JAPANESE TASTE TERMS:
THE STUDY OF A LEXICAL FIELD

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1978
This study investigates the intralingual and extralingual semantic relationships of taste terms in modern spoken Japanese. The theoretical framework adopted is that of the lexical field, particularly as propounded by Lyons. In the application of the theory, a question-and-answer methodology deriving from the work of ethno-scientists is developed.

Intralingual relationships include paradigmatic and syntagmatic relationships of sense, as well as stylistic relationships. Extralingual relationships are handled in terms of a focal model employing norm statements indicating focal exemplars and expected taste qualities. The question-and-answer procedures developed make possible the delimitation and subsequent semantic sub-division of lexical fields in a principled and replicable manner.

Two groups of terms receive examination. Firstly, the lexical structure of evaluatory taste terms is investigated. Their description is found to require a refinement of current notions of antonymy, and the terms exhibit a complex interaction of sense and stylistic relationships. Secondly, a larger field of descriptive taste terms is delimited and sub-divided into three lexical systems exhibiting lexical structures of varying complexity. Extralingually, the threefold sub-division of the domain of taste in Japanese is found to coincide only partially with the current scientific division of the area; in particular, the scientific differentiation between gustation and certain other, tactile, tongue sensations is not reflected in lexical structure.

In contrast to colour terms, taste terms in Japanese are found to exhibit a linguistically determinable affective value, and to share
grammatical characteristics with adjectives denoting the subjective reactions of an experiencer. A further difference is that descriptive taste terms do not constitute a lexical continuum; this has consequences for the definition in the study of the relationship of incompatibility. Taste vocabularies are also found to be characterized by the existence of taste norms, reflecting the fact that dietary items tend to be associated with culturally expected taste qualities.
ACKNOWLEDGEMENTS

Work on this dissertation was begun in Edinburgh in 1972, continued in Adelaide, and completed in Tokyo in 1978. Here I should like to record my thanks to some of the many people who, directly or indirectly, have influenced its final form.

I owe a general debt of gratitude to the Department of Linguistics at the University of Edinburgh, where, as a post-graduate student, I was introduced to the field of general linguistics. In particular, Dr., now Professor, R. E. Asher and Dr. E. K. Brown gave generously of guidance and advice in the early stages of my study at Edinburgh, and it was Professor Asher who first suggested semantics as my area of research. The work of Professor J. Lyons, formerly of the Department, in structural lexicography has provided a secure anchoring point in an often bewildering area of study; whether adequately reflected or not, its influence will be clear throughout much of this work.

Two people in particular have had a direct personal influence on the course of the dissertation, and to them I am especially indebted: my supervisor, Mr. J. J. Christie, of the Department of Linguistics at Edinburgh, and my wife Kazuko. John Christie has patiently provided valuable advice, criticism, help and encouragement over a period of five years and, latterly, over a geographical range of three continents. As my Informant, Kazuko Backhouse has been the source of the data in the central chapters of the study, and, more generally, it is primarily to her that I owe such mastery of Japanese language and culture as I possess. As my wife, she has sustained my years of thesis-writing in many ways, not least by her cooking, which has consistently exemplified many of the pleasant taste qualities discussed in this study.
Mrs. Rena Somerville, of the Department of Linguistics at Edinburgh, kindly undertook to type the final version of the dissertation.

Finally, a period of study leave from the Centre for Asian Studies at the University of Adelaide enabled me to complete the writing of the study in Tokyo.

To all, I express my sincere thanks.
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INTRODUCTION

This study is essentially an exercise in descriptive lexical semantics. More particularly, it attempts to apply, for the first time, a modern theory of structural semantics to the description of taste terms in Japanese. The theoretical approach adopted is basically that of the lexical field, in particular as developed in the work of Lyons (1963, 1968). In the application of the theory, a methodology based on question-and-answer techniques is developed which appears to be of general value as a tool in the delimitation and semantic analysis of lexical fields.

The organization of chapters is as follows. Chapter 2, 'The Sense of Taste', is a background chapter containing a summary of scientific treatments of taste and a consideration of their relevance to linguistic work in the area; existing linguistic studies of taste terms are reviewed, and the present study is placed in context. The theoretical framework on which the description is based is set out in Chapter 3, 'Lexical Meaning', and the importance of norms for the semantic description of taste terms is considered more fully in Chapter 4, 'Taste Terms and Norms'. Chapter 5, 'Methodology', sets forth the methodological approach adopted in the delimitation and analysis. Chapter 6, 'The Lexical System UMAl/MAZUI', and Chapter 7, 'The Lexical Field AJI', are the central chapters of the study, in which the data and its analysis are presented. Taste terms in Japanese are contrasted with colour terms in the language in terms of a particular grammatical distinction in Chapter 8. Chapter 9, 'Conclusion' is followed by a Bibliography of works cited.
CHAPTER 2

THE SENSE OF TASTE

2.1 Scientific studies

In considering scientific work on taste one must begin by recognizing that the sense of taste is there defined in terms of a given set of sense organs or receptors, namely the taste cells. These are largely concentrated in thousands of taste buds found in papillae located predominantly on the edges and back of the tongue; a small number of taste buds are also present in other sensitive parts of the mouth, including the pharynx and soft palate. The taste cells are stimulated by sapid substances when in solution or when dissolved in the saliva. Since the cells are sensitive to chemical energy, they are known as chemoreceptors, and the senses of smell (whose receptors, the cells of the olfactory epithelium, are also chemoreceptors) and taste are together referred to as the chemical senses. Scientifically, then, the study of taste is restricted to various forms of sensitivity and perception arising from the stimulation of the taste cells by sapid substances in solution.

Compared with the senses of vision and hearing, the workings of the chemical senses are poorly understood. Work on taste has generally assumed that there are four primary tastes, namely sweet, sour, salty, and bitter, and that these are detected by taste buds in different areas of the tongue and mouth. Scientific discussion continues to be conducted in terms of these four qualities (ostensibly defined in terms of the chemical substances sucrose, tartaric acid, sodium chloride and quinine, respectively), but it appears that there is at present no evidence to show that they are genuine primary tastes in any specifiable sense:

1 The following account is based largely on Harper, 1972, Chapter 6.
"The range of qualities is subdivided for convenience into the four common tastes, Sweet, Sour, Salt and Bitter .... (They) are referred to here deliberately as the common tastes so as to avoid any assumption that they are genuine primaries. There is relatively little evidence to support the concept of primary tastes. Whereas attempts have been made to synthesize more complex tastes in terms of these four qualities, there are certain tastes, such as Metallic, which cannot be synthesized in this way."

(Harper, 1972: 194)

As for sensitivity to these four qualities, it is now accepted that different areas of the tongue and mouth show variations in sensitivity to a given quality, the tongue tip, for example, being most sensitive to sweet, and the back of the tongue to bitter, but the view that individual receptors are uniquely sensitive to a particular quality has been abandoned.

The precise nature of the stimuli involved in the action of the chemical senses is still not known. It is clear, however, that there is no simple correspondence between chemical composition and perceived taste quality: salts, for example, do not all taste salty, and substances of various chemical groups (including very dilute sodium chloride solutions) share a sweet taste. Experimental data on the perceived taste of mixtures of the four common qualities indicates that more than a merely additive process is involved: it is often impossible to predict the taste of a mixture from the taste of the separate constituents. Moreover, the results of such tests tend to vary across individuals, and it is widely acknowledged that differences in sensitivity among different subjects can be
considerable. The internal state of the body is recognized as one important factor here: salt deprivation, for instance, increases sensitivity to salty tastes, while water deprivation decreases it. The influence of external surroundings on taste sensitivity is also generally recognized: wine-tasting manuals point to the effect of factors such as noise and lighting (cf. Pulsals and Chabanon, 1974: 44-46). In addition, general taste sensitivity tends to decrease with age, though here again individuals differ considerably. A kind of taste blindness is also known to exist with certain substances: phenyl thioc-urea, for example, tastes highly bitter to some people, but is tasteless to others.

Several psychological scales of taste have been devised, the best known of which has as its unit the gust, defined as the psychological strength of a 1% sucrose solution. Absolute threshold concentrations for different taste stimulii vary widely: It is possible, for instance, to detect a salt solution half the strength of the standard sugar solution. Here again there are many factors which cause variation in sensitivity, notably the temperature of the taste stimulus and the area of the tongue stimulated. It is noticeable that the majority of foods (which are almost all taste mixtures) obtain low rankings on taste scales, exceptions being substances such as vinegar (perceived as highly sour) and honey (highly sweet) which are not normally consumed alone.

Different species appear to inhabit different 'taste worlds'. It has been noted that certain animals, including the dog and the cat, have taste receptors which respond exclusively to water, while the response to sweet tastes found in man is reported to be absent in the cat. Like all senses, the sense of taste no doubt to some degree serves a biological alerting function, with substances
harmful to the human organism being perceived as unpleasant (e.g. bitter: Wyburn et al. speak of "an almost universal aversion to bitter tastes" (Wyburn, Pickford and Hirst, 1964: 122)) and beneficial substances as pleasant (e.g. sweet: sweetness in ripe fruit is an important indicator of high vitamin C content). However, this correlation is by no means perfect, and it is clear that, in the case of man, a high degree of cultural channelling is involved (cf. examples of 'acquired tastes' in our own culture).

2.2 Scientific vs. folk categories

Many psychologists have protested that the scientific view of taste outlined above does violence to everyday usage, and have urged that scientific work should be based more upon the folk concept of taste. As long ago as 1936, Rubin proposed "a scientific definition of 'taste' ... in accordance with popular use" and recommended that "the starting-point for every discussion of taste must be the experience of daily life" (1936: 74). In contrast to the prevailing scientific division into four taste qualities, he quotes with approval the earlier ten-fold scheme put forward by Linnaeus (viz. aqueous, acid, fatty, sweet, mucous, dry, bitter, astringent, acrid/sharp, salt), his only reservation being that even this classification may distinguish too few categories (1936: Ibid.). More recently, Gibson has contrasted the everyday sense of taste as the whole perceptual system accompanying eating with its scientific definition which reduces it to "a minor sense, for distinguishing solutions" (1966: 136). Common to these objections is the view that, in everyday usage, taste covers a much wider range of qualities than those perceived through the taste cells alone.

In the interests of clarity, we propose to adopt from this point on the terminological distinctions suggested by Rubin (1936: 5)
the term 'gustatory' will be applied to those qualities perceived via the taste cells (i.e. to taste qualities in the narrow, scientific sense), and the term 'olfactory' to those qualities which arise from the olfactory epithelium. The term 'taste' is thus free to be retained in its wider, everyday sense. Now it is a well-known fact that many qualities which are subsumed under taste in everyday usage are in fact olfactory. Everyone knows how a cold in the head dulls taste sensitivity, and it has been experimentally proved that, where a subject pinches his nose and is given to eat a piece of raw apple followed by a piece of raw onion, he is in most cases unable to tell the difference between them. Flavours such as vanilla are also not tasted until the nose is released.

In everyday usage we also speak of 'sharp' tastes (for instance, with reference to fizzy drinks or spicy foods). In this case it appears that neither the gustatory nor the olfactory receptors are responsible, but receptors analogous to the pain and temperature receptors in the skin and as yet poorly understood. Gibson comments on such substances as follows:

"Mustard seems to affect the skin as heat does, and menthol as cold does, while pepper and horseradish yield something like tingling pain."

(1966: 139)

He goes on to note that adults, but not children, cultivate such non-nutritive condiments: they are cases of 'acquired tastes'. Another quality subsumed under taste in common usage is astringency, and here too it appears that some form of tactile stimulation is involved.

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2 The olfactory epithelium is stimulated by volatile substances, either directly via the nostrils or by way of the back of the mouth. Where food is concerned, it is therefore sensitive to stimulation both before and during eating.
Harper comments thus:

"To the four (sic) classical subdivisions of cutaneous sensitivity (i.e. Light Touch, Deep Pressure, Warmth, Cold and Pain) should also be added Pungency as a tactile accompaniment of many odour stimuli and Astringency which accompanies certain taste stimuli (e.g. strong tea without milk, or rhubarb)."

(1972: 279)

Rubin maintains that, in ordinary language, 'taste' applies to "the properties of food as they appear when the food is placed in the mouth and masticated" (1936: 77) and accordingly goes on to mention many other types of perceptual qualities concerned in the taste experience: being an area of high tactile sensitivity, the mouth yields information relating to such qualities as texture, consistency, shape, and temperature; hearing, too, as when one crunches an apple or a biscuit, enters into the perception of the consistency of food and of the modification of this consistency during mastication. Moreover, he emphasizes that the taste experience is not merely the static cooperation of all the sense organs, known and unknown, involved, but a sequential process continually changing through time and including (for solids) the stages of biting, mastication, insalivation and swallowing. Gibson, who, as we have seen, stresses the everyday meaning of taste as a perceptual system accompanying eating and uniting several different types of receptors in this single function, presents a range of information perceived by the system similar to Rubin's list (1966: 139).

These considerations are summed up by Harper when he refers to the 'gestalt' nature of taste in everyday usage, by contrast with which the usual scientific treatment of the subject represents a
foreign, analytical approach (1972: 193). The distinction noted by these authors is clearly relevant to linguistic work, the main implication being that a linguistic study of taste terms in everyday usage must be prepared to find that their denotational range takes in dimensions other than gustation alone. For English at least, the above discussion suggests that in addition to terms relating primarily to gustation, terms denoting olfactory and tactile qualities will be subsumed under taste in everyday usage. Whether the denotation of the lexeme TASTE in everyday English can be said to subsume the whole ingestion experience, however, is a question to be decided by linguistic investigation: part of the evidence to be considered will be the relative acceptability of lexemes such as SWEET, SMOKY, SHARP, CRUNCHY, LUMPY, etc., when used in answers to the question What does it taste like? Of course, the precise denotational domain of the lexical field is likely to vary across languages. In this, taste terms are no different from colour terms or the terms of any other area of the vocabulary: while the scientific treatment of colour in terms of the psychophysical dimensions of hue, brightness and saturation appears to relate well to the denotational distinctions drawn among English colour terms, Conklin's well-known description of colour terms in Hanunóo (Conklin, 1955) has shown that other dimensions (in this case, wetness and dryness) may be relevant in other languages.

2.3 Existing linguistic studies

Insofar as taste terms form part of the 'language of experience' (cf. Lenneberg and Roberts, 1956), one might expect them to have received some attention from linguists, who have shown considerable interest in the neighbouring field of colour terminology. Apart from passing references to taste in several works on perceptual terms
(e.g. Lenneberg and Roberts, 1956: 8; Berlin and Kay, 1969: 13), the only substantial linguistic study directly concerned with the language of taste, however, appears to be an article written in the first decade of this century (Myers, 1904). One reason for this relative neglect is no doubt the lack of scientific understanding of taste that has been noted above, and the consequent absence of any agreed scheme of denotational categories comparable to those that exist for colour.

In the article referred to, Myers, a psychologist, reports on his and Seligmann's efforts to investigate the taste vocabulary of the Torres Straits islanders. The investigators tested the islanders with dilute solutions of sugar, salt, acid and quinine, "and thereby obtained their equivalent words or expressions for sweet, salt, sour and bitter" (1904: 118-9). Myers' summary of the findings is as follows:

"(1) The literal meaning of the phrase commonly used in the Torres Straits to denote sweetness is 'tasting good'.
(2) The same phrase is applicable to denote saltiness.
(3) The usual word for saltiness is derived from the word for sea-water.
(4) The taste-names for salt and sour tend to be confused.
(5) There is no specific name for the bitter taste."

(1904: 119)

Myers concludes that primitive languages show a similar lack of differentiation vis-a-vis English in their taste vocabulary as previous studies had shown them to do in their colour vocabulary.
Myers followed up these experiments by sending questionnaires to officials, missionaries, and other individuals in contact with primitive peoples in various parts of the world. The relevant questions were:

"(1) By what word(s) in their own language would the natives describe the taste of solutions of (a) sugar, (b) salt, (c) weak acid, (d) quinine? (Where possible, investigators should carry out tests using such solutions.)

(2) Give, if possible, the exact meaning of the words in (1) --- e.g. Are they derived from substance-names? Are they extended uses of words, such as soft, sharp, or have they given rise to such? Do they mean pleasant and unpleasant? etc."

(1904: 121)

The results of this questionnaire he sums up as follows:

"(1) Several languages have two taste words, one applied to agreeable flavours, the other to unpleasant flavours.

(2) The use of a common word applied to both sweet and salt is widely attested.

(3) The taste-word for salt, where present, is commonly derived from the word for sea-water.

(4) In New Guinea, New Hebrides, and much of Polynesia, the same word denotes salt, sour and bitter."

