, for the reason that purely vague terms do allow of (admissible) precisification in some contexts, even though these precisifications are somewhat unnatural. If two parties disagree on the issue of whether an apple is green or yellow, they may come to decide that it is not green, given that they understand green to be interpreted in a somewhat strict way (“quite green”). Auctioneers might even employ a criterion based on electromagnetic frequencies. In discussion vague expressions must sometimes be made more precise by partly stipulative or innovative reformulations.

If a term's precisification spectrum is perceived as continuous, and if it is not subject to the precisification interdiction, then this expression is classified under multiplicity of use. An example would be religion. Its precisification spectrum seems to be continuous, but some religions are prototypical and provide an admissible way of precisifying the term to subsume these prototypical religions only. The class of phenomena denoted by multiplicity of use has a somewhat hybrid nature because it also contains ambiguous expressions that have a standard widest sense precisification.

To sum up, Pinkal's classification looks as follows:

<table>
<thead>
<tr>
<th>Indefiniteness: potential for true as well as false precisification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vagueness: continuous precisification spectrum</td>
</tr>
<tr>
<td>Pure vagueness: no admissible precisification</td>
</tr>
<tr>
<td>Multiplicity of use: admissible precisifications or standard widest sense</td>
</tr>
<tr>
<td>Ambiguity in the broad sense: discrete precisification spectrum</td>
</tr>
<tr>
<td>Ambiguity in the narrow sense: no standard widest sense precisification</td>
</tr>
<tr>
<td>Polysemy: admissible widest sense precisification</td>
</tr>
<tr>
<td>Homonymy and referential ambiguity: no admissible widest sense precisification</td>
</tr>
</tbody>
</table>

Figure 7. Pinkal's classification of indefinite expressions (taken over in a slightly different form from Pinkal 1995, 110).

Pinkal's classification gives an impression of the various ways in which a natural language leaves room for formulations to express several meanings. All types of semantic indefiniteness may underlie active ambiguity. The various readings of
Thus, *Barry is tall or Cindy is tall* is indeterminate. However, there are also disjunctions, having two indeterminate disjuncts that come out as (super)true. *Barry is tall* is indeterminate. Now evaluate the complex sentence *Barry is tall or Barry is not tall*.

<table>
<thead>
<tr>
<th>Sentence</th>
<th>Truth Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barry is at least 1.70 meters or Barry is not at least 1.70 meters</td>
<td>true</td>
</tr>
<tr>
<td>Barry is at least 1.80 meters or Barry is not at least 1.80 meters</td>
<td>true</td>
</tr>
<tr>
<td>Barry is at least 1.90 meters or Barry is not at least 1.90 meters</td>
<td>true</td>
</tr>
<tr>
<td>Barry is at least 2.00 meters or Barry is not at least 2.00 meters</td>
<td>true</td>
</tr>
</tbody>
</table>

Figure 6.

Thus, *Barry is tall or Barry is not tall* is (super)true.

A supervaluational model (Pinkal 1995, 138) is made up of a valuation function \( V \), and a non-empty set of classical interpretation functions, \( V' \). Members \( V' \) of \( V \) are themselves called *precisifications* for the reason that every \( V' \) evaluates all sentences as either true or false, and leaves no room for any vagueness or ambiguity. In order to avoid confusion, we may call members of \( V \) *precisification valuations*. \( V \) is a function from the sentences of the language to (super)truth, (super)falsity and indeterminacy. \( V \) evaluates a sentence \( S \) as true if and only if \( S \) is true according to all precisification valuations \( V' \) of \( V \). \( V \) evaluates a sentence \( S \) as false if and only if \( S \) is false according to all precisification valuations \( V' \) of \( V \). \( V \) evaluates sentence \( S \) as indeterminate if and only if there is both a \( V' \in V \) such that \( V' \) interprets \( S \) as true and a \( V'' \in V \) such that \( V'' \) interprets \( S \) as false.

According to supervaluationism we can preserve the classical definition of validity if *true* is interpreted as 'supertrue': a sentence \( S \) is a *supervaluational consequence* of a set of sentences \( \Gamma \), if and only if \( S \) is true in all models in which all members of \( \Gamma \) are true. By definition, all precisifications are completely precise and consequently either true or false. Because the classical notion of validity is preserved, all classical tautologies are true in all precisification valuations, as could be surmised by considering the treatment of *Barry is tall or Barry is not tall*.