(1904: 122-4)

Myers' general conclusion, once more, is that, in primitive languages, taste vocabularies, like colour vocabularies, show a lack of
differentiation when compared with English, and, in the most primitive, "substances are primarily classed according as they are tasteful or distasteful; the differences, for example, between sour and bitter are considered less striking than their common impalatability" (1904: 126). 3

While Myers' investigations represent a valuable attempt to extend studies of the vocabulary of perception to taste terms, the findings are clearly difficult to evaluate. The methodology of the original experiments leaves much to be desired, relying as it does on an ostensive 'look-and-say' technique with all its attendant pitfalls: one obvious possibility, for example, is that the islanders tended to respond to the stimuli at the general level of 'pleasant'/ 'unpleasant' and that more specific terms, though existing, were simply not elicited in the context of the experiment; in any case, the stimuli employed were unnatural and unsuited to cross-cultural studies of this kind. The same objections apply to the questionnaire; here, moreover, (as Myers is aware) the validity of the results will depend in large measure on the degree of familiarity with the native language on the part of the intermediaries who carried out the tests. Even if the results were accepted as being accurate as far as they go, an investigation restricted to the four 'scientific' taste qualities clearly cannot give any indication of the overall structure of the taste vocabularies of the languages

3 Myers also gives brief consideration to taste terms in certain Indo-European languages, some of which are held to show similar characteristics. Particularly interesting are cases for which he cites commonly associated substances: Greek PIKROS, for example, he cites as being applied to sea-water, unripe fruit and pungent flavours, while in Sanskrit (which is said to have recognized six tastes: sweet, salt, sour, bitter, pungent, astringent) the corresponding term TIKTA was applied to gourd, mustard and other burning tastes. Outside Indo-European, Somali DANAN is cited as being applied to lemons and salted meat. (1904: 120, 124).
Apart from this study specifically concerned with the language of taste, some more recent general works make reference to the area in linguistics, Sturtevant's survey of ethnoscience mentions the domains of smell and taste as having, in English, a small and weakly terminologized vocabulary, and points out that, in comparison with colour, the etics involved are very poorly known (1964: 119). The only linguistic work mentioned in this connection by Sturtevant is a brief study by Aschmann published in 1946 of the smell categories of Totonac: as reported by Sturtevant, Aschmann's analysis shows a taxonomy with eight primary terms each dominating more specific terms; because of the lack of an etic scheme, the range of application of each term is defined simply by listing lexemes denoting objects which are typically characterized by the smell concerned. Of general work in the field of psychology, Harper's survey referred to earlier (Harper, 1972) is of interest for its awareness of linguistic considerations and its emphasis on the practical workings of the senses, including taste (the author is a food scientist), in everyday life. Harper notes that, whereas much of visual and auditory perception can now be handled in abstract terms, the study of tastes, odours and textures is still dominated by object language and analogies; studies of language and meaning are therefore particularly relevant for these senses (1972: 37-38). Among other problems, he points out that the extent to which different people agree in their understanding and use of everyday descriptive terms
needs to be examined, and he adds that "dictionary definitions are rarely satisfactory in this context, since they are not anchored to particular stimuli" (1972: 38). He also points to the importance of folk knowledge concerning aspects of taste, most of which still remains unformalized by science: as an example, cooks, recipe-makers and flavourists have much relevant knowledge relating to taste-mixtures (1972: 195). The presentation of such knowledge as it is formulated in different cultures is potentially an important by-product of cross-linguistic studies in this area.

2.4 The place of this study

Given the fundamental importance of perception in human psychology, structural semantic studies of sense vocabularies clearly constitute a basic field for research. Do the vocabularies of the different senses differ in respect of the semantic relations in terms of which they are structured? Does this structure vary across languages? Do languages differ in the size and complexity of such vocabularies, both in general and in respect of particular senses? Do terms belonging to the vocabulary of one sense tend to be extended to other senses? Such questions are important both for linguistics and, as we have seen, for the scientific study of the senses themselves. It seems safe to assume that sense vocabularies are both

4 Relevant here is a study by Robinson (1970), which notes that the application of the terms BITTER and SOUR in everyday usage differs considerably from their scientific definition. In tests with untrained observers, 67% characterized the taste of lemons as sour, 33% as bitter, while in the case of lime juice 39% judged it as sour and 39% as bitter. Robinson's conclusion is that, since few food substances taste predominantly bitter (in the scientific sense), it is possible to go through life without clearly identifying the taste, and that it may well be that, in view of its unfavourable connotations, the term tends to be used for unpleasant tastes, particularly strong sour tastes. While the particular wording of Robinson's conclusion reflects a perhaps unreasonable faith in the authority of scientific categories, clearly the experiments reveal an interesting difference in application of the (folk) categories BITTER and SOUR.
universally present in human languages and, at least in part, learned early in language acquisition, perhaps serving as models for the semantic structuring of more abstract domains.

It has already been noted that colour vocabularies are the only sense vocabularies to have been fairly widely investigated in the framework of structural semantics. A description of a taste vocabulary is thus of immediate interest as providing a point of comparison from a different segment of the language of experience. Sturtevant, for example, in the article quoted earlier, has noted that multi-level hierarchical structuring is probably a universal feature of colour vocabularies (1964: 118): a semantic description of taste terms will show whether taste vocabularies are structured on similar principles.

Taste and colour vocabularies will be compared at various points throughout this study. Here, by way of Introduction, certain aspects of the sense of taste that have arisen in the discussion thus far are informally compared with the situation in the field of colour, and some of the possible linguistic implications of the differences considered.

The first point, tentatively made, is that taste and colour perception appear to differ in complexity in terms of the number of psycho-physical parameters and receptors involved: as we have seen, taste ranges over a good part of the eating and drinking experience and involves several different systems of receptors. It may be that the complexity involved will be reflected in the structure of taste vocabularies, with, for instance, a plurality of lexical systems relating to some of the different parameters involved (though, of course, not necessarily in one-to-one correspondence with the divisions set up by psychologists). In this connection, it is worth
bearing in mind that, of the analytically distinct parameters concerned (gustation, olfaction, temperature, and various tactile phenomena such as consistency, texture, hardness, astringency and pungency), only gustation and astringency are unique to the sense of taste, the others being involved in the action of other senses; it is possible that the terms used may reflect this difference, in terms, for instance, of the basic or extended status of their meanings.

Secondly, colour, as an aspect of vision, and taste contrast in terms of distal vs. proximate receptors. Now it is commonly assumed that the vocabulary associated with the proximate senses is in some way poorer than that associated with the distal senses; Sturtevant's comments on smell and taste terms in English have already been noted, and Slobin maintains that we have "an inadequate vocabulary for expressing sensations of the proximity senses" (1971: 108). It may indeed be that the information provided by the proximate senses is for some reason less susceptible to detailed analysis than that given by the distal senses, and the relative lack of scientific progress in the former is perhaps a reflection of this. However, only detailed linguistic studies of the vocabularies concerned can show the nature of this 'poverty' and determine how far it holds across different languages.

A third, major difference between colour and taste perception is that the latter clearly involves an affective aspect: some tastes are inherently pleasant, some inherently unpleasant. In view of

5 Vision and hearing are commonly grouped together as the distal senses, taste, smell and touch as the proximate senses.

6 This applies to taste and colour qualities on a general level. It is important to realize that the generally favourable affective value of a term like SWEET can be 'overruled' by the taste norm for a particular substance, so that sweet beer, for instance, would not normally be considered pleasant (cf. Chapter 4). Moreover, colour terms may of course carry implicit value judgements in certain contexts.
the biological alerting function ascribed to the sense of taste, this
is to be expected, and there seems no reason to doubt that this is a
universal property of taste. (The same may well apply also to the
other proximate senses.) In consequence, a linguistic study may
expect such factors to be reflected in some way in the semantic
characteristics (e.g. syntagmatic compatibility) of the lexical items
concerned, providing an interesting contrast with studies of colour
terms.

A fourth, no doubt related difference between colour and taste
is that the latter appears to be an area of much greater subjectivity.
No doubt this is most apparent in the case of explicitly evaluatory
terms such as GOOD, DELICIOUS, etc.: Insofar as one man's meat is
very often another man's poison, we must expect disagreements among
different speakers in their application of such terms to given sub¬
stances. Even in the case of descriptive terms, however, apart from
the experimental evidence of individual differences reported above,
everyday experience teaches us that people vary considerably, for
example, in the amount of sugar they take in their tea and in their
reaction to acquired tastes such as the hotness of spicy foods and
the bitterness and astringency of certain alcoholic drinks, so that
what is sweet tea or a hot curry for one individual may not be so
for another. This would seem to have no general parallel in the
field of colour, and in general it appears that speakers are more
prepared to accept disagreement on taste judgements than on colour
judgements. It is reasonable to assume, however, that such dis¬
agreements will concern the application of taste terms to given items
of diet rather than the intralingual structure of the lexical system
itself.
A fifth property of taste that sets it off from colour, and indeed from all the other senses, is that it is par excellence a 'cultural' sense. By this we mean that the sense of taste is geared to the activities of eating and drinking, which, in man, are pre-eminently culturally channelled activities: except in infancy, when the mouth plays an important part in a baby's exploration of the world around him, the input to the sense of taste is culturally preselected in that what is accepted as food, or 'good to eat', in a given community is in general rigidly determined in a way that does not apply in the case of the other senses. Taste terms are predicated of items of diet, and not indiscriminately of objects in the environment. Since this is so, and since the contents of diet and methods of cuisine vary considerably across cultures, we must expect a good deal of cross-linguistic variation, both in the nature of the dietary items with which taste terms are typically associated, and in the particular aspects of the taste experience which are lexically emphasized. As with any area of the vocabulary, we must expect the structure of taste vocabularies to reflect the interests of the speakers of the language concerned; since the taste experience is a complex one,

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7 Gibson has an interesting comment on the perceptual role of the mouth in early childhood in contrast with its role in adulthood:

"The human adult does not use his mouth for exploratory haptic touching as the Infant seems to do; or, more accurately, he does so only for food substances. 'Putting things in the mouth' is tabooed after a certain age."

(1966: 143)

8 Thus the Japanese, unlike certain other communities, regard squid (IKA) as a prized item of diet; one term that is typically associated with it is HAGIRE GA MI 'pleasant to the bite'. A general outline of Japanese diet and cuisine can be found in Martin and Martin, 1970.
languages may well differ, according to the aesthetic inclinations of their speakers, both in the overall attention they pay to the language of taste, and to the selection of particular aspects within it for special emphasis.
CHAPTER 3

LEXICAL MEANING

The semantic theory adopted in this study is based on the work of Lyons (cf. Lyons, 1963; 1968, Chapters 9 and 10), which in turn is a development of earlier theories of the lexical field. In this theory, the meaning of a lexical item (or lexeme) is seen as a function of the various types of semantic relationships which the item contracts with other lexical items in the language and in some cases, additionally, with extra-linguistic phenomena.

The scheme of semantic relationships outlined below constitutes the basic framework for the subsequent analysis of taste terms in Japanese. Throughout, the term 'meaning' (and the adjective 'semantic') are used as general terms ranging over all the relationships discussed.

3.1 Intralingual semantic relationships

By intralingual semantic relationships we refer to semantic relationships which hold between lexical items in a given language.

3.1.1 Paradigmatic sense relationships

Here we are concerned with semantic relationships which hold between lexical items that can occur in the same stylistic and linguistic context. Paradigmatic sense relationships are always to be set up polysystemically, i.e. for relevant contexts, and not for the language as a whole.

Basic to sense relationships of this type is the notion of pragmatic implication holding between utterances of sentences containing the lexical items concerned. As a simple example, a sincere

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1 The notion of stylistic context is discussed in 3.1.3 below. It is intended to take into account such social factors as relative status of interlocutors, formality of situation, etc., where these have systematic lexical repercussions in the language concerned.

2 For this aspect of meaning, cf. Lyons, 1968: 443-470. Note that Lyons does not treat stylistic variation as significant.
utterance of the sentence *This apple is sweet* \(^3\) will be held by
speakers of the language to imply the denial of the sentence *This apple is sour*, while no implication of any kind will follow with
regard to, say, the sentence *This apple is crisp*. That is to say, part of the meaning of SWEET in such contexts \(^4\) is its implicit
denial of SOUR, and these two lexical items are here paradigmatically
related whereas SWEET and CRISP are not. Viewed from a different
angle, in reply to the question *Is that apple sweet?*, No, It's sour
is an acceptable answer in a way which No, It's crisp is not.

Lexical items which are paradigmatically related are said to
belong to the same lexical system \(^5\). Thus, in contexts such as the
above, SWEET and SOUR belong to one lexical system, while SWEET and
CRISP do not. Membership of a lexical system is part of the meaning
of a lexical item. According to the nature of the implications that
hold, various types of paradigmatic relationships between lexical
items can be distinguished, and the lexical system concerned is said
to be structured in terms of them. The types of relationships found,

\(^3\) In this study a typographical distinction is drawn between
occurring linguistic entities, such as utterances, (text-) sentences and word-forms, and theoretical entities such as (system-) sentences, expressions, and lexemes (cf. Lyons, 1977: 37). The former are underlined, the latter capitalized.

\(^4\) That these Implications do not hold for utterances of sentences such as That girl is sweet, The shot was sweet, etc. illustrates the necessity for polysystemic treatment.

\(^5\) In this study we make a terminological distinction between a lexical system and a lexical field. While paradigmatic sense relationship is criterial for the former, it is not for the latter: lexical field is thus a wider term, taking in, for example, lexical items which occur in response to a common question-frame without necessarily entering into paradigmatic relationships. Thus, in the case cited here, SWEET and CRISP may be said to fall within the same lexical field relative to the question-frame What does X taste like?, but, since they are not related paradigmatically in sense (i.e. by incompatibility, etc.), they do not fall within one lexical system.
and the resultant types of structuring that exist in lexical systems, are important areas for empirical investigation within and across languages.

Among the types of paradigmatic sense relationships that have been distinguished are the following: synonymy (defined in terms of bilateral implication: e.g. (in certain contexts) GLASSES/SPECTACLES), hyponymy (unilateral implication: e.g. TREE/ELM), incompatibility and complementarity (mutual exclusion: e.g. YELLOW/RED, MALE/FEMALE), antonymy (e.g. LONG/SHORT), converseness (e.g. HUSBAND/WIFE), scalarity (e.g. BIG/HUGE), consequence (e.g. LEARN/KNOW), partitivitiy (e.g. RUNG/LADDER) (cf. Lyons, 1968: 443-470; Lehrer, 1974: 22-30). Several of these categories can be subdivided: among antonyms, for example, certain implications that hold for BIG/SMALL do not necessarily hold for GOOD/BAD (see 6.4 below); there are different types of incompatible terms, such as ordered and unordered sets (cf. Leech, 1974: 115); and symmetrical terms (e.g. COUSIN) can be seen as constituting a special case of converseness.

The fundamental point that paradigmatic sense relationships are context-dependent has already been made, and English colour terms provide a useful illustration of some of the factors involved. For instance, the seemingly innocuous statement that BLACK is a colour term in English in fact has certain contextual assumptions hidden within it which deserve to be made explicit. While, intuitively, it seems appropriate enough to refer to BLACK as a colour term in expressions such as BLACK CAR or BLACK DRESS, to place BLACK in BLACK COFFEE (that is, in the use of this expression to refer to coffee without cream or milk) together with these seems more difficult. And in fact there is a sound linguistic basis for differentiating here.
In the first place, whereas BLACK in collocation with CAR and DRESS stands in a relationship of incompatibility with a range of terms such as WHITE, GREEN, RED, YELLOW, BLUE, in the collocation with COFFEE there is only one other term involved, namely WHITE; i.e. the membership of the lexical system is different. More importantly, there is the question of why we normally call BLACK a colour term anyway, and the answer to this must be that, typically, BLACK can be used in an appropriate response to the question *What colour is X?* In many cases, that is to say, a given lexical field or lexical system has associated with it a typical question-frame to which its members may be used in appropriate responses, and which often supplies a convenient label for the system itself. Applying this to the examples given, BLACK is indeed used, together with WHITE, GREEN, RED and the rest, in appropriate response to the questions *What colour is your car?* and *What colour is your dress?*; in the case of BLACK COFFEE, however, the associated question is not *What colour would you like your coffee?*\(^6\), but *How would you like your coffee?* In other words, BLACK is a colour term in English in certain contexts, those contexts being defined in terms of the applicability of the question-frame *What colour is X?* In black coffee, it is clearly not a colour term in this sense. Similar arguments prevent us from considering as colour terms (pace Lehrer, 1974: 7) the adjectives in the collocations WHITE WINE and RED WINE, as normally used, where the typical associated question is *What type/kind of wine?*\(^7\).

\(^6\) This is to disregard the use of this sentence as a witticism. That it would be seen as such is of course an indication of its deviance from normal usage. The same applies to facetious replies of the type *A dirty brown colour*, etc.

\(^7\) Cf. the truth of the following statements: Black coffee is not black, White wine is not white, Red wine is not (necessarily) red.
course, this is not to deny a connection between the use of the
terms in these examples and their typical use as colour terms: such
a connection exists and is to be handled within a theory of semantic
extension. In terms of the semantic relationships which actually
hold in the given contexts, however, it is clearly important to be
aware of the distinctions involved.

Moreover, even when we have established that we are dealing with
bona fide colour terms in a given context, it does not follow that
the structure of the lexical system is always the same. Our
discussion of colour terms thus far has been in relation to their
predication of objects such as cars and dresses. If we are talking
about hair, the situation is clearly different: He has black hair,
He has white hair, He has auburn hair, He has brown hair, He has
fair hair, He has red hair, and He has ginger hair. While we are
still dealing with colour terms in a definable sense (the associated
question is What colour is his hair?), the lexical system is
different in that it contains less members, and different members
(BLOND, FAIR, AUBURN, and GINGER, a synonym of RED in this context),
and to that extent the sense relationships, and thus part of the
meaning, of BLACK has changed. The statement of the contextual
factors involved here will be in terms of the syntagmatic relation¬
ships discussed under 3.1.2, In this case, In terms of the
(Semantically related) lexical items HAIR, MOUSTACHE, BEARD, WIG, etc.,
which thus constitute a highly distinctive context in English as far
as the use of colour terms is concerned. Such differentiation in
lexical systems according to context is not captured by an approach

8 AUBURN seems more naturally applied to female hair, and perhaps
should be omitted here.
which works simply with a list of 'all English colour terms', in which all the lexical items involved are transposed on to a single, undifferentiated plane, and an important aspect of the organization of the vocabulary is thereby overlooked.

3.1.2 Syntagmatic sense relationships

Here we refer to the semantic relationships which hold between a lexical item and other lexical items with which it can co-occur in syntactic constructions, that is, between a lexical item and its linguistic context.

In general, a given lexical item will normally be associated with a set of items with which it commonly co-occurs in various syntactic constructions, and, theoretically, the statement of the linguistic context of paradigmatic sense relationships will involve the specification of such a set. McIntosh calls such a set the 'range' of a lexical item (1961: 330), and the relationship between a lexical item and its range is normally termed collocational. Thus, in English, the noun HEDGE collocates, in different constructions, with items of relatively specific meaning such as the transitive verbs PLANT, TRIM, CLIP, the intransitive verb GROW, and the adjectives NEAT, OVERGROWN, as well as with items of more general meaning such as SEE, HUGE (Can you see that huge hedge over there?). In any list of collocations, the more specific terms (here, PLANT, etc.) will occupy a more central place as being more semantically diagnostic than general terms (SEE, HUGE).

In general, collocational relationships are seen as providing a statable frame within which paradigmatic relationships operate, rather than as constituting a part of the meaning of a lexical item as such. That is to say, while the statement of collocations
(especially central cases) is a necessary part of semantic description, the relationship of collocation itself is not seen as a sense relationship.

The limiting case of centrality in this sense occurs when one lexical item necessarily collocates with another in a given construction. In this case, we may speak of a sense relationship of syntagmatic implication. Thus, to cite an example from Lyons (1968: 422), we may say that BITE syntagmatically implies TEETH in I bit him with my false teeth. Porzig has discussed such relationships (under the heading of 'syntagmatic fields'), and gives examples from German:


Porzig also mentions cases where the relationship is less clear-cut: REITEN 'ride' syntagmatically requires a lexical item belonging to the lexical system of animals, but there are various possibilities within that range. In fact, at least in English, cases of unique implication seem to be rare: thus, BLOND collocates with MOUSTACHE, BEARD, WIG as well as with HAIR; FELL with ELM, ASH, etc. as well as with TREE; and BARK with FOX, BITCH, etc. as well as with DOG. It is clear, however, that such alternatives commonly stand in some kind of paradigmatic relationship to each other: a partitive relationship exists between HAIR and MOUSTACHE, BEARD, WIG (cf. the hair of his moustache, etc.), and hyponyms, where they exist, will often be involved, as in some of the examples above and in the case of an item like CANTER, which collocates not just with HORSE but also with STALLION, GREY, GELDING, etc. (and indeed with ANIMAL, of which
HORSE itself is a hyponym. In this connection, Coseriu makes a distinction between (syntagmatic) implication, where a single lexical item is involved, and (syntagmatic) selection, where a superordinate term ('archilexeme') and its hyponyms are equally permissible (1971: 210).  

As the opposite case we find examples where two lexical items cannot co-occur in a given construction. Though it may be imprecise to talk of linguistic context in such cases, they are often semantically significant and, where necessary, we can speak of sense relationships of syntagmatic incompatibility and syntagmatic redundancy. Thus, for instance, the fact that SICKLY is syntagmatically incompatible with NICE (nice and sickly) in normal usage, whereas SWEET is not (nice and sweet), is an important aspect of the difference of meaning between them. Examples of syntagmatic redundancy are seen in hurry rapidly, man-eating cannibal, elderly octogenarian, etc.

Although the detailed study of collocations is in its infancy (cf. Sinclair, 1966), the important relationships of syntagmatic implication, syntagmatic incompatibility and syntagmatic redundancy are relatively clear, and a satisfactory statement of central collocational relationships would normally seem to be possible without resort to statistical methods.

3.1.3 Stylistic relationships

Under this heading we wish to handle relationships between lexical items which are used in different stylistic contexts. As

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9 One wonders whether this distinction is necessary: perhaps it is simply the case that, where hyponyms are present, they are always substitutable. To return to the example of the false teeth, I bit him with my false molar is presumably acceptable, though bizarre.
noted in 3.1.1, we intend 'stylistic context' to take in factors such as the relative status of Interlocutors and the degree of formality of the speech situation where these are lexically relevant. Typically, the relationship concerned will be of the form: 'Lexical Item A replaces lexical item B in a certain style'. Such relationships form an important aspect of the intralingual structure of the vocabulary of many, if not all, languages.

In 3.1.1 we have defined paradigmatic sense relationships as being restricted to lexical items which occur in the same linguistic and stylistic context. For items which are stylistically differentiated, therefore, the question of such relationships does not arise: stylistic lexical variation, like dialectal lexical variation, is to be separated out prior to the statement of sense relationships. If we accept that, in English, HORSE and GEE-GEE are differentiated in this way (GEE-GEE replacing HORSE in the style known as baby talk), this means that we will not speak of synonymy (a sense relationship) here. This treatment can be justified from the point of view of the pragmatic implications involved: given that a certain tobacconist utters the sentence We have a wide range of cigars (the example is from Lyons, 1963: 75), then we have no difficulty in recognizing the implication We have a wide selection of cigars in the same stylistic context (and vice versa), and we can set up RANGE and SELECTION as synonyms here; however, given that a man says to a friend Look at that horse, then clearly there are difficulties in saying that this pragmatically implies the utterance of the sentence Look at that gee-gee in that context, though we would be willing to accept that he might utter the second sentence in a different stylistic context, namely to an addressee of the appropriate status. Furthermore, it is important to note that the
two lexical items have different paradigmatic sense relationships: while HORSE, as a hyponym of ANIMAL, is incompatible with COW, RABBIT, etc., GEE-GEE contrasts rather with items such as MOO-COW and BUNNY. Though not by synonymy, then, we nevertheless wish to be able to relate HORSE and GEE-GEE intralingually in some way: the fact that they replace each other in different styles is surely an aspect of their meaning. We will say that GEE-GEE replaces HORSE in the style of baby talk, treating the relationship as one of variation according to stylistic context, not as one of bilateral implication within like contexts. In a sense, the separating out of styles involved here amounts to treating different styles within one language as different languages: unlike truly different languages, however, such 'languages' within a language tend to be systematically related. We hope to illustrate some aspects of this systematicity as it applies to lexical variation in the following discussion and in the subsequent analysis of Japanese taste terms.

An extreme example of stylistic lexical variation is provided by the case of the mother-in-law language reported by Dixon (1971) for the Dyirbal language of North Queensland. When conversing within earshot of a certain class of relatives, a speaker of that language is obliged to use a special 'mother-in-law' language in place of everyday Dyirbal. The relationship between the two varieties is as follows: though phonology and grammar are identical in both, all lexical items in everyday Dyirbal are replaced by a distinct set of lexical items in the mother-in-law language. The fact that the latter set is far smaller in number means that the relationship of lexical items between the two varieties is largely many-one, that is to say that in general several distinct lexical items in everyday Dyirbal are replaced by one item in the mother-in-
law language, although cases of one-to-one relationship also occur. Dixon uses this interesting situation to throw light upon the semantic structure of everyday Dylrbal by examining the relationships of 'synonymy' (one-to-one correspondence) and 'hyponymy' (many-one correspondence) that hold between lexical items in the two varieties. In the approach adopted here, we would speak of synonymy and hyponymy only among lexical items within a single variety, but clearly we need to be able to relate lexical items across varieties in some way, rather than simply considering each in isolation, especially since the correspondences involved presumably play a large part in the learning of the mother-in-law language in the first place. In our terms, this is an example of stylistic lexical variation, extreme in its pervasiveness.

Though the extent of stylistic lexical replacement in Dylrbal is clearly unusual, we assume that many other languages exhibit similar characteristics on a more restricted scale. We see the typical situation as being one where, in addition to the 'basic' system (e.g. everyday Dylrbal in the example above), a language contains additional stylistic systems, often provided with a name in the language concerned, within which stylistic lexical switching takes place in certain areas of the vocabulary. Thus, in English baby talk, for example, certain lexical items of normal English belonging to lexical systems such as that of animals are replaced by special substitutes. Other cases would include the 'royal vocabulary' of Thai, where items in the normal vocabulary are replaced by 'royal words' when speaking to or about a royal personage, the lexical systems involved ranging over body parts, kinship terms, animals, certain miscellaneous objects, and actions of various kinds (cf. Gedney, 1968: 127-8). Respect vocabularies of a similar kind
are of course found in many languages, and the lexical systems involved also seem to show similarities across languages: Milner (1961) has discussed the case of Samoan, with some additional reference to Javanese and Tongan, and, as in Thai, lexical items from the lexical system of body parts figure prominently among the substituted items. As is well known, Japanese also possesses an intricate system of speech levels (known as keigo 'respect language'); since some of the distinctions are relevant to the later analysis, we give an outline of the system here. 10

The situation in Japanese can be viewed in terms of two intersecting axes: the axis of address, and the axis of reference. On the axis of address are distinguished two speech styles, 'informal' and 'formal', the style used being determined by the degree of formality of the speech context: in general, the informal style is used between intimates, the formal style elsewhere. On the axis of reference, three basic levels can be distinguished, 'honorific', 'neutral' and 'humble': an honorific form is used to indicate respect by the speaker to the subject of the sentence (who may or may not be identical with the addressee), while a humble form is used with reference to one's own actions affecting the respected person in situations where honorifics are being used; neutral forms are, as expected, neutral with regard to these distinctions and are used where no special respect is being shown. As well as giving rise to lexical variation in certain areas of the vocabulary, these distinctions are realized in morphological processes in inflected forms (i.e. verbs, adjectives, copula). The typical situation can be illustrated with the verb YOMU 'read', as follows:

10 The following description agrees in essentials with that presented in Martin, 1964. A summary of the system can also be found in Miller, 1967: 269-274.
In certain cases, however, instead of the regular morphological changes illustrated, lexical replacement occurs. The corresponding table for the verb SURU 'do', for example, has the following forms:

<table>
<thead>
<tr>
<th>Axis of address</th>
<th>Informal</th>
<th>Formal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>yomu</td>
<td>yomimasu</td>
</tr>
<tr>
<td>Honorific</td>
<td>o-yomi-ni-naru</td>
<td>o-yomi-ni-narimasu</td>
</tr>
<tr>
<td>Humble</td>
<td>o-yomi-suru</td>
<td>o-yomi-shimasu</td>
</tr>
</tbody>
</table>

Here the expected honorific and humble informal forms "o-shi-ni-naru" and "o-shi-suru" do not occur and are replaced, in a form of supplementation, by the forms nasaru and itasu. The supplementation involved here is one-to-one (i.e. nasaru and itasu occur only in relation to the verb SURU), but many-one relationships are also found: neutral informal iku 'go', kuru 'come' and iru 'be located (of animate subjects)' are all supplanted by irassahru or olde-ni-naru at the honorific level, and at the humble level the first two are both supplanted by mairo; neutral informal taberu 'eat' and nomu 'drink' both have a humble suppletive in itadaku (which is also the humble suppletive of morau 'receive') and optional honorific suppletives

11 For simplicity, only non-past forms are shown in this and the following table.
(i.e. in addition to the regular morphological formations) In *agaru* and *meshi*agaru. While these are examples of suppletion rather than of fully-fledged lexical variation, it is clearly important for the study of the structure of the vocabulary to establish which lexical systems are involved and to investigate the types of correspondence that occur.

The axis of address, less studied in this respect, shows some stylistic lexical variation in the true sense, that is to say with no background system of regular morphological changes. Certain inflected items (verbs and adjectives, in this case) have, in addition to regular informal and formal forms, stylistic lexical variants which may be classified as 'ultra-informal'. Such variants are almost exclusively used by male speakers, in highly informal speech contexts, whereas the normal informal forms are used by speakers of both sexes alike. Several lexical items relating to food show variation here, including the verb TABERU 'eat', which has an ultra-informal variant KUU. The variation is reflected syntagmatically, in that collocation does not take place across stylistic boundaries. Thus, the noun GOHAN 'meal', 'boiled rice' has an ultra-informal variant MESHl (in both glosses), and in verb + object noun constructions we find the collocations GOHAN 0 TABERU and MESHl 0 KUU 'eat a meal/boiled rice', but not GOHAN 0 KUU or MESHl 0 TABERU. The adjective OISHII 'palatable' also has a comparable ultra-informal variant, UMAI, so that we can imagine a man saying (to his wife, perhaps) Messi 0 kutte kita. Umakatta. 'I've already eaten. It was good.' and her reporting his utterance to a third person as

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12 In the case of inflected forms, strong formal evidence in support of the differentiation is provided by the fact that no corresponding formal form occurs; thus KUU in this sense, being inherently ultra-informal, has no formal form *kuimasu.*
Gohan o tabete kita tte. Oishikatta tte. 'He says he's already eaten. He says it was good'. Since women do not use the ultra-informal style, in her report she replaces the lexical items MESH1, KUU and UMAI by GOHAN, TABERU and OISHII, respectively, producing, within a restricted area of the vocabulary, a miniature parallel to the Dylrbal situation.

The cases of stylistic lexical variation considered here have been relatively clear-cut; speaking in the style concerned can be seen metaphorically as activating a switch which replaces normal lexical items by their appropriate variants, typically ranging over a group of lexical systems. In many languages, the isolation of stylistic levels is much more problematic. Apart from such cases as baby talk, for example, English in many cases seems to show only sporadic and ill-defined variation: in the face of isolated examples such as FAG vs. CIGARETTE, etc., it is perhaps natural to maintain that it is more profitable for many purposes to abstract out stylistic differences as secondary and treat the items as synonyms. As noted, for example, by Leech (1969: 4), this is the position that has been adopted in most recent studies of English semantics: variations of style have been treated as free variation from the point of view of cognitive meaning. It does seem likely, however, that different languages, and indeed different parts of the same language, may call for different treatment here: for a language like Japanese with a well-developed formal system of speech levels, it would seem especially important to distinguish between lexical items which in some way correlate with these formal distinctions.

3.2 Extralingual semantic relationships

Thus far the discussion has been concerned purely with the internal structure of the vocabulary: the semantic relationships
considered have been intralingual, holding between lexical Items. But language is used in the real world, and lexical Items relate to aspects of this reality. Such relationships are commonly understood as contributing to their meaning, and any semantic theory must be expected to handle them. The question of how lexical Items 'hook' on to extralinguistic reality is discussed briefly in this section.

The discussion will revolve around two main points. Firstly, any discussion of extralingual meaning logically presupposes an elucidation of intralingual meaning in terms of sense relationships. Secondly, it appears that extralingual meaning of both 'concrete' and more 'abstract' kinds can be approached in terms of one general model.

With regard to the first question, the well-known futility of attempting to teach extralingual meaning purely by gestural methods (i.e. ostensive definition) reflects the necessity for a lexical Item to be placed, implicitly or explicitly, in some kind of linguistic matrix before its extralingual function can be properly dealt with. As a general principle, the extralingual meaning of a lexical item cannot usefully be discussed in isolation from its place in the structure of the vocabulary. To give a simple example: a treatment of the denotation of RED in terms of the psycho-physical parameters of hue, brightness and saturation will clearly produce different results according to whether we are dealing with the lexical item as forming part of a lexical system with ORANGE, GREEN, CRIMSON, etc. and collocating with items like CAR and DRESS, or with the lexical item as forming part of a lexical system with BLOND, FAIR, GINGER, etc. and collocating with HAIR; for the colour quality of hair to which we can appropriately apply the term RED overlaps, psycho-
physically, with the range of colour qualities to which we apply the terms ORANGE and BROWN where ordinary objects are concerned. This is all the more obvious, of course, in the case of 'abstract' uses of RED in political and other contexts. In short, the extralingual meaning of RED can only be usefully investigated once we have clarified its intralingual status. Furthermore, while extralingual relationships form an important part of the meaning of many lexical items (from the earlier discussion of the meaning of BLACK in terms of intralingual relationships alone, for example, one would not of course be able appropriately to identify an instance of a black car, or of black hair, in the real world), not all lexical items have extralingual meaning. But all lexical items enter into intralingual semantic relationships.