One of the strongest arguments for adopting a supervaluationist framework is that it does justice to *penumbral connections*. If Barry is 1.70 meters and if Eve is taller than Barry, then the following sentence is (super)false: *Barry is tall and Eve is not tall*. The connections between terms are preserved because a sentence is evaluated as a whole in all precisifications. Given that some apple is somewhere between yellow and green, then neither *this apple is green* nor *this apple is yellow* is (super)true, but the disjunction *this apple is green or this apple is yellow* is actually (super)true. This is due to the fact that a precisification stands for one way in which the language as a whole is made precise and in such a precise language the extensions of green and yellow do not overlap, so Keefe supposes (Keefe 2000, 162-163).

The sorites paradox is solved by denying the (super)truth of the induction premise. Take as an example *For every x and y, it holds that if x is tall and y is 1 mm shorter than x, then y is tall*. Suppose we take Barry (1.80 meter) and his brother, who is 1 mm shorter than Barry. There is a precisification of *tall*, that is, *at least 1.80*, such that Barry is tall, while his brother, being 1 mm shorter, is not tall. Consequently, the generalisation that makes up the induction premise is not (super)true.

Supervaluationism does not accommodate situations where someone needs to disambiguate different occurrences of a term differently. However, sometimes a speaker should be allowed to do so. There may be cases where presenting a *mixed* or
expressions falling under multiplicity of use and polysemy have the greatest potential to confuse interlocutors. Confusion may be caused by the circumstance that normally, the various readings are structurally interconnected and resemble each other. However, homonyms may also lead to the need to ask for clarification, for instance if the context of utterance is extremely unspecified or if some party blunders when interpreting the expression. Pure vagueness leads to active ambiguity if there is a divergence of readings due to the need to exclude or include a borderline case.

In this section we have discussed the linguistic sources of active ambiguity from some diverging perspectives. Two accounts are particularly interesting. Naess elucidates important conceptual distinctions in the realm of semantic ambiguity. Pinkal's account provides us with a detailed classification of semantic ambiguity that may lead to contextual or active ambiguity.

2. FEATURES OF CONVERSATIONAL SITUATIONS: CONTEXTUAL AMBIGUITY

Given that an expression may express different meanings in different contexts, how can it become contextually ambiguous? This section deals with several ideas that are relevant for answering this question.

Perelman and Olbrechts-Tyteca on obscuration

Perelman and Olbrechts-Tyteca adopt a very broad view of what constitutes ambiguity. This choice is strongly connected to their view on the nature of argumentation.

Perelman and Olbrechts-Tyteca make strong contrasts between logic on the one hand and rhetoric and dialectic on the other. Formal logicians, Perelman says, are after infallible communication that leaves no room for any disagreement (Perelman 1963, 143-144). Necessitating conclusions is enabled by using an artificial and completely univocal language. A language can be made univocal by determining its applications completely (Perelman and Olbrechts-Tyteca 1969, 133). Argumentation, in contrast, is used for deliberating and discussing issues in situations where we lack self-evident principles and do not dispose of a fully determined language: “(...) it is precisely because the notions used in argumentation are not univocal and have no fixed meaning that will not change that the conclusions of an argument are not binding” (Perelman and Olbrechts-Tyteca 1969, 132). Ambiguity, therefore, cannot be eliminated from argumentation.

Perelman and Olbrechts-Tyteca do not give any precise definition of ambiguity. They seem to use it equivalently with multiplicity of interpretations (see, Perelman 1982, 44). Perelman and Olbrechts-Tyteca apply the notion of interpretation to perceptions, to texts and to notions. An example of perceptual ambiguity is the perception of moving trains such that it is unclear whether my train moves or if it is

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61 The connection between ambiguity and divergence of interpretations of non-linguistic data probably looks like this. We interpret data differently due to differences between conceptual frameworks. But in many cases, we do use the same linguistic expressions for these differently conceptualised elements.
the train outside my window. As an example of an ambiguous text, Perelman and Olbrechts-Tyteca cite a fragment of Isocrates: “everyone knows that the same men brought about the destruction of democracy and the exile of my father”, where the words are taken to mean “my father’s exile was a political act as condemnable as the destruction of democracy” (1969, 125). The son’s words suggest an evaluation but the assertion can also be understood without this evaluative aspect.