To turn to the second point, the central fact to be accounted for in extralingual meaning is that the speakers of a language apply lexical items to various aspects of the real world and are understood to have done so by other speakers. That is to say, the conventions of a language-community include a set of extralingual categories within the range of each of which a given lexical item is appropriately applied. The questions arise: How can the range of these categories be specified? How do speakers learn to apply lexical items appropriately, given that the range of the categories involved is wider than any single instance of them?

We choose to approach these questions by way of what may be called a focal model of extralingual meaning, in which the range of

13 That RED in collocation with HAIR has a different denotational range is reflected in the prosodic and other devices that must be resorted to in speaking of hair which has been dyed red in the usual sense: e.g. She's got rôd hâir -- I mean râlly rôd, where rôd, hâir and râlly are strongly stressed.
objects, qualities, actions, etc., to which a given lexical item can be appropriately applied is exemplified by a focal exemplar of the category concerned. Increasing attention has been paid to the importance of such extralingual foci in recent work on semantics, notably by Berlin and Kay, who demonstrate the high degree of agreement across speakers on the location of foci for colour categories in various languages, in contrast with the considerable degree of disagreement on the location of the boundaries of such categories (1969: 13; cf. also Lyons' discussion in Robey (ed.), 1973: 17-19). In view of this relatively clear status, foci would seem to provide a logical starting-point in the study of extralingual meaning.

In terms of this approach, let us consider two simple cases of the appropriate application of lexical items: the colour term RED (as in an utterance such as What are those red flowers called?) and the term DANGEROUS (as in It's dangerous to drive like that, uttered, let us say, in reaction to a speeding motorist). Both utterances involve examples of the same basic phenomenon: a lexical item, in a certain linguistic context, is appropriately applied to an aspect of the extralinguistic situation. How can the relationship between these terms and their extralinguistic correlates be handled in terms of focal exemplars?

In the case of RED (a lexeme of relatively 'concrete' meaning), it is possible to point to a typical instance of the category concerned as a guide, or, perhaps, to produce one by pictorial means. (Since ostensive definition is impossible, to be effective at all this method assumes, of course, that the learner has the necessary linguistic ability, first, to grasp the point of such an exercise and, second, to understand the parameter of the indicated object that
Is involved, i.e. colour as opposed to shape, etc.  Intralingual knowledge is always necessary.)  On the evidence of Berlin and Kay referred to earlier, different speakers of English would be likely to agree on the choice of typical example, and the learner would in this way gain a useful anchoring point for his application of the term RED.  If, however, there is no such focal exemplar to hand, or we do not have access to graphic materials, it is to be noted that as an alternative there is available to us a verbal means of indicating the focus, namely the utterance of the sentence \textbf{Blood is red} as a generic statement.  Again assuming that he has the necessary degree of linguistic sophistication (and, of course, that he is familiar with the substance concerned), the utterance of this sentence to the learner would provide him with a focal exemplar for the category RED. Here too, we suggest, other speakers of English would tend to agree on our choice of verbal example: \textquote{Blood is red} has, as it were, axiomatic status for speakers of English as a focus-indicating proposition. Similar axioms readily come to mind for certain other colour terms (\textquote{Snow is white}, \textquote{The sky is blue}, \textquote{Grass is green}), and are often drawn upon in dictionary definitions (e.g. \textquote{BLUE: 'the colour of the unclouded sky'}, \textquote{WHITE: 'the colour of pure snow'}, etc.).\footnote{Interestingly, certain other colour terms, especially those classified as later additions in Berlin and Kay's evolutionary hierarchy (cf. 1969: 22-3), have no such institutionalized verbal axioms.  In dictionaries, they are typically defined in terms of more 'basic' colour terms (\textquote{PINK: 'a whitish red'}, \textquote{BROWN: 'a dark reddish colour'}, \textquote{GREY: 'a mixture of black and white'}, etc.).}

Turning to the more 'abstract' case of \textbf{DANGEROUS}, directly ostensive methods are clearly less practicable than in the case of RED.  Verbal formulation of focal exemplars, however, is still possible, in this case in the form of a sentence such as \textbf{Speeding is}
dangerous. Again, it seems likely that other speakers of British English would agree with this choice; other plausible axioms might include such propositions as 'Firearms are dangerous', 'Running into the road is dangerous', etc. DANGEROUS thus differs from RED not only in its degree of amenability to ostensive exemplification, but in having several verbal candidates for the status of focus-indicators. This reflects the common-sense difference between them, that RED denotes a relatively straightforward, concrete quality of physical objects, while DANGEROUS denotes a more complex, abstract quality of objects, actions, etc. A category such as that of DANGEROUS involves a community's beliefs and values, themselves largely entities of a linguistic nature, and it is to be expected that in such cases exemplification will take an increasingly verbal form. Since values are involved, application of the item will also be more likely to vary across sub-cultures in the society: members of a motor-racing club, for example, may well not subscribe to the axiomatic status of 'Speeding is dangerous': insofar as this is true, they speak a slightly different language from the majority of the community.

With regard to these two examples, many semanticists would speak of denotation in the case of RED, but not in the case of DANGEROUS. Whatever terminological distinctions one chooses to adopt here, however, the basic mechanism of extralinguistic meaning is common to both: with a term like DANGEROUS, no less than with a term like RED, a speaker of English is faced with the same task, namely to apply the term appropriately, i.e. in a way which other speakers of the language agree with, to aspects of extralinguistic reality. Speakers who apply DANGEROUS indiscriminately to objects, actions and situations are making the same type of linguistic error as speakers who apply RED
indiscriminately to coloured objects. The focal model of extra-
lingual meaning would seem to be able to contribute towards an
account of the ability involved in both cases.

Verbal axioms of the type discussed would seem to provide an
important contribution to the elucidation of extralingual meaning.
The domains where scientific investigation has successfully contri-
buted to an elucidation of extralingual meaning are not numerous; as
we have seen, areas like taste have been highly resistant to
scientific analysis, and even colour, though relatively well under-
stood for English, presents problems in languages such as Hanunóo.
Even where such studies are successful, however, it is of course
important to remember that they are of little, if any, relevance to
the average native speaker’s application of lexical items: he acquires
and uses the rules of extralingual meaning of his language uninfluenced
by such scientific considerations. By contrast, it may well be that
focal exemplars, verbal or otherwise, do have a role to play in this
regard, by providing initial ‘givens’ for extralingual meaning and
indicating the points at which lexical items ‘hook’ on to reality
most securely. As such, they constitute an aspect of semantic know-
ledge that deserves to be recorded as part of the data in investiga-
tions of extralingual meaning. Needless to say, interesting cross-
linguistic differences in verbal axioms can be expected: even with
domains that are assumed to be universally encoded, such as basic
colours, differences in environment will doubtless be reflected in the
occurrence of different focal exemplars; where more culture-bound
categories are concerned, clearly the possibilities are legion.

We still face the problem of how the speakers of a language learn
the range of a category: a focal exemplar, by its very nature, can
only exemplify, it cannot delimit. Thus, armed merely with a knowledge of the focal exemplar of RED and an instruction such as 'Apply RED to instances identical with, or similar to, the focal exemplar', a learner would never arrive at appropriate application of the term since he has no way of telling at what point a given instance ceases to be similar. Extralingual categories are not learned in isolation, however, but within the intralingual framework of lexical systems, and, for the case of colour terms at least, Harrison has indicated that as soon as one has more than one focus within the domain, a basis for determining the limits of similarity exists (1973: 66-69): given two focal exemplars of colour categories, a speaker is able to judge which of the two a given colour quality resembles more. Such an account allows for the fuzzy boundaries observed by Berlin and Kay, since borderline cases will seem equally similar to both foci. In discontinuous domains, the criterial attributes of a category (i.e. the properties which are decisive in determining similarity to the focal exemplar) are often alluded to in discussions of borderline cases: 'It tastes like a pear but it's round', 'It's like a piano but it's got buttons instead of keys', etc. Studies of such verbalizations of borderline cases are also clearly of value for understanding the nature of extralingual meaning.

To summarize the treatment of extralingual meaning adopted here, many lexical items, as terms in intralingual paradigmatic and syntagmatic relationships, are seen as having extralingual meaning in that they are applied to aspects of the extralinguistic world. Extralingual categories are structured in terms of focal and peripheral cases; in general, the speakers of a language agree on the placement of foci, which are often institutionalized in the form
of generic propositions having the status of extralingual semantic axioms. Such axioms are seen as a valuable aid in the study of extralingual meaning. Aschmann's study of Totonac smell categories, as reported by Sturtevant, appears to make use of such an approach (Aschmann, 1946). Sturtevant's comments leave the impression that focal exemplars rank a poor second to scientific analysis of domains: however, apart from the fact that scientific analyses are at present highly restricted in range, the study of focal exemplars would appear to have inherent linguistic value in view of their greater relevance to the use of language in everyday life. In this study, the fact that propositions such as 'Blood is red' and 'Speeding is dangerous' have axiomatic status is regarded as important, and such axioms will figure in the treatment of the extralingual meaning of Japanese taste terms.

3.3 Basic and extended meanings

The discussion of lexical meaning thus far has not directly touched upon the question of basic and extended meanings, although certain examples that have arisen, such as the use of certain colour terms in relation to hair and coffee, for example, can be considered relevant to the topic. Here we consider briefly how this question might be approached in the present framework.

Any discussion of this topic must begin by recognizing that the distinction is in general an intuitively satisfying one and that, as such, it is likely to have some basis in linguistic fact. An adequate theory of meaning must attempt to provide some explication

15 In general, the distinction is reflected in the way we use language to children. Parents intuitively keep their language simple in such cases, one aspect of this simplicity being the avoidance of extended meanings: there is no doubt that parents talk to their children, and that children learn to talk, about black cars, for example, before black coffee, or about sour lemons before sour dispositions.
of the distinction by, first of all, making detailed studies of the linguistic facts involved. In terms of the present framework, which treats meaning as a matter of relationships of various kinds, this entails making detailed analyses of the relationships involved in such cases and determining how such relational differences as appear relate to intuitions of the basic vs. extended distinction. We must discover what kinds of semantic relationships are preserved and what kinds are lost in different examples of what are felt to be extended meanings. In the case of BLACK in BLACK COFFEE, for example, intralingually, the identity of the lexical system changes (by virtue of the difference in the associated question-frame; cf. 3.1.1) and the membership of the system is reduced to BLACK and a single alternative (WHITE), while, extralingually, there is a clear shift in application. Such investigations will make possible the construction of a typology of extended meanings based on semantic relationships.

At a more speculative level, it may be that the semantic organization of the vocabulary of a language can be viewed in terms of a layer of 'basic' meanings, supplemented by certain principles of semantic extension constituting a set of analogies made by the language on the foundation of this basic model. Thus, many languages extend taste terms, basically applied to food substances, to describe aspects of human personality, thereby creating a linguistic analogy between these two domains. Many interesting questions arise here: Are some analogies universal? Are there any basic semantic areas whose terms never appear in extended meanings? Do certain analogies tend to lead to others? Such questions, and indeed the central question of whether such a type of organization exists at all, cannot begin to be answered until a theoretical framework tested by detailed analyses is established.
CHAPTER 4
TASTE TERMS AND NORMS

In the preceding chapter, an approach to extralinguual meaning has been outlined which emphasizes the importance of focal exemplars of extralinguual categories; in many cases, focal exemplars are linguistically encoded in the form of sentences expressing generic propositions (Blood is red, etc.) which, it was suggested, can be regarded as axioms of extralinguual meaning. As well as being worthy of study in their own right, such axioms appear to offer the only practicable approach to the study of extralinguual meaning in many domains. As we have seen, taste is a good example: not only has no agreed etic scheme emerged from scientific work in the area, but indeed psychologists have called for studies of the everyday language of taste as a necessary step in developing scientific understanding.

Axioms, then, have a valid place in our investigations, and examples from the domain of taste are readily found, both in English and Japanese. Sugar is sweet, for example, has its Japanese counterpart in Satoo wa amal 'Sugar is sweet': this is indeed an axiom which might be expected to hold widely across languages. Other familiar combinations are Remon wa suppal 'Lemons are sour' and Kareeko wa karal 'Curry powder is hot'. On the other hand, an example of a more culturally restricted axiom, at least from the point of view of British English, is Shibuagaki wa shibuil 'Shibuagaki (a type of persimmon) are astringent'. Further exemplification and

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1 As axioms, such propositions are normally taken as unspoken 'givens' in everyday conversation. In particular situations, however, such as when 'teaching' children to talk, the corresponding sentences are readily uttered.
discussion of axioms will occur in the course of the semantic analysis.

At this point, we wish to distinguish a further type of generic proposition, which appears to be highly characteristic of taste terms as a group. This second type of proposition has its origin in the fact that food substances in general have associated with them expectations in terms of which, typically, they are recognized as 'good to eat': sentences which linguistically encode such expectations may be said to express taste norms, in contradistinction to the axioms which indicate focal exemplars of taste qualities. Examples of taste norms from Japanese would include the propositions expressed by Nori wa kaori ga ii 'Laver is aromatic', Toofu wa shitazawari ga ii 'Bean curd is smooth to the tongue', Mikan wa amazuppal 'Tangerines are sweet-sour', etc. Although there may be borderline cases, in principle there is a clear difference in function between axioms and taste norms: axioms serve to indicate food substances which centrally exemplify given taste qualities, thereby providing anchoring points for the application of taste terms; taste norms, on the other hand, indicate taste qualities which given food substances are normally expected to possess. Whereas axioms are in general free from exceptions (It is hard to imagine a case of sugar which is not sweet, or of lemons which are not sour -- indeed if such cases occurred we should probably conclude that we were not dealing with 'proper' sugar or lemons), taste norms are not: they express expectations which may be broken in inferior instances of the food substance concerned.² Thus, despite the

² Cf. the possible use of the modal verb SHOULD in English in such cases (Bean curd should be smooth, etc.), which clearly brings out the norm.
existence of taste norms for laver, bean curd and tangerines referred to above, it is clearly possible to have instances of stale laver, of poorly refined bean curd, and of unripe or insipid tangerines which do not meet the expectations expressed. The existence of built-in expectations of taste is reflected in the fact that utterances of sentences of the form This X is Y to make specific statements, where X is a food substance and Y is a taste term other than the taste norm(s) for that substance, are often interpreted, not as plain statements of fact alone, but as carrying a negative value judgement: In the case of the unripe tangerine, for example, the statement in Japanese made by uttering the sentence Kono mikan wa suppai 'This tangerine is sour' (the taste norm being Mikan wa amazuppai 'Tangerines are sweet-sour', where AMAZUUPPAI implies the presence of a sweetness) will generally be understood as indicating the speaker's disapproval. This is not necessarily a matter of the taste term itself, here SUPPAI 'sour', denoting an inherently unpleasant quality: pickled plums (UMEBOSHI) are sour, but are eaten regularly. That a thing is sour is not enough to make it 'good to eat' or otherwise: what matters is whether it is supposed to be sour or not. Since a mature speaker of a language has normally been conditioned to the dietary norms of his own culture, both with respect to what items are regarded as food and to why, personal liking is no doubt in large degree determined by whether cultural taste expectations are met in particular instances.

As we have noted, expectations of this kind seem particularly characteristic of the domain of taste, and when linguistically encoded as taste norms, they can clearly be of use in approaching the extralingual meaning of taste terms. In the case of the domain of
colour, while axioms clearly exist there, it is difficult to find general parallels for taste norms, that is to say cases where a given type of entity is expected to be of a particular colour. Certainly everyday objects like cars, books and furniture do not possess associated colour expectations to the same extent, and perhaps the chief candidates are again food substances (witness the importance of colour in different varieties of wine and the widespread use of colouring agents in processed foods and drinks) and certain areas of art, fashion and dress. This no doubt reflects the fact that, whereas colour is typically just one among a number of potentially relevant aspects of an object, taste tends to be the primary focus of attention of entities of which taste terms are predicated, namely, items of food and drink: a discussion of food tends automatically to be a discussion of the taste of food, whereas a discussion of, say, cars, does not typically centre on their colour, although cars are necessarily coloured.\footnote{Thus, I like this car, but I'm not keen on the colour is a more likely utterance than I like this vegetable, but I'm not keen on the taste.}

Given, then, that taste is a domain characterized by the existence of built-in expectations for food substances, the degree of linguistic encoding of such expectations in the form of taste norms will naturally vary across languages. Once again we make contact with the general principle that the vocabulary of a language reflects the interests of its speakers: the more attention that is given to dietary matters in a culture, the greater the degree of elaboration of taste norms we may expect in the associated language.
On an impressionistic level, the average Japanese would seem to be highly concerned with gastronomic matters by comparison with, say, the average Englishman. In general, Japan has not yet undergone the food-processing 'revolution' to the same extent as many parts of the West, and food is generally fresh. The country boasts a wide seasonal and regional variety of fish, fruit, vegetables, pickles and other foods: most towns are known for some special delicacy (MEIBUTSU 'local speciality'), which may vary from pickles to dried fish, from locally-grown fruit to rice crackers. Japanese restaurants typically specialize in one type of cuisine: there are restaurants for tempura (deep-fried fish, shellfish and vegetables), for sushi (rice balls garnished with raw fish and other items), for soba (noodles), and so on, and such establishments play an important role in the social life of the country insofar as entertaining, both for business and pleasure, tends to take place outside the home. Even at the domestic level, Japanese cuisine is a considerably demanding art, featuring the highly developed use of flavourings, dips and sauces in cooking and eating.

Food and drink, then, may be said to occupy a comparatively prominent role in Japanese culture. The Japanese possess a highly homogeneous and distinctive culture in general, and they are conscious of their diet as being an element of this distinctiveness, a view generally shared by foreign visitors to the country. Japanese typically find Western food rich, whereas Japanese food tends to strike the Westerner initially as somewhat insipid. This generally more subtle gustatory nature of the cuisine is reflected in the vocabulary relating to aspects of taste such as texture and consistency, where Japanese possesses terms for which it is very
difficult to find English counterparts: thus octopus (TAKO) is expected to be resilient (to the bite) (HAGOTAE GA II), and kamaboko (a fish sausage of smooth, close texture) both resilient (HAGOTAE GA II) and smooth to the tongue (SHITAZAWARI GA II)\(^4\). How Japanese taste terms are organized in relation to the more familiar parameters such as gustation and olfaction will be seen in the course of the semantic analysis in Chapter 7.\(^5\)

\(^4\) There is a technical term in English, 'mouthfeel', which is used by food tasters in connection with these aspects.

\(^5\) Even in English, highly developed taste vocabularies are of course found in particular sub-cultures. Wine tasters and connoisseurs, for example, talk of the taste parameters of gustation, olfaction, consistency, astringency, etc. In terms of items such as SWEET/DRY, BOUQUET/AROMA, BIG/FULL/LIGHT/THIN/ROUND/ANGULAR and so on. Indeed a large part of the training of wine tasters can be considered as a course in the relevant semantics and consists in acquiring the vocabulary involved and learning to apply it appropriately (i.e. in a way which other wine tasters agree) to actual instances. Cf. Puisais and Chabanon, 1974: 87, which sets out the content of a well-known wine tasting course.
CHAPTER 5

METHODOLOGY

This chapter outlines the methodological approach adopted in the delimitation and semantic analysis of Japanese taste terms in this study. Details of the collection of data are given, and the representational conventions adopted in succeeding chapters are explained.

5.1 Delimitation and semantic analysis

The theory of lexical meaning presented in Chapter 3 is structuralist in nature: that is to say, the meaning of a lexical item is regarded as a function of the semantic relationships into which it enters, and its elucidation must be approached from within the language concerned. Such a view is justified by the well-known fact that cases where the structure of areas of the vocabulary encoding 'corresponding' domains in different languages proves to be anisomorphic, both in terms of the boundaries of the domain and in terms of its subdivision, are the rule rather than the exception.1

An investigation of a lexical field in this framework is therefore faced at the outset with the task of satisfactorily delimiting the domain in terms of the language concerned. In terms of the present study, that is, how can we decide in a principled manner what is to count as a taste term in Japanese?

The approach to this question adopted here has already been touched upon in the discussion of paradigmatic sense relationships in 3.1.1. There, the semantic status of BLACK in various collocations was differentiated in terms of the question to which, implicitly or explicitly, it could function in an appropriate reply. Thus, BLACK in BLACK CAR and BLACK DRESS was classified as a colour term in view

1 Examples are commonplace in the literature. Apart from Conklin, 1955, on colour, already referred to, cf., for example, Frake, 1961, on disease terms and Lyons, 1963, on occupational and epistemological terms.
of the associated questions What colour is your car/hair?, whereas BLACK in BLACK COFFEE was not so classified since in that collocation it does not normally answer the question What colour would you like your coffee? or any other question containing the word COLOUR. In short, consideration of the associated question (i.e. determining what type of information is involved) is regarded as an important step in establishing the nature of the lexical field.

As an essentially contextual method of delimitation, this method may be contrasted with more atomistic methods which, in extreme cases, may amount to semantically classifying lexical items purely on the basis of inspection in isolation. Methods which rely on association tests or the inspection of dictionaries and similar sources, removed as they are from the use of language in actual speech contexts, can easily result in an inaccurate picture of a lexical field by throwing together items of essentially different status. Thus, BLACK in BLACK COFFEE and, a more striking example, ROSE in ROSÉ WINE, both 'look like' colour terms in these examples, but are clearly excluded by the question-and-answer criterion given above: although BLACK is a colour term in many other contexts, ROSÉ is not a colour term at all (again, pace Lehrer, 1974: 7).

Once the desirability of a question-and-answer approach to delimitation has been recognized, ascertaining the most appropriate question for the particular area being investigated is an important task in itself.2 In the case of this study, we must discover how Japanese ask questions about taste, and interesting questions arise

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2 The use of question-and-answer procedures, and the non-trivial nature of asking appropriate questions, are issues that have received attention mainly from ethnoscientists. Cf. Frake, 1964, and Black and Metzger, 1965.
in connection with the level of generality at which such questions are pitched. If we assume that Japanese has a question of similar status to *What does it taste like?* in English, then lexical items elicited in responses to that question can justifiably be viewed as constituting the lexical field of 'taste' by virtue of their common occurrence. There is no guarantee, however, that Japanese will have such a question at this particular level of the hierarchy. Since colour is a more familiar area of discussion, we may examine an imaginary case from that domain in this connection. Let us consider the possibility of a language, whose colour terms we wish to establish and analyze, that has no lexeme corresponding to English COLOUR, and therefore no question equivalent to English *What colour is it?*, but only a question at a more general level such as *What does it look like?* The first step would be to determine what lexical items occurred in responses to that question: let us assume, naively, that they comprise lexical items corresponding to English GLOSSY, DULL, BLACK, WHITE and RED. By virtue of their common occurrence, these items could be grouped together in a lexical field which, given the associated question, we might call 'external appearance'. It may be that further semantic subdivision within the field is not possible: in that case we should say that the language does not contain a lexical field of colour terms as such, but a field of external appearance terms which, extralingually, ranges over the psycho-physical properties of hue, brightness, saturation and lustre. On the other hand, despite the absence of a more specific question frame as such, the use of question-and-answer procedures of a slightly

3 Hanunōo in fact appears to be such a language. Cf. Conklin, 1955.
different kind may reveal the possibility of subdivision into tighter lexical systems within the overall field. The approach here will be to use the lexical items already elicited and to ask the questions Is X glossy?, Is X dull?, and so on for the five lexical items. Examination of the response patterns may show, for example, that DULL and GLOSSY occur only as answers to questions containing each other, that is, we may find the question-and-answer pairs Is X glossy? No, it's dull and Is X dull? No, It's glossy, but not such pairs as Is X glossy? No, It's red etc. On this basis, DULL and GLOSSY fall together within the larger field in a lexical system, which we might call 'glossiness'. Assuming that the remaining terms, BLACK, WHITE and RED, fall into a similar group, these too would be seen as constituting a lexical system which, in view of the extralingual properties concerned, could justifiably be called 'colour'. In such a case, then, a general question frame is available only at a relatively high level of the hierarchy, but further sub-groupings are revealed by the use of additional question-and-answer procedures. Procedures of this type will be employed in delimiting and sub-dividing the lexical field of taste in Japanese.

Such procedures, besides having the theoretical virtue of attacking the vocabulary of the language from within, also have the methodological advantages of being a relatively straightforward method to use with informants, and of permitting the results obtained to be tested by other investigators. They appear to have application over a wide area of the vocabulary, and to provide a sound general basis for the investigation of lexical fields.

5.2 Collection of data

The variety of Japanese on which this study is based is the modern standard spoken language, i.e. Japanese as currently spoken by
educated inhabitants of Tokyo. In particular, it is based on the speech of Kazuko Backhouse, who was the Informant throughout and who was born, raised and educated in Tokyo. The status of the Informant and her relationship to the investigator are reflected in certain stylistic features of the data: the informal level of speech is used throughout and, since the Informant is female, ultra-informal stylistic variants are not elicited (cf. 3.1.3).

The data of the study was elicited, using question-and-answer procedures of the type outlined above, over a period of several months. In general, questions were put to the informant on several occasions in order to determine the stability of responses, and only question-and-answer pairs repeatedly checked in this way were admitted as data and appear in the study. Extralingual axioms and taste norms were established, relatively informally, by asking the informant to name typical food substances exemplifying given taste qualities (for axioms) or expected taste qualities for given food substances (for taste norms); here too, questions were put on several occasions, and only cases which showed a high degree of salience on different occasions are included as data.

As far as the membership of the lexical field is concerned, the appropriateness of the lexical items elicited appears to be guaranteed by the question-and-answer methodology adopted: that is to say, no lexical items appear in the analysis which are not 'true' taste terms in a linguistically definable sense. The problem of exhaustiveness remains: is the list of elicited terms 'complete'? No methodology

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4 As noted there, data in Chapter 6 containing ultra-informal variants was not elicited, but constructed and repeatedly checked with the informant.
can guarantee exhaustiveness; over the period during which this study was carried out, however, no additional lexical items of the standard spoken language belonging to the field as delimited were discovered, either in conversations in Japanese concerning taste, or in dictionaries and other secondary materials that were consulted.

5.3 Conventions of representation

Throughout this study, Japanese is rendered orthographically in the Hepburn system of romanization, with one modification: for typographical convenience, long vowels are represented as a succession of two short vowels (aa, ii, uu, ee, oo) in place of the normal macron superscript placed over the single vowel.

Japanese data, and individual forms of Japanese lexical items, are given in normal type, underlined (thus, おいしいう). Lexical items and expressions are given in capitals (OISHII), and English glosses, both for lexical items and for connected data, are enclosed in single quotes (OISHII 'palatable'). (Glosses for lexical items are to be regarded as makeshift labelling devices for ease of recognition and as reflecting the semantic structure of the Japanese lexical field only in a rough fashion.) As well as being provided with a relatively natural English gloss, each item of connected data is given an interlinear rendering as in the following example:

Meron wa donna aji ga suru?

MELON/theme/WHAT KIND OF/TASTE/subject/EXIST, non-past?

'What do melons taste like?'

In such renderings, slashes correspond to the separation of forms in the original Japanese; in general, lexical information is given in capitals, grammatical information in small type; where more than one type of information is involved, as in the case of the final form of
the example, the items of information are separated by commas. Interlinear renderings are dispensed with in clear cases, such as in series of data of identical grammatical structure.
CHAPTER 6
THE LEXICAL SYSTEM UMAI/MAZUI

In this chapter we treat the three lexical items UMAI 'palatable', MAZUI 'unpalatable' and OISHII 'palatable', which fall together as a clear set of purely evaluatory taste terms in Japanese.1

6.1 Delimitation

The three terms UMAI, MAZUI and OISHII constitute a clearly delimited group by virtue of their occurrence in responses to the question-frame (A) X wa umai? (X/theme/PALATABLE, non-past?) 'Is/are X palatable?'.2 The use of such a frame is a typical method of asking for evaluatory judgements of the palatability of food substances: X in the frame is typically occupied by nouns from the lexical fields of food substances or, alternatively, eating-places.3

The following are typical examples of questions and responses:

(A1) Kono momo wa umai? Ee, sulmi ga atte oishii.

THIS/PEACH/theme/PALATABLE, non-past? YES/SOURNESS/subject/BE PRESENT, conjunctive/PALATABLE, non-past.

'Are these peaches good?' 'Yes, they have a sourness and taste good.'

1 By contrast with the present three items, we refer to other taste terms (glossable as 'sweet', 'bitter', 'aromatic', etc.) as descriptive taste terms. Even descriptive taste terms, of course, may have an affective value (cf. the discussion in 2.4).

2 Data containing occurrences of UMAI were not elicited from the informant, for the stylistic reasons explained below.

3 With eating-places, frame (A) relates only to the palatability of the food served, and does not seek evaluation of other areas, such as service, atmosphere, etc.: cf. the gloss for (A4) below, where the Japanese contains no word for 'food'. An alternative question-frame to (A) is X wa doo? 'How is X?'; with eating-places, however, this does need to be made more explicit, as e.g. X wa doo? Umai? 'How is X -- palatable?'
Asoko no tempura wa umai? lle, ammari oishiku-nai.

THAT PLACE/OF/TEMPURA/theme/PALATABLE, non-past? NO/(NOT) VERY/PALATABLE, negative, non-past.

'Is the tempura they serve there good?' 'No, not very.'

Sono budooshu wa umai? Un, umal.

THAT/WINE/theme/PALATABLE, non-past? YES/PALATABLE, non-past.

'Is that wine good?' 'Yes, it is.'

Asoko wa umai? lya, mazui yo.

THAT PLACE/theme/PALATABLE, non-past? NO/UNPALATABLE, non-past/emphatic particle.

'Is the food at that place good?' 'No, it isn't.'

As shown by (A1), descriptive taste terms may occur in fuller responses to frame (A), but in such cases they are typically in the conjunctive -te ('and') form, followed by an occurrence of one of the evaluatory taste terms: in (A1), the conjunctive form of SUIMI GA ARU 'have a sourness' appears, followed by a form of OISHII 'palatable'. The evaluatory taste terms UMAI, MAZUI and OISHII, however, do not occur in reply to the question-frame X wa donna ajì ga suru? 'What kind of a taste does X have?', used in the delimitation of descriptive taste terms in Chapter 7.

It is worth noting that, in these three terms, Japanese possesses a special set of terms for the evaluation of food substances from the viewpoint of the taste experience: in this it differs from English, which of course uses the general evaluatory items GOOD and BAD here. One consequence of this is that an English utterance such as These eggs are good has more than one Japanese equivalent: Kono tamago wa umal or Kono tamago wa oishii 'These eggs are good (= palatable)', with UMAI or OISHII 'palatable', and Kono tamago wa u 'These eggs are good (in quality, size, etc., but not taste)', with...
with II 'good (in a general sense)'. Where necessary, of course, English has syntagmatic recourse to the more explicit These eggs taste good.

6.2 Grammatical characteristics

Here we note the main morphological and syntactic characteristics of the items UMAI, OISHII and MAZU.

All three terms are members of a word-class normally labelled 'adjectives' in grammars of Japanese. Unlike English adjectives, members of this class inflect for the 2-term category of tense (non-past/past): the past form is arrived at by replacing the final -i of the non-past form with -katta (thus, non-past umai, past umakatta).

Their morphological structure can thus be represented as:

\[
\begin{array}{c|c}
\text{uma-} & -i \\
\text{Stem} & \text{Affix} \\
\hline
\text{PALATABLE} & \text{non-past}
\end{array}
\]

and similarly for the other items. The stems uma-, oishi- and mazu- are all morphologically simple.

Japanese adjectives can function alone as predicates in surface structure: basic syntactic patterns are illustrated by NP WA UMAI 'NP is/are palatable' (WA being the theme particle), and UMAI NP 'NP which is/are palatable', where UMAI functions as the modifier of the head NP.

With regard to the derivational morphology of the terms, the nominals corresponding to Japanese adjectives are normally formed by replacing the final -i of the non-past form with -sa; some adjectives also have additional nominals in -mi, typically with a more

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4 As is usual, the non-past form is taken as the citation form for adjectival lexical items in this study: UMAI, etc.
'concrete' meaning (thus FUKAI 'deep', FUKASA 'depth', FUKAMI 'the depths', 'deep place'). The present items have associated nominals as follows:

UMAI: UMASA, UMAMI
MAZUI: MAZUSA
OISHII: OISHISA

UMAI is thus unusual among the three terms in having derived nominals in both -sa and -mi. All three terms form derived nominal adjectives in -soo with evidential meaning: UMASOO, OISHISOO 'looking or seeming palatable', MAZUSOO 'looking or seeming unpalatable'. They also form derived verbals in -garu: UMAGARU, OISHIGARU 'show signs of finding palatable', MAZUGARU 'show signs of finding unpalatable'. Semantic aspects of derived items will be considered in the course of the analysis below.