Perelman and Olbrechts-Tyteca have a very broad view on what constitutes meaning. This becomes clear from statements like the following: “Even the words of other people, when repeated by a speaker, have changed their meaning, for in the process of repetition he always adopts toward them a position that is in some ways new, even if only in the degree of importance he attaches to them” (Perelman and Olbrechts-Tyteca 1969, 317). “As the meaning of notions depends on the systems in which they are used, all that is necessary, in order to change the meaning of a notion, is to put it in a new context and particularly to integrate it in new lines of argument” (Perelman and Olbrechts-Tyteca 1969, 134-5). However, Perelman does not want to go so far as to defend the position that there is no such thing as the proper or core meaning of an expression (Perelman 1982, 44). As a minimal requirement for argumentation Perelman and Olbrechts-Tyteca mention the use of a common language (Perelman and Olbrechts-Tyteca 1969, 15).

If we would adopt this view, we would have to concede that all disagreements are interpretational in character, and never solely factual. Interesting disagreements have interpretative aspects, and we must pay attention to possible interpretational differences. However, going along Perelman and Olbrechts-Tyteca's (exaggerated) statements on this issue brings on the danger of losing the distinction between two qualitatively different situations: situations where the differences in interpretation of an expression do bring with them the risk of talking at cross purposes and those situations in which the differences are not risky in that way.

Perelman and Olbrechts-Tyteca oppose the ideal of a univocal language. Obscuration of notions and expressions may serve argumentative purposes, just as clarification serves important aims: aiming for clear language may “stand in the way of other functions of language” (Perelman and Olbrechts-Tyteca 1969, 133-138). What they mean exactly by obscuration does not become fully clear. They use it in a plethora of situations, for instance if someone attaches an unusual meaning to a notion or expression, or if someone makes a novel distinction between two meanings of an expression. But in these situations the speaker might express himself perfectly clear to the audience, who may notice the change of meaning very well. Obscuration, as used by Perelman and Olbrechts-Tyteca, does not necessarily refer to the process of creating actual confusion, but to the process of making an expression potentially obscure and potentially problematic, notions that resemble our notions of semantic and contextual ambiguity.

Perelman and Olbrechts-Tyteca make some scattered remarks on the issue of how obscuration may take place in a rhetorical situation. First, they point out some characteristics of our use of natural language. Notions are subject to constant change, and therefore the meanings of expressions evolve (Perelman and Olbrechts-Tyteca 1969, 137-8). Notions can be made more obscure by using them analogically or

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62 Suppose a person reasons: ‘the train starts to moves in time, so I shall arrive in time’, and he wrongly supposed his own train to move. Then this constitutes a perceptual variant of the fallacy of equivocation.

63 In Naess’s terminology (see section 1 of chapter 4) all disagreements would be pseudo-expressed disagreements.
metaphorically. Moreover, expressions of natural language can be applied to unforeseeable situations (Perelman and Olbrechts-Tyteca 1969, 131). One example is that of a gothic-like church that is being built in the present time: we can take gothic in a way that it includes as well as in a way that it excludes this church (1969, 136). Another example is that of a judge who interprets the rules of law in order to be able to reach a verdict in an interesting new case.

Second, the reader of a text or a member of the audience of a speech may decide not to give priority to the presumption that the writer or speaker is using his terms in a completely univocal way (Perelman 1982, 45). We try to interpret a piece of discourse in such a way that it is coherent, and that its premises are true, the more so if the writer or speaker has more prestige (1969, 124-5). For example, the presumption that the speaker does not really contradict himself should have priority over the presumption that he expresses himself univocally (Perelman and Olbrechts-Tyteca 1969, 195).64 Because Heraclitus has some prestige, we interpret same river in two different ways in his statement that we do and do not step twice in the same river. Such use of goodwill (that is, charity) when interpreting problematic texts can be carried too far. Pascal's imperative “When the word of God which is really true, is false literally, it is true spiritually” is judged excessive by Perelman and Olbrechts-Tyteca, since the interpretation is only a function of Pascal's own convictions.

Finally, ambiguity can be created for argumentative purposes. When discussing the intentional effects of obscure expressions and notions in the next chapter we will deal with these strategic uses.

Naess on indefiniteness of intention

Naess points to some aspects of context as sources of contextual ambiguity, and in particular to that of the lack of available knowledge on the matter at issue.65

What can be expressed by an expression \( T \), depends partly on information that cannot directly be derived from \( T \) itself. The relevant context of an expression includes surrounding sentences and information on the purpose of the communication, sex, age and education of the author, etc. Naess presents a theorem that he regards as a useful starting point for a theory of interpretation, although he grants it to be unspecific and vague: “The broader the context taken into consideration by a group of receivers of a sentence, the more receiver precise is the sentence within the group” (1953, 113). Naess supposes it to be useful because it directs attention towards information that would, if it were taken into account, improve communication. The theorem has, he admits, a flavour of analyticity: the context of an expression could be

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64 According to Perelman and Olbrechts-Tyteca, the position of a speaker can never be really inconsistent. This attitude is to some extent shared by formalists like Mackenzie and Vanackere, cf. chapter 6. Within the realm of rhetoric there is normally a plausible interpretation that makes the contradiction dissolve. Perelman and Olbrechts-Tyteca admit that there is something like the core meaning of an expression, and that some interpretations are intolerable in this light. But they do not derive the plausible consequence that not every attempt to dissolve an inconsistency succeeds.

65 Several contributions to formal dialectic and pragma-dialectics are profoundly influenced by Naess’s work. Clear examples are the treatment by Van Eemeren and Grootendorst of the rule for language use and the rule for usage declaratives (Van Eemeren & Grootendorst 1992, chapter 18); the dialogical interpretations of logics by Barth and Krabbe (Barth and Krabbe 1982); and Barth's research program for an empirical logic (Barth 1985).
defined as constructed from those elements that are important for a successful interpretation of the expression. If there are changes within the context that go unnoticed by a receiver of a sentence \( T \), the sentence can easily be misinterpreted. Contexts do change, for instance, language habits do change, and what once was precise enough, can cease to be so (1966, 55). What is more, different situations do require different levels of precision. If, in a new situation, the need for precision is not acknowledged, then contextual ambiguity can be the result.

A particularly interesting origin of diverging interpretations is that expressions are often interpreted at different levels of definiteness of intention (1953, 79). What \( T_0 \) means to someone may vary from person to person because of differences in knowledge, interests and intelligence. Suppose person P, as well as person Q, interpret \( T_0 \) as expressing the same content as the more precise statement \( T_2 \) and different from that expressed by \( T_1 \). Yet, P does not choose between the even more precise \( T_{2.1} \) and \( T_{2.2} \), while Q has also made a choice between \( T_{2.2} \) and \( T_{2.1} \). In such a case, Q interprets \( T_0 \) with greater definiteness of intention, say at level 2, than P, who stops at level 1.

Differences in definiteness of intention can result in misunderstanding. Naess gives the following example. Mount Whitecap is higher than Mount Baretop could express the same as Mount Whitecap’s highest fixed point is higher than Mount Baretop as well as Mount Whitecap’s highest point, snow-cap or rock, is higher than Mount Baretop (1966, 15). Imagine a dialogue where the sender does not think very deeply on the subject of measuring heights (nor on the significance of the names of these mountains), while his addressee does. It is possible that the sender utters Mount Whitecap is higher than Mount Baretop and that the receiver has to ask for a clarification that goes beyond the definiteness of the sender’s intention.66

If people learn more on a subject like measuring heights, expressions can come to express more sophisticated propositions. Language is flexible and open in character, and expressions can become devices that express new propositions, “without doing any violence to the English language” (1966, 15). If the sender becomes aware of a distinction between two methods of measuring heights, she learns both about measuring heights and about the possible meanings of the expression is higher than. “[G]rowth in understanding and articulateness is essentially linked with the ability of our expressions to acquire new meanings, to bring themselves under new ‘rules’ (1966, 14).”

Naess does not think it very useful to refer to positive rules for the proper usage of expressions. Expressions are too accommodating, their rules are open and allow endless variability of meaning. But he does consider negative rules useful: "It has already been mentioned that references to systems of rules are sometimes rather cryptic, because the rules are admittedly not stated anywhere, at least not in the form of a consistent or complete system. They seem to be implied in so-called "correct speech". In case of reference to fictitious systems, another kind of reference may be more fruitful: reference to ranges of admitted or preferred usage. Instead of referring to something as rigorous as consistent systems, one may say that there are within a linguistic society trends of preferences and admittance, which may very often rule out certain ways of using particular expressions as "impossible", "false", "incorrect" etc., but which rarely can be said to point to definite ways as "the correct" " (1953, 39). In

66 In this study these will often be called levels of comprehension.
67 There are two types of misunderstanding. In case of intra-intentional misunderstanding a receiver attributes interpretation \( T_j \) to \( T \) while \( T_2 \) was intended. In case of trans-intenional misinterpretation the receiver attributes \( T_j \) to \( T \) while the sender did not intend anything definite beyond \( T \) (Naess 1953, 79).
chapter 7, a similar approach to the norms of language is adopted: anything goes unless its fails to satisfy some linguistic condition that disqualifies certain usages as incorrect.