6.3 Syntagmatic relationships

The three items have a clear-cut collocational range. In general, as we have seen, they collocate in subject-predicate or modifier-head constructions with lexical items from the lexical fields of food substances and eating-places.

In more detail, the terms collocate with items denoting food substances in the strict sense (i.e. items of food and drink, and particular dishes), items denoting smoking articles (such as the noun TABAKO 'cigarette', HAMAKI 'cigar'), and items denoting substances which, though commonly ingested, are not food substances in the strict sense (e.g. KUSURI 'medicine').

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5 -garu verbals are discussed in Chapter 8.

6 In relation to smoking articles, it is worth noting that one Japanese equivalent for 'smoke cigarettes' is TABAKO O NOMU, NOMU being the normal equivalent to English DRINK.
OISHII 'palatable', but not MAZUI 'unpalatable', collocate with the noun KUUKI 'air' (e.g. Koko no kuuki wa umai 'The air here is pleasant (to breathe)'): physiologically, breathing is an ingestion experience comparable to eating and drinking (cf. Gibson, 1966: 19), and to that extent the collocation is natural. All three terms collocate generally with lexical items denoting eating-places (Ano resutoran wa mazui 'That restaurant is bad (as far as the palatability of its food is concerned)').

As for the boundaries of collocability, UMAI, OISHII and MAZUI do not collocate with the noun NIDAI 'smell'. Furthermore, within the field of food substances already referred to, there are cases of individual lexical items where collocation occurs with either UMAI 'palatable' or OISHII 'palatable', but not both. (Collocation with MAZUI occurs in all such cases.) An example is provided by the nouns GOHAN and MESHII (both 'boiled rice' or 'meal'), where the collocations OISHII GOHAN and UMAI MESHII 'palatable meal' occur, but not UMAI GOHAN or OISHII MESHII. These restrictions are explained in terms of stylistic factors to be considered below.

The collocational range outlined above can be summarized as follows:

<table>
<thead>
<tr>
<th>UMAI</th>
<th>Lexical fields of food substances, smoking articles, eating-places</th>
<th>MAZUI</th>
<th>OISHII</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*Lexical field of smells</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UMAI</th>
<th>MAZUI</th>
<th>OISHII</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KUUKI</td>
<td>MESHII</td>
</tr>
<tr>
<td></td>
<td>*GOHAN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOHAN</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOHAN</td>
<td></td>
</tr>
</tbody>
</table>

The general evaluatory terms II 'good' and WARUI 'bad' also collocate with KUUKI 'air'. Although MAZUI KUUKI 'unpalatable air' is not a natural collocation, WARUI KUUKI 'bad air' is.

7 The general evaluatory terms II 'good' and WARUI 'bad' also collocate with KUUKI 'air'. Although MAZUI KUUKI 'unpalatable air' is not a natural collocation, WARUI KUUKI 'bad air' is.
indicating abnormal collocations, and the constructions concerned being subject-predicate or modifier-head throughout.

Of the derived forms, -garu verbals (UMAGARU 'show signs of finding palatable', etc.) have a corresponding collocational range in verb-object constructions, although it is worth noting that the informant was less happy with collocations involving eating-places here. Derived nominal adjectives in -soo (UMASOO 'looking or seeming palatable', etc.) collocate additionally with the noun N101 'smell', where the smell concerned involves food substances: thus UMASOO-NA N101 'a palatable-seeming smell', i.e. 'a good smell (of food)'. The stylistic restrictions noted for UMAI and OISHII apply equally to these derived forms: thus, MESHII 0 UMAGARU but not GOHAN 0 UMAGARU, GOHAN 0 OISHIGARU but not MESHII 0 OISHIGARU 'show signs of finding a meal palatable', and so on.

With regard to the set as a whole, it is to be noted that the three items range over all parameters of the ingestion experience: that is to say, they involve 'taste' in the widest sense, and the glosses 'palatable' and 'unpalatable' are intended to reflect this. This may be clarified by an example such as the following:

(5) Kono pilaff wa ammarrl oishiku-nai. Aji wa ii kedo betabeta-shite-iru. THIS/PILAFF/theme/(NOT) VERY/PALATABLE, negative, non-past/TASTE/theme/GOOD, non-past/BUT/SOGGY, resultative, non-past. 'This pilaff isn't very palatable. The taste is all right but it's soggy.'

An item can thus have a good 'taste' (AII) in some narrower sense but still fail to be OISHII 'palatable' if other parameters (here, consistency) are not satisfactory. Since the terms range over all the parameters of the ingestion experience in this way, it is possible to
use sentences containing them as a broad frame for delimiting Japanese taste terms in this widest sense. In particular, collocation with UMAI/MAZU/OLISH in slot Y in the frame Kono X wa Y umal/mazul/olishii 'This X is Y and (thereby) palatable/unpalatable' provides a useful criterion. Cf. the following examples:

(6) Kono momo wa suimi ga atte umal.
   THIS/PEACH/theme/SOURNESS/subject/BE PRESENT, conjunctive/
   PALATABLE, non-past.
   'This peach has a sourness and is good.'

(7) Kono nori wa kaori ga yokute olishi.
   THIS/LAYER/theme/AROMA/subject/GOOD, conjunctive/PALATABLE,
   non-past.
   'This laver is aromatic and is good.'

(8) Kono tsukemono wa piritto-shite-ite olishi.
   THIS/PICKLE/theme/SHARP, resultative, conjunctive/PALATABLE,
   non-past.
   'These pickles are sharp and are good.'

(9) Kono kamaboko wa bosobose-shite-ite mazul.
   THIS/FISH SAUSAGE/theme/ROUGH, resultative, conjunctive/
   UNPALATABLE, non-past.
   'This fish sausage is rough and tastes bad.'

(10) Kono sembei wa paripari-shite-ite umal.
    THIS/RICE CRACKER/theme/CRUNCHY, resultative, conjunctive/
    PALATABLE, non-past.
   'This rice cracker is crunchy and is good.'

(11) Kono biru wa mamanurukute olishi-nai.
   THIS/BEER/theme/LUKEWARM, conjunctive/PALATABLE, neg., non-
   past.
   'This beer is warm and tastes bad.'

From (6) - (11) it is possible to isolate the items SUIMI GA ARU 'have a sourness' (6), KAORI GA II 'aromatic' (7), PIRITTO-SHITE-IRU
'sharp' (8), BOSOBOSO-SHITE-IRU 'rough, coarse' (9), PARIPARI-SHITE-IRU 'crunchy' (10), and NAMANURUI 'lukewarm' (11) as taste terms in the widest sense, in this case ranging over the parameters of gustation, olfaction, tongue-sensation (pain?), texture, hardness and temperature, respectively. The frame is used, on a more limited scale, in 7.4.2.5 to indicate relationships of syntagmatic incompatibility which hold between some descriptive taste terms and UMAI/ OISHII or MAZUI.

6.4 Paradigmatic sense relationships

The three terms UMAI, MAZUI and OISHII are clearly related in terms of antonymy. We preface discussion of the items in detail with some general remarks concerning that relationship.

Lyons (1968: 464) states that "the most important defining characteristic of the relation of antonymy" is the following:

"If x and y are antonyms, then a comparative sentence containing x of the form

\[ \text{Comp}\{([\text{NP}_1, x]T_j^M_k^A_m)([\text{NP}_2, y]T_j^T_j^M_k^A_m)\} \]

both implies and is implied by a corresponding comparative sentence containing y:

\[ \text{Comp}\{([\text{NP}_2, y]T_j^M_k^A_m)([\text{NP}_1, x]T_j^T_j^M_k^A_m)\} \]

(NP = noun phrase; x, y = lexical items being graded; T = tense; M = mood; A = aspect)

Lyons' examples include Our house is bigger than yours used to be and Your house used to be smaller than ours is, where BIG and SMALL function as antonyms.

It seems clear, however, that not all pairs of items commonly considered as antonyms behave in the same way in relation to this test: that is to say, there appear to be different types of antonymy. If we take the pair GOOD and BAD and compare them with
the above pair BIG and SMALL, the following examples show that there is a lack of parallelism between them:

(12) **Cadillacs are bigger than Jaguars.**

(13) **Jaguars are smaller than Cadillacs.**

(14) **Jaguars are smaller than Cadillacs, but they're both big cars.**

(15) **Cadillacs are better than Jaguars.**

(16) **Jaguars are worse than Cadillacs.**

(17) *Jaguars are worse than Cadillacs, but they're both good cars.*

With BIG/SMALL, (12) and (13) each imply the other, and furthermore (14) is perfectly acceptable. With GOOD/BAD, on the other hand, although (16) implies (15), (15) may not necessarily imply (16), notably in the case where it is understood that both Cadillacs and Jaguars are good cars. This is shown clearly in the unnaturality of (17), where that understanding is made explicit; instead of (17), the natural sentence is exemplified in Jaguars are not as good as Cadillacs, but they're both good cars. (15) and (16) each imply the other if there is an understanding that both are bad cars. Unlike BIG/SMALL, then, GOOD/BAD do not meet Lyons' test in all contexts, and we shall take this distinction into account in considering the present Japanese terms.

The issue is illuminated by Sapir in his article on grading (Sapir, 1944; references to Mandelbaum (ed.), 1949). There, Sapir distinguishes between two types of logical grading: grading with reference to a norm (type I), and grading with reference to terms of comparison (type II). He explains that: "In type I ... any "worse" or "bad" is worse than any "better" or "good"; ... But in type II ... "worse" and "bad" do not need to be bad but may actually be good." (Mandelbaum (ed.), 1949: 126). In terms of the above examples, good,
bad and worse appear to belong to type I, big, small, bigger, smaller and better to type II. Sapir continues:

"A warning: These are logical terms, not terms of actual usage, which exhibit great confusion. In certain cases usage preferentially follows type I, e.g. "more brilliant" and "brilliant" connote, as a rule, some degree of noteworthy ability, "more brilliant" being rarely equivalent to "not so stupid"; "good" follows type I, but "better" follows type II, being equivalent to "relatively better, not so bad", e.g. "My pen is better than yours, but I confess that both are bad" (on the other hand, "A is more brilliant than B, but both are stupid" is meaningless except as irony, which always implies a psychological transfer) ... Interestingly enough, the correlatives of these terms do not exactly correspond. "Stupid" and "less stupid" follow type I, "less stupid" being never equivalent to "more brilliant" (except, again, ironically) ...

"Bad" and "less bad", differing in this respect from "good" and "better", both follow type I; "less bad" is still "bad" but "better" (with reference to another term) may be even worse ... On the whole, usage tends to assign comparative terms to type II of grading, positive terms to type I of grading, though this never hardens into a definite rule."

(Mandelbaum, (ed.) 1949: 126-7)

Sapir's account can be re-cast as follows: Some positive terms are inherently graded with respect to an absolute norm (type I, e.g. good/bad), while others are inherently graded with respect to a
a relative norm (type II, e.g. big/small). Cf. A small elephant is a big animal vs. *A good hock is a bad wine. As for comparative terms, some comparatives of type I positives imply their positive terms (e.g. worse: x is worse than implies x is bad), while some do not (e.g. better: x is better than does not imply x is good); comparatives of type II terms do not imply their positives.

This account provides a ready explanation for the unnaturalness of (17), which we quote again here:

(17) *Jaguars are worse than Cadillacs, but they're both good cars.

Jaguars are worse than Cadillacs implies Jaguars are bad, which in turn implies Jaguars are not good; this latter implication is contradicted in the second part of the sentence.

In terms of this account, Lyons' test works without exception for pairs of comparative terms where neither implies its positive term: pairs of type II positives thereby qualify as fully-fledged antonyms. Where one of the comparative terms does imply its positive, the test works in one direction everywhere, but not in all contexts in the other: the corresponding pairs of positives (e.g. good/bad) are thereby marked off as a sub-type of antonyms vis-a-vis central cases. The pair BRILLIANT/STUPID mentioned by Sapir illustrate a third possibility: both positive terms are of type I (involving an absolute norm), as Sapir points out, and both comparatives imply their positive. Thus, Jack is more brilliant than Jill, but both are stupid and Jill is more stupid than Jack, but both are brilliant are equally unnatural. As far as Lyons' test is concerned, they fail it comprehensively in both directions: Einstein was more brilliant than Newton neither implies, nor is implied by, Newton was
more stupid than Einstein. Clearly, BRILLIANT and STUPID are not antonyms at all in terms of this definition. 8

To return to the Japanese terms, both UMAI/MAZUI and OISHII/MAZUI 'palatable/unpalatable' are antonymous pairs belonging to the subtype of antonymy to which GOOD/BAD belong in English. Thus, (18) - (20) below are exactly parallel to (15) - (17):

(18) Furansu no budooshu wa Oosutorariya no budooshu yori umai/oishii.9,10
FRANCE/OF/WINE/theme/AUSTRALIA/OF/WINE/TAN/PALATABLE, non-past.
'French wine tastes better than Australian wine.'

(19) Oosutorariya no budooshu wa Furansu no budooshu yori mazui.
'Australian wine tastes worse than French wine.'

(20) *Oosutorariya no budooshu wa Furansu no budooshu yori mazui kedo ryoochootomo umai/oishii.
AUSTRALIA/OF/WINE/theme/FRANCE/OF/WINE/TAN/
UNPALATABLE, non-past/BOTH/PALATABLE, non-past.
'Australian wine tastes worse than French wine, but they both taste good.'

Here, (19) implies (18), and (18) may imply (19), but not in a context such as that illustrated by (20), where both wines are stated to be good. That is:

\[ x \text{ wa } y \text{ yori umai/oishii } 'x \text{ tastes better than } y' \text{ does not imply } x \text{ wa umai/oishii } 'x \text{ tastes good'} \]

\[ x \text{ wa } y \text{ yori mazui } 'x \text{ tastes worse than } y' \text{ does imply } x \text{ wa mazui } 'x \text{ tastes bad'} \]

That all three positive terms are of type I is shown by the following:

---

8 See now Cruse, 1976, who distinguishes types of antonym on very similar lines.

9 Japanese adjectives have no morphological comparative form.

10 In (18) and (20) - (25), umai/oishii, etc. indicates that UMAI and OISHII are interchangeable in the example concerned.
(21) *Umai/oishii nikuushu de mo mazui nomimono da.
PALATABLE, non-past/GRADE TWO SAKÉ/copula, conjunctive/
EVEN/UNPALATABLE, non-past/DRINK/copula, non-past.
'Even good-tasting grade two sake is a bad-tasting drink.'
(22) *Mazui shampeen de mo umai/oishii nomimono da.
'Even bad-tasting champagne is a good-tasting drink.'

and the implications between the comparative and positive terms seen
above are borne out in the following:

(23) Ryoohootomo mazui kedo kotchi no hoo ga mada umai/oishii.
BOTH/UNPALATABLE, non-past/BUT/THIS/OF/ALTERNATIVE/
subject/STILL/PALATABLE, non-past.
'Both taste bad, but, of the two, this still tastes the
better.'
(24) *Ryoohootomo umai/oishii kedo kotchi no hoo ga mada mazui.
'Both taste good, but, of the two, this still tastes
the worse.'

where the second half of the sentences, with HOO 'alternative', are
explicitly comparative. Instead of (24), we must have:

(25) Ryoohootomo umai/oishii kedo kotchi no hoo wa sotchi
no hoo hodo umaku-na!/oishiku-na!.
BOTH/PALATABLE, non-past/BUT/THIS/OF/ALTERNATIVE/theme/
THAT/OF/ALTERNATIVE/EXTENT/PALATABLE, negative, non-past.
'Both taste good, but this doesn't taste as good as that.'

The classification is thus:

<table>
<thead>
<tr>
<th>umai</th>
<th>'palatable'</th>
<th>(type I)</th>
</tr>
</thead>
<tbody>
<tr>
<td>oishii</td>
<td>'palatable'</td>
<td>(type I)</td>
</tr>
<tr>
<td>mazui</td>
<td>'unpalatable'</td>
<td>(type I)</td>
</tr>
</tbody>
</table>

(yori) umai 'more palatable than' does not imply UMAI
(yori) oishii 'more palatable than' does not imply OISHII
(yori) mazui 'more unpalatable than' implies MAZUI
exactly parallel to GOOD/BAD in English. UMAI/MAZUI and OISHII/MAZUI are antonymous pairs of the given sub-type in all the linguistic contexts described in the previous section. 11

6.5 Stylistic relationships

Since UMAI and OISHII 'palatable' have both been analyzed as standing in an identical antonymous relationship to MAZUI 'unpalatable', they appear to be strong candidates for the relationship of synonymy. However, the two terms can be clearly differentiated with respect to social features of the speech-contexts in which they are used, so that an analysis as synonyms is only possible within a framework that abstracts out such features. In view of the important place of stylistic lexical variation in Japanese in general, and in the present area of the vocabulary in particular, we have argued that such features ought to be taken into account in the analysis (cf. 3.1.3).