Crawshay-Williams on ignoring purpose or context

As we have already seen in section 4 of chapter 1, Crawshay-Williams distinguishes between two kinds of criteria that are needed to determine the truth of empirical statements. Empirical statements have to satisfy factual criteria, as well as methodological ones. He explains the occurrence of terminological confusion in, what he calls, *esoteric contexts* by referring to the hypothesis that parties tend to forget about the methodological criterion.

As a didactic illustration, he outlines the following situation. Mr. Robinson has two tins of pearl coloured paint, one old and almost finished, the other new. The larder has been painted with the old tin at an earlier date. Mr. Robinson proposes to paint the kitchen the same colour as the larder. For this purpose, he may truthfully say that both tins of paint have the same colour. Mrs. Robinson thinks of using the new tin for repainting a damp patch in the larder. For this purpose, she may truthfully say that both tins of paint have different colours. Or, given that they agree that the larder was painted pearl, Mr. Robinson may truthfully say that the new tin contains pearl paint, while Mrs. Robinson may truthfully deny that.

As long as Mr. and Mrs. Robinson keep in mind that they have different purposes, or equivalently, that they intend their sentences to be understood in somewhat different contexts, they will understand each other perfectly well. But neglecting the difference in purpose might start a vigorous discussion about the issue of whether or not the new tin contains pearl. Crawshay-Williams, in a similar way as De Groot and Medendorp, treats a term like *pearl* as an elliptical term (1957, 37), to be completed in either of the following two ways: *pearl, for the purpose of painting the kitchen* and *pearl, for the purpose of repainting the damp patch in the larder.* Completion is needed to make statements empirically testable, or as we would say, suitable for a straightforward critical discussion.

In intellectual and esoteric environments, purposes are often not stated clearly, and moreover, purposes change during the course of a discussion (44). Talking at cross purposes, therefore, is particularly acute in philosophical discussion. As an example, Crawshay-Williams analyses philosophical debates about certainty. We may say that an empirical statement can be certain for the practical purpose of dealing with everyday affairs. Thus, *the sun will rise tomorrow* is certain, given the purpose of deciding whether or not to go sightseeing tomorrow. But it might be said not to be certain for the purpose of deciding whether it is as reliable as a mathematical statement (95-97, the example is mine).

Van Eemeren and Grootendorst draw attention to two characteristics of linguistic utterances that seem to be derived both from Naess's idea about definiteness of intention and from Crawshay-Williams's idea about purpose. Whether or not an expression is comprehended, Van Eemeren and Grootendorst say, is a *relative* matter, depending partly on the interpreter. The listener may understand an expression differently than the speaker without making any linguistic mistake, and, one listener may detect several admissible readings while another listener may miss that point. Moreover, comprehension is a *gradual* concept: speakers and listeners may
3. FROM SEMANTIC TO CONTEXTUAL AMBIGUITY

In this chapter, we have been looking at factors that may lead to a situation where several interpretations of an expression are in force. In order for an expression to become contextually ambiguous, it must be semantically ambiguous. In the first section we have examined what semantic ambiguity might amount to, as well as various ways in which an expression can be semantically ambiguous. In the second section we examined various ways in which such semantic ambiguity may turn into contextual ambiguity within a context of utterance.

In the work of Perelman and Olbrechts-Tyteca, we found various ideas about how ambiguity within a context might arise: the use of analogy or metaphor, application of vague terms to new and unforeseen situations and express argumentative strategies. Naess points out the importance of diverging levels of definiteness of intention that probably has great explanatory force: the contextual information that interlocutors have at their disposal may differ due to the fact that not every interlocutor is equally knowledgeable. Crawshay-Williams has a more abstract approach that seems to include indefiniteness of intention as a special case: if the speaker, being more knowledgeable than the listener, would add the purpose or context of her statement, say Mount Whitecap is higher than Mount Baretop for the purpose of deciding how many meters we have climbed, the listener will probably interpret the statement in the proper direction. The explanatory accounts of Naess and Crawshay-Williams harmonise with the idea of Woods that the parties have command only over scarce resources (Woods 2002, cf. section 8 of chapter 1).

There are several possible explanations for such lack of relevant information. (1) A party may not have the time or energy to obtain the information needed, or might not know where to obtain it. The Minister of Justice is in need of defending a stance on the requirements for justified euthanasia at some particular moment in time, and at that time he has not yet decided whether suffering is to be taken as suffering from a disease or in a more general sense. (2) A party may be ignorant of the fact that he is in need of more information. Such ignorance can arise from insufficient reflection on the possible courses the discussion might take. Someone less introduced in the subject of euthanasia may use the term suffering without being aware of the borderline cases of ‘suffering’ (see chapter 8 for an analysis of a euthanasia debate). Moreover, (3) a party may have wrong information at his or her disposal. A minister might wrongly suppose that all members of parliament understand his use of suffering in the sense of suffering from a disease.

Because meaning is dependent on the available information about the context of utterance, and because different parties may not dispose of exactly the same information, an expression can be contextually ambiguous with respect to one person, while being contextually univocal with respect to another. Whether an expression is contextually (or even actively) ambiguous depends partly on the listener's perspective. An example will be elaborated in section 6 of chapter 4 where the expression to drive is actively ambiguous with respect to a police officer, but not with respect to a defending lawyer.
Disambiguation A
A society in which things are decided by the government and imposed on its citizens is evil.
Therefore, foreseeing and preparing for future contingencies is wrong.

Disambiguation B
A society in which things are decided by the government and imposed on its citizens is evil.
Therefore, having things decided on by the government and imposed on its citizens is wrong.

Disambiguation C
A society based on foreseeing and preparing for future contingencies is wrong.
Therefore, foreseeing and preparing for future contingencies is wrong.

As the sixth requirement states, some of these disambiguations have bite, and others have bearing, but none have both. The names bite and bearing are stamped by Walton: "[a]n argument has bite where the conclusion is considerably less plausible (in itself) than the premise(s) so that the premise(s) would, as a basis for inferring the conclusion, increase the plausibility of the conclusion considerably" and "[a]n argument has bearing where the premise does actually give some reason to increase the plausibility of the conclusion, given that the premise is plausible" (1996b, 19). In order for an argument to be sound, it must have both bite and bearing. Disambiguation A has bite, because the reason is more plausible than the conclusion. But it lacks bearing: the reason does not increase the plausibility of the conclusion. Disambiguation B lacks bite, because both sentences are equally plausible, but it has bearing. Disambiguation C has some bearing, but it lacks bite.

Unlike Walton’s contention, an argument can be taken to be sound even though it does not satisfy the bite-criterion. Suppose an opponent considers the reasons and conclusion of an argument equally plausible, even though he has only committed himself to the reasons and not yet to the conclusion. In such a case the argument does not satisfy the bite-criterion, although it can be judged a good argument from the perspectives of both parties. The bite-criterion seems to be inessential for a dialectically sound argument.

Disambiguation B lacks bite, but for the special reason of having a reason and a conclusion that are both very plausible. The charitable thing to do for the respondent is to choose this disambiguation. He would only attribute the proponent the minor mistake of a somewhat circularly formulated argument. We may imagine circumstances where the original argument is sound, according to my view of a sound argument, by virtue of there being a disambiguation such that the opponent is committed to its reason, and that he will be persuaded of the conclusion due to the bearing of the argument.

Let us adapt the context of utterance so that it is completely clear from context that the conclusion must be interpreted as foreseeing and preparing for future contingencies is wrong. In such a situation, the argument admits only of disambiguations A and C. A has bite without bearing, while C has bearing without bite. In my view, this could be a genuine case of equivocation (in the unusual context in which planned society does admit of the unusual interpretation), although Walton would reject it, on the basis that the argument has just one occurrence of the ambiguous expression. This shows that an argument with one occurrence of an ambiguous expression can posses the main properties of equivocation. The definition of the fallacy of equivocation that will be presented in section 6 of this chapter resembles Walton's analysis on many points, but differs in the following respects: it