This being the case, it would seem that the styles concerned ought to have been differentiated before the statement of paradigmatic sense relationships, in accordance with the principle laid down earlier. That is to say, if OISHII and UMAI belong to different styles, and paradigmatic relationships are seen as holding only within a single style, why have OISHII and UMAI been treated together

11 It is noteworthy that the pairs GOOD/BAD, UMAI/MAZUI and OISHII/MAZUI, found to belong to the same sub-type of antonymy, are all evaluatory terms. With respect to GOOD, several semanticists have pointed out that what is involved is not merely an average which must be exceeded, but a socially determined norm which must be met (cf. Bartsch and Vennemann, 1972: 63): i.e. whereas BIG and SMALL can be thought of as 'bigger than average' and 'smaller than average', GOOD and BAD are to be thought of, not as 'better than average' and 'worse than average', but as 'meeting the norm' and 'failing to meet the norm'. As we have seen, the existence of taste-norms, in terms of which a given food substance qualifies as 'palatable', is a characteristic of the present field.
in terms of antonymy to MAZUI? The reason is that the facts of the stylistic distribution of the three terms are peculiarly complex: as we shall see, while UMAI and OISHII are clearly differentiated stylistically, MAZUI, though basically the stylistic partner of UMAI, extends its stylistic range into a blend area where it also functions as the antonym of OISHII.

Let us then examine the facts of the stylistic differentiation involved. First, UMAI 'palatable' is stylistically marked as belonging to what we have termed an ultra-informal style of speech: unlike the vast majority of lexemes, items belonging to this style are restricted to use by male speakers, predominantly in highly informal speech-contexts.12 OISHII 'palatable', on the other hand, is used by men in more formal contexts, and by women everywhere. One result of this is that we readily find conversational pieces like the following, involving a male and female speaker:


PALATABLE, non-past? YES/PALATABLE, non-past.

'Is it good?' 'Yes, it is.'

The situation in which (26) occurs might be, let us say, that of a woman asking her husband's opinion of a meal. Because of her sexual status, she is restricted to the use of OISHII in her question; her husband, in theory with two choices at his disposal, uses UMAI in view of the informality of the situation. Such examples can be multiplied. Formal evidence of the differentiation is also provided

12 We have regarded this restriction to male speakers as a reflection of the general principle in Japanese that women tend to use more formal language than men. Hence we have not called them 'male forms' as such.
by the fact that whereas OISHII may occur in the humble form oishuu gozaimasu 'is/are palatable', UMAI, as an ultra-informal expression, may not: *umoo gozaimasu 'is/are palatable' does not occur.

Stylistic lexical variation in the vocabulary at this ultra-informal level is relatively restricted in the language as a whole. As we have seen, however, UMAI has ultra-informal partners in two other cases in this area of the vocabulary: GOHAN 'boiled rice', 'meal' has an ultra-informal variant in MESH1 (for both glosses), and the verb TABERU 'eat' has an ultra-informal variant in the verb KUU.

In this area of the vocabulary, then, the general verb 'eat', the general noun 'meal' and the general evaluatory adjective 'good' are all subject to lexical variation at this level. To repeat an example given in the discussion in 3.1.3, the following interchange could well occur as a result of this situation, involving all three examples:

(27) A. Meshi o kutte kita. Umakatta.
    MEAL/object/EAT, conjunctive/COME, past/PALATABLE, past.
    'I've already eaten. It was good.'

    B. Gohan o tabete kita tte. Oishikatta tte.
    MEAL/object/EAT, conjunctive/COME, past/quotative/
    PALATABLE, past/quotative.
    'He says he's already eaten. He says it was good.'

Here B might be A's wife, reporting A's original utterance to a third person and replacing each of the ultra-informal variants with their more formal correlates. The stylistic variation between UMAI and OISHII is thus reflected in the different collocational relationships noted earlier: only UMAI collocates with MESH1 and KUU, and only
OISHII collocates with GOHAN and TABERU.  

UMAI and OISHII 'palatable', then, can be analyzed in terms of stylistic lexical variation as follows:

<table>
<thead>
<tr>
<th>Ultra-Informal</th>
<th>UMAI</th>
<th>MESH 'boiled rice', 'meal'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elsewhere</td>
<td>OISHII</td>
<td>GOHAN 'boiled rice', 'meal'</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TABERU 'eat'</td>
</tr>
</tbody>
</table>

As noted in 3.1.3, lexical variation on the axis of address in Japanese, i.e. the type of variation under discussion here, has received comparatively little attention from scholars, doubtless because of its restricted nature. However, all three ultra-informal terms discussed here, MESH, KUU and UMAI, are grouped together with their more formal correlates in a recent Japanese survey of aspects of synonymy, based on questionnaires (Kokuritsu Kokugo Kenkyuujo, 1965). The relevant section can be translated as follows:

"Words felt as bad words.

GOHAN/MESH | TABERU/KUU | OISHII/UMAI

In pairs like those above, while the left-hand members are felt as ordinary (slightly refined) words, the right-hand members are accompanied by a feeling of being (somewhat) bad words, of being rough words."

(Kokuritsu Kokugo Kenkyuujo, 1965: 25)

Later in the same volume, MESH and GOHAN are contrasted as follows:

"MESH  
(1) Boiled rice, (2) meal.  
Of the three words RAISU, MESH and GOHAN, MESH is the oldest term. Gives a somewhat rough impression. Avoided among women and in general in polite speech.

GOHAN  
Originally the honorific term for boiled rice, meal. Nowadays in general use as the polite term. Slightly feminine, colloquial.

(Kokuritsu Kokugo Kenkyuujo, 1965: 51)

Though the differences are treated in this volume in terms of connotations (GOKAN), the discussion clearly supports the lines of our analysis.
With regard to antonymy relationships, first of all we readily find sentences like the following:

(28) Kono sakana wa umaku-mo-nai shi mazuku-mo-nai.

THIS/FISH/theme/PALATABLE, ALSO, negative, non-past/
AND/UNPALATABLE, ALSO, negative, non-past.
'This fish tastes neither good nor bad.'

Such a sentence functions to place the entity concerned, i.e. the fish, at a median point along the scale of palatability (UMAI-MAZUI). As it contains a form of UMAI, it is marked as ultra-informal in style, and UMAI and MAZUI are clearly stylistically compatible. This would seem, then, to indicate an analysis of MAZUI as ultra-informal and of the pair UMAI/MAZUI as antonyms within this style:

<table>
<thead>
<tr>
<th>Ultra-informal</th>
<th>collocate with</th>
<th>MESHII KUU</th>
</tr>
</thead>
<tbody>
<tr>
<td>UMAI 'palatable'</td>
<td>antonym of</td>
<td>MAZUI 'unpalatable'</td>
</tr>
</tbody>
</table>

Such an analysis appears to be supported when we consider the 'cognitively' synonymous but stylistically differentiated sentence:

(29) Kono sakana wa oishiku-mo-nai shi oishiku-naku-mo-nai.

THIS/FISH/theme/PALATABLE, ALSO, negative, non-past/
AND/PALATABLE, negative, ALSO, negative, non-past.
'This fish tastes neither good nor bad.'

which contains a form of OISHII in the first half and, not a form of MAZUI, but the negative form of OISHII in the second half, and is marked stylistically as being spoken by a woman, never by a man.

Formally, (29) is in fact a highly unusual sentence in that it contains a positive and a negative form of a single lexical item in a construction typically filled by forms of antonymous pairs.
Analogous sentences for other pairs of antonyms are not normally tolerated:

(30) *Kono kuruma wa ookiku-mo-nai shi ookiku-naku-mo-nai.
    'This car is neither big nor small.' (lit. 'neither big nor not-big')

where, instead of ookiku-naku-mo-nai 'not not-big', we must have chisaku-mo-nai 'not small', a form of the antonym CHISAI 'small'.

The same is true, indeed, of UMAI 'palatable':

(31) *Kono sakana wa umaku-mo-nai shi umaku-naku-mo-nai.
    'This fish tastes neither good nor bad.' (lit. 'neither good nor not-good')

where we must use a form of MAZUI as in (28). However, the fact is that (29) commonly occurs in the speech of women, as do interchanges like the following:

    'How is it? 'It tastes bad.' 'He says it tastes bad.'

where a man's utterance containing mazui (B) is reported by a woman (A) with olshiku-nai, the negative of OISHII. Thus far, then, the overall situation appears to be as follows:

<table>
<thead>
<tr>
<th>Ultra-informal (male)</th>
<th>UMAI antonym of MAZUI</th>
<th>collocate with MESH KUU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>OISHII (no antonym)</td>
<td>collocates with GOHAN TABERU</td>
</tr>
</tbody>
</table>

Such an analysis in fact offers a feasible explanation for the unusual sentence (29): While such sentences normally contain forms of antonymous pairs, the fact that the only candidate for the status
of antonym to OISHII, namely MAZUI, is stylistically marked as ultra-informal overrules the normal linguistic pattern; since MAZUI has no formal stylistic correlate, women tend to use the ordinary negative form of OISHII, even to the extent where semantically it functions as an antonym (admitting of a blend area between the two ends of the scale) rather than as a complementary negative (where blend areas are excluded). This constitutes a solution to a situation which is probably unique in the language: while other examples of stylistic differentiation of antonymous pairs are found (some will be mentioned below), the normal state of affairs is for both antonyms to have variants at the different levels, so that no 'gap' occurs.

This account seems correct as far as it goes. There is, however, a further complication. Thus far, we have had sentences marked as ultra-informal (male) (28), and sentences marked as incontrovertibly female (29). Clearly, there is an area as yet unaccounted for, namely the usage of men in contexts other than ultra-informal. Here we find:

(33) Kono sakana wa oishiku-mo-nai shi mazuku-mo-nai.

This fish tastes neither good nor bad.

with an antonymous scale OISHII-MAZUI. (33) Is in fact characterized as female, informal as well as male, non-ultra-informal. There are thus three levels, not two, to be considered:

14 It is worth noting here that, unlike English which has pairs of antonyms like WELL/UNWELL, KIND/UNKIND, etc., Japanese has no morphological process for deriving antonymous lexemes from (non-Sino-Japanese) adjectives.
The main factor at work here is that MAZUI 'unpalatable' tends to be
avoided by women in most contexts, although not, like UMAI, in all
contexts. The informant herself states that, as a woman, she is
conscious of the need to avoid using UMAI at all times; she herself
also avoids using MAZUI, although she recognizes that the need for
avoidance is not quite as strong and accepts that (33) above, for
example, could be spoken by a woman in an informal context.

Our account so far, then, must be modified by recognizing the
existence of a blend area between the two levels already set up,
where OISHII and MAZUI function as antonyms. Since the stylistic
status of the blend area differs according to the sex of the speaker,
we represent the overall system using two sets of diagrams:

**Male speaker:**

<table>
<thead>
<tr>
<th>Ultra-informal</th>
<th>UMAI</th>
<th>antonyms of MAZUI</th>
<th>collocate with MESH</th>
<th>KUJU</th>
<th>GOHAN</th>
<th>TABERU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elsewhere</td>
<td>OISHII</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Female speaker:**

<table>
<thead>
<tr>
<th>Informal</th>
<th>OISHII</th>
<th>antonym of MAZUI</th>
<th>collocate with GOHAN</th>
<th>TABERU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elsewhere</td>
<td></td>
<td>(olshiku-nai)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This effectively concludes our stylistic analysis of the three terms. The complex stylistic distribution in fact raises problems in naming the system: we have chosen to talk of the lexical system UMAI/MAZUI in the heading to this chapter, which is in effect to see OISHII primarily as a stylistic variant of UMAI and to minimize the importance of the blend area where OISHII and MAZUI function as antonyms; but it would also be possible to give more importance to the blend area and to talk of the system as UMAI/MAZUI/OISHII, in view of the fact that all three terms are related paradigmatically. The decision is perhaps largely a matter of taste, but the following considerations do seem to point in favour of taking UMAI/MAZUI as linguistically primary, despite the stylistic restriction of UMAI in the present system.

Firstly, whereas OISHII is not used outside the present domain, UMAI and MAZUI function as an antonymous pair in other areas of the vocabulary of the modern language: first, in a lexical system which we may refer to as 'skillfulness', UMAI being equivalent to 'skilful', 'good (at)', MAZUI to 'unskilful', 'bad (at)', and secondly in a lexical system where UMAI may be glossed as 'felicitous' (of events etc.), MAZUI as 'importunate', 'inconvenient'.15 (In all three systems, then, UMAI is always at the 'good' end of the opposition, MAZUI at the 'bad' end.)16 Secondly, it is worth noting that OISHII

15 It is interesting to note that, just as English renders UMAI and MAZUI in the present system as '(taste) good' and '(taste) bad', English uses 'good (at)' and 'bad (at)' in relation to skill, and in the third area talks of things 'going well' or 'going badly'. As a rough statement at the level of the language as a whole, then, we can say that, whereas English uses the pair GOOD/BAD over a wide range, Japanese operates with the two pairs II/WARUI and UMAI/MAZUI.

16 Interestingly enough, UMAI 'skilful' and MAZUI 'unskilful' are also stylistically marked as informal, having more formal variants in the nominal adjectives JOOZU and HETA, respectively. In this case, each term has its variant and no gaps arise.
is historically the later term. Stylistically, its introduction can be seen as having brought about a strong restriction on the use of UMAI, which seems to have spread to its antonym, MAZUI, although to a lesser extent, and resulted in the complicated situation that now exists.

The stylistic distribution of the derived nominals of the three terms remains to be discussed. (As noted in 6.3, derived nominal adjectives in -soo and derived verbs in -garu are stylistically restricted in the same way as the adjectives themselves.) While the derived nominals UMASA and OISHISA 'palatability' likewise observe these restrictions, the following example shows that UMAMI, the other derived nominal from UMAI, is not stylistically restricted in the same way:

(34) Kore wa samma no hontoo no umami ga gozai masen ne.

'This hadn't got the real taste of a samma, has it?' Here UMAMI 'good taste' co-occurs with the humble verb form gozai masen 'does not exist' and is thus clearly not ultra-informal in style. UMAMI appears to be restricted collocationally to the syntagm UMAMI GA ARU (GOOD TASTE/subject/BE PRESENT, non-past) and to denote a good taste rather than the general dimension of palatability. Since the corresponding 'concrete' derivation from OISHII (cf. 6.2), namely OISHIMI, is ungrammatical, the stylistic range of UMAMI is extended to fill the resulting gap.

17 The Japanese survey mentioned earlier points out that many dialects still possess only a single variant, corresponding to UMAI. (Kokuritsu Kokugo Kenkyuujo, 1965: 25)
6.6 Extralingual relationships

As evaluatory terms, UMAI, MAZUI and OISHII clearly do not lend themselves to discussion of extralingual semantic relationships in any direct sense.

However, generic propositions such as those expressed by the sentences _Nihonryoori wa oishii_ 'Japanese cuisine is good' and, derivable from this, _Aburakkoi mono wa oishiku-nai_ 'Fatty things are not palatable' can plausibly be regarded as having the status of unspoken axioms. Such axioms reflect cultural values and, insofar as individual dietary preferences are the result of cultural influence, such axioms may be seen as having a role in guiding the application of the terms: what tastes good to an Englishman does not necessarily taste good to a Japanese, and vice versa. Descriptive taste norms for particular food substances may also be important here: for example, the status of the proposition expressed by _Nori wa kaori ga ii_ 'Laver is aromatic' as a norm will tend to lead to the condemnation of aroma-less specimens as unpalatable (MAZUI). Such taste norms will receive attention in the next chapter.
CHAPTER 7
THE LEXICAL FIELD AJI

In this chapter we treat a group of descriptive taste terms in Japanese, defined by our delimitation procedure as constituting the lexical field of AJI 'taste'. It will be seen that the denotation of the members of this field ranges over a domain wider than that of 'taste' in the scientific sense (i.e. gustation), but narrower than that of 'taste' when it is equated with the whole of the ingestion experience, including parameters such as texture, consistency and temperature.

The chapter is organized as follows: The lexical field is first delimited, and the formal characteristics of the lexical items involved are discussed. The initial field is then subdivided into the lexical systems AJI I, AJI II, and AJI III, which are then analyzed in terms of their lexical structure. The chapter ends with a review of the overall field.

7.1 Delimitation

As outlined in 3.1.1, the general strategy adopted in this study toward the investigation of lexical fields is, by asking appropriate questions, to determine what lexical fields and systems, with what members, are present in the language-system, and subsequently to examine the semantic relationships which hold among members. That is to say, the question of what a lexical item means is approached by considering what basic question(s) it occurs in answers to, what other items also occur in such answers, and how the items are related to each other and to aspects of extralinguistic reality.

1 Unlike the lexical system UMAI/MAZUI discussed in Chapter 6, the present field does not involve stylistic lexical variation. Therefore stylistic relationships do not feature in the analysis.
The initial task here is thus to determine how the Japanese ask questions about taste. As a point of general methodology, such questions can be elicited in various ways, in this case, for instance, by uttering a sentence containing an unfamiliar item of diet such as the following:

(X) Kunoo haggisu to yuu mono o tabeta yo.

YESTERDAY/HAGGIS/quotative/SAY, non-past/THING/
object/EAT, past/emphatic particle
'Yesterday I ate something called haggis.'

A typical response to such an utterance would be:

(Y) Haggisu tte donna mono?

HAGGIS/quotative-theme/WHAT SORT OF/THING?
'What kind of a thing is haggis?'

Appropriate responses to this question, in turn, would provide information concerning the constituency, colour, shape, taste, consistency, etc., of the haggis, so that (Y) is clearly too wide in scope to function as an ideal question-frame for our purposes. By obstinately refusing to give information concerning the taste of the item in response to (Y), however, the investigator can provoke the question:

(Z) Donna ajī ga suru?

WHAT KIND OF/TASTE/subject/BE PRESENT, non-past?
'What kind of a taste does it have?'

(Z) is clearly narrower in scope than (Y) in that appropriate responses to it form a proper subset of appropriate responses to (Y): information concerning constituency, colour, shape, etc. is rejected in this case. We therefore use (Z) as the basis for our first question-frame (A), aimed at delimiting the lexical system of 'taste' (i.e. of AJI) in Japanese:
(A)  X wa donna aji ga suru?²

X/theme/WHAT KIND OF/TASTE/subject/BE PRESENT, non-past?

'What kind of a taste does X have?'

X in (A) is typically filled by nouns from the lexical field of food substances (nouns denoting items of diet in the strict sense, as well as substances such as medicines, sea-water, etc. which are ingested more or less commonly). Items denoting smoking articles (e.g. TABAKO 'cigarette'), eating-places (e.g. RESUTORAN 'restaurant'), and the noun KUUJI 'air' do not occur here, although they occur in the question-frame used for UMAI/MAZUI (cf. 6.1).

The question-frame must now be used to elicit as wide a range of responses as possible, in order to allow us to approximate as closely as possible to the complete membership of the system. In using the frame in elicitation, fillers of X were restricted to generic nouns: i.e. the questions were of the type 'What do oranges taste like?' and not of the type 'What does this orange taste like?'. The reason for this is that questions of the latter, specific type bring into play factors such as taste norms, discussed in Chapter 4, which could conceivably affect the form of responses: our aim at this point is simply to isolate the set of lexical items available in the Japanese language-system for the description of taste qualities on a general level. (Description, since, as noted in the

² It is worth noting that, even if there were no narrower question such as (Z), i.e. If Japanese lacked a head term like AJI for the field, it would still be possible, though more circuitous, to proceed by using a more general frame such as X wa donna mono? 'What kind of a thing is X?', based on (Y), and then using further frames incorporating the lexical items elicited to subdivide the initial field. Such a procedure is in fact followed in subdividing the field of AJI later in this chapter.
last chapter, the purely evaluatory terms UMAI, MAZUI and OISHII do not occur in response to frame (A).) Even restricting the items in this way does not eliminate background norms altogether: for example, a generic question like What does burgundy taste like? can be seen as being asked against the background of taste norms for red wine, for wine in general, or even for alcoholic drinks in general, and such factors must be borne in mind when using NPs that occupy a subordinate position in lexical hierarchies.

The lexical items elicited in response to question-frame (A) are seen in the following question-and-answer pairs:

MELON/theme/WHAT KIND OF/ SWEET, non-past.
TASTE/subject/B E PRESENT, non-past?
'What kind of a taste do melons have? 'They're sweet.'

(A2) Nihonshu wa donna ajī ga suru? Chotto amai.
SAKÉ/ ... SOMEWHAT/ SWEET, non-past.
'What kind of a taste does saké have? 'It's somewhat sweet.'

(A3) Momo wa donna ajī ga suru? Amazuppai.
PEACH/ ... SWEET-SOUR, non-past.
'What kind of a taste do peaches have? 'They're sweet-sour.'

(A4) Mikan wa donna ajī ga suru? Amazuppai.
TANGERINE/ ... SWEET-SOUR, non-past.
'What kind of a taste do tangerines have? 'They're sweet-sour.'

(A5) Remon wa donna ajī ga suru? Suppai.
LEMON/ ... SOUR, non-past.
'What kind of a taste do lemons have? 'They're sour.'
Koogyoku wa donna aji ga suru? Chotto suppal.
JONATHAN (type of apple)/... SOMEWHAT/SOUR, non-past.
'What kind of a taste do Jonathans have?' 'They're somewhat sour.'

Sukiyaki wa donna aji ga suru? Amakarai.
SUKIYAKI (meat and vegetables SWEET-PUNGENT, non-past.
cooked in soy sauce and sugar)/... 'What kind of a taste does sukiyaki have?' 'It's sweet-pungent.'

Tamanegi wa donna aji ga suru? Karai.
ONION/... PUNGENT, non-past.
'What kind of a taste do onions have?' 'They're pungent.'

Shiomizu wa donna aji ga suru? Karai.
SOLUTION OF SALT AND WATER/... PUNGENT, non-past.
'What kind of a taste does a salt-and-water solution have?'

Karashina wa donna aji ga suru? Piritto karai.
MUSTARD-PLANT/... IN A SHARP MANNER/PUNGENT,
non-past.
'What kind of a taste does mustard-plant have?' 'It's sharply pungent.'

Umi no mizu wa donna aji ga suru? Shlokarai.
SEA/OF/WATER/... SALT, non-past.
'What kind of a taste does sea-water have?' 'It's salt.'

Shiomizu wa donna aji ga suru? Shoppal.
SOLUTION OF SALT AND WATER/... SALTY, non-past.
'What kind of a taste does a salt-and-water solution have?' 'It's salty.'

Kobucha wa donna aji ga suru? Chotto shoppal.
KOBUCHA (tea made from a type SOMEWHAT/SALTY, non-past.
of seaweed)/... 'What kind of a taste does kobucha have?' 'It's somewhat salty.'
(A14) Konagusuri wa donna aji ga suru?  Nigai.
MEDICAL POWDER/ ...  BITTER, non-past.
'What kind of a taste do medical powders have?' 'They're bitter.'

(A15) Bilru wa donna aji ga suru?  Horonigai.
BEER/ ...  PLEASANTLY BITTER, non-past.
'What kind of a taste does beer have?' 'It's pleasantly bitter.'

(A16) Shilbugakl wa donna aji ga suru?  Shibui.
SHIBUGAKI (a type of persimmon)/ ...  ASTRINGENT, non-past.
'What kind of a taste do shilbugakl have?' 'They're astringent.'

(A17) Momo wa donna aji ga suru?  Amakute suimi ga aru.
PEACH/ ...  SWEET, conjunctive/SOURNESS/subject/BE PRESENT, non-past.
'What kind of a taste do peaches have?' 'They're sweet and have a sourness.'

(A18) Sakkarin wa donna aji ga suru?  Amakute nigamig i ga aru.
SACCHARINE/ ...  SWEET, non-past/BUT/ BITTERNESS/subject/BE PRESENT, non-past.
'What kind of a taste does saccharine have?' 'It's sweet but has a bitterness.'

(A19) Umi no mizu wa donna aji ga suru?  Karakute chotto nigami ga aru.
SEA/OF/WATER/ ...  PUNGENT, conjunctive/SOMewhat/BITTERNESS/subject/BE PRESENT, non-past.
'What kind of a taste does sea-water have?' 'It's pungent and has a slight bitterness.'

(A20) Desugita ocha wa donna aji ga suru?  Nigakute shibumi ga aru.
OVERINFUSE, past/GREEN-TEA/ ...  BITTER, conjunctive/ASTRINGENCY/BE PRESENT, non-past.
'What kind of a taste does overinfused green-tea have?' 'It's bitter and has an astringency.'
(A21) Goboo wa donna aji ga suru?

BURDOCK/...

'What kind of a taste does burdock have?' 'It's harsh.'

(A22) Goboo wa donna aji ga suru?

BURDOCK/...

'What kind of a taste does burdock have?' 'It has a harshness.'

(A23) Koohill wa donna aji ga suru?

COFFEE/...

'What kind of a taste does coffee have?' 'It's aromatic.'

(A24) Hoojicha wa donna aji ga suru?

ROASTED TEA/...

'What kind of a taste does roasted tea have?' 'It's fragrant.'

(A25) Chilzu wa donna aji ga suru?

CHEESE/...

'What kind of a taste does cheese have?' 'It's strongly-flavoured.'

(A26) Kol wa donna aji ga suru?

CARP/...

'What kind of a taste does carp have?' 'It's muddy-flavoured.'

(A27) Tomato wa donna aji ga suru?

TOMATO/...

'What kind of a taste do tomatoes have?' 'They have a sourness and are somewhat grassy-flavoured.'
(A28) **Banana wa donna ajī ga suru?**

**Amakute kaori ga ii.**

| BANANA/ ... | SWEET, conjunctive/AROMA/subject/GOOD, non-past. |

'What kind of a taste do bananas have?' 'They're sweet and aromatic.'

(A29) **Ninjin wa donna ajī ga suru?**

**Maa, ninjin no ajī da kedo -- chotto amami ga aru.**

| CARROT/ ... | WELL/CARROT/OFF/TASTE/copula, non-past/BUT/SOMETHING/SWEETNESS/subject/BE PRESENT, non-past. |

'What kind of a taste do carrots have?' 'Well, they taste like carrots -- but they have a slight sweetness.'

(A30) **Tako wa donna ajī ga suru?**

**Betsu-ni ajī ga nai yo.**

| OCTOPUS/ ... | (NOT)PARTICULARLY/TASTE/subject/BE PRESENT, negative, non-past/emphatic particle. |

'What kind of a taste does octopus have?' 'It doesn't have any taste in particular.'

(A31) **Shake wa donna ajī ga suru?**

**Shake no ajī to shika lenai-daroo ne.**

| SALMON/ ... | SALMON/OFF/TASTE/quotative/EXCEPT/SAY, potential, negative, non-past, presumptive/tag. |

'What kind of a taste does salmon have?' 'I suppose you could only say it tastes like salmon.'

The semantic status of the items featuring in the responses will be analyzed below. At this point, the responses in (A1) - (A28), and the second half of the response in (A29), can be summarized as consisting either of the form of a single taste lexeme or of a sequence

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3 English glosses for Japanese taste expressions are allotted here on a one-to-one basis and are to be regarded as no more than labelling devices.
of the forms of two such lexemes, with the additional presence of a modifying element (CHOTTO 'somewhat', PIRITTO 'sharply') in certain cases.

Although question-frame (A) was used with a wide variety of nouns filling position X, no lexemes were elicited other than those represented in the responses to (A1) - (A29), although, needless to say, other combinations of those lexemes were found to occur. We therefore assume that those lexemes constitute the complete membership of the lexical field of AJI.

The above sample of data includes cases (e.g. (A3) and (A17)) where the same noun appears with different lexemes occurring in responses on different occasions: such cases may be of important heuristic value in exploring the semantic structure of the field. (A30) and (A31) (and the first half of (A29)) are also included as constituting appropriate responses, though of a different semantic order: the response to (A30) illustrates what might be termed the 'zero' case in taste, analogous to the use of the lexeme COLOURLESS in relation to the English colour terms. (A31), on the other hand, illustrates a characteristic of the domain of taste which appears to have no parallel in colour: in the latter domain, given the set of English colour terms plus the term COLOURLESS, it is in principle possible to answer any appropriate question of the form What colour is X? using only those terms, singly or in combination, perhaps with the additional use of modifiers such as DARK, LIGHT, etc. in certain cases, i.e. in this sense, colour terms constitute an exhaustive lexical continuum. (A31) appears to indicate that this is not the case with taste terms, since there are substances whose taste cannot be subsumed within the range of taste terms plus the 'zero' expression.
This has certain consequences for the statement of semantic relationships, notably the fact that, whereas the denial of a colour term implies the assertion of the disjunction of the remaining set of colour terms at the same hierarchical level (e.g. *X is not red* implies *X is green or black or colourless ... or yellow*) the denial of a taste term will have no such closed set of implied disjunctions.

7.2 Grammatical characteristics

Morphologically, the taste terms elicited in (A1) - (A29) can be divided into four groups, as follows:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>amai ('sweet')</td>
<td>amami ga aru ('has a sweetness')</td>
</tr>
<tr>
<td>amazuppal ('sweet-sour')</td>
<td>sulmi ga aru ('has a sourness')</td>
</tr>
<tr>
<td>suppai ('sour')</td>
<td>sammi ga aru ('has a sourness')</td>
</tr>
<tr>
<td>amakarai ('sweet-pungent')</td>
<td>nigami ga aru ('has a bitterness')</td>
</tr>
<tr>
<td>karai ('pungent')</td>
<td>shibumi ga aru ('has an astrin-gency')</td>
</tr>
<tr>
<td>shikkarai ('salt')</td>
<td>aku ga aru ('has a harshness')</td>
</tr>
<tr>
<td>shoppai ('salty')</td>
<td>kusami ga aru ('strong-flavoured')</td>
</tr>
<tr>
<td>nigai ('bitter')</td>
<td></td>
</tr>
<tr>
<td>horonigai ('pleasantly bitter')</td>
<td></td>
</tr>
<tr>
<td>shibui ('astringent')</td>
<td></td>
</tr>
<tr>
<td>akuppol ('harsh')</td>
<td></td>
</tr>
<tr>
<td>koobashil ('fragrant')</td>
<td></td>
</tr>
<tr>
<td>dorokusai ('muddy-flavoured')</td>
<td></td>
</tr>
<tr>
<td>aokusai ('grassy-flavoured')</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>kaori ga li ('aromatic')</td>
<td>piritto ('sharply')</td>
</tr>
<tr>
<td></td>
<td>chotto ('somewhat')</td>
</tr>
</tbody>
</table>
Group I consists of non-past forms of adjectives; group II consists of phrases of the form noun + subject particle + non-past form of the verb ARU 'exist, be present'; the phrase in group III is of the form noun + subject particle + non-past form of the adjective II 'good'; and the two forms in group IV are adverbial, occurring as modifiers of certain of the terms in the other groups. All forms in groups I - III are grammatically stative, containing either adjective forms or the form aru of the stative verb ARU 'exist, be present', and all are non-past forms in view of the 'timeless' generic context involved.

Of the fourteen adjectival forms in group I, only ama[('sweet'), karal ('pungent'), nigai ('bitter') and shibul('astringent')] have stems that are incontrovertibly simple, morphologically. The morphological structure of the forms in the group can be analyzed as follows:

(1) X-J (Stem + affix ('non-past'))

(II) Stems:

ama- ('sweet')
kara- ('pungent')
niga- ('bitter')
shibu- (astringent'): shibu ('astringent juice of persimmons')
amakara- ('sweet-pungent'): ama- ('sweet') + kara- ('pungent')
horoniga- ('pleasantly bitter'): horo- ('to a pleasant degree') + niga- ('bitter')
suppa- ('sour'): su ('vinegar') + -ppa- 
amazuppa- ('sweet-sour'): ama- ('sweet') + suppa- ('sour')
shikara- ('salt'): sho ('salt') + kara- ('pungent')
shoppe- ('salty'): sho < sho ('salt') + -ppa-
akuppo- ('harsh'): aku ('lye') + -ppo-
koobashi- ('fragrant'): koo ('incense', 'fragrance') +
   -bash

dorokusa- ('muddy-flavoured'): doro ('mud') + kusa- ('smelly')
aokusa- ('grassy-flavoured'): ao ('blue', 'green') + kusa-
   ('smelly')

Whereas -ppo- (in akuppo 'harsh') is a semi-productive denominal
adjectivalizing suffix, usually associated with pejorative meaning
(cf. mizu 'water'/mizuppen 'watery', 'insipid', kodomo 'child'/
kodomuppen 'childish'), -ppa- (in suppal 'sour' and shoppal 'salty'),
-bash (in koobash ('fragrant') and -i (in shbul 'astringent') are
not productive. Horo- (in horonigal 'pleasantly bitter') commonly
occurs only in this form and in the form horoyol ('slight intoxica-
tion', 'tipsiness') (cf. yoi ('Intoxication')), where a pleasant
connotation is again present.

The nouns in group II phrases, with the exception of aku in aku
   ga aru ('have a harshness'), all end in -mi and can be derived in
many cases from the adjectives in group I by the following process:

Stem + -l ('non-past') + Stem + -mi (deadjectival nominalizing
suffix)

Thus amami ('sweetness'), nigami ('bitterness') and shibumi
('astringency') can be derived from the corresponding adjectival
forms amal, nigal and shibul, respectively, while kusami ('strong
flavour') can be derived from the adjective kusal ('smelly'), which
occurs in the morphological composition of group I forms dorokusal
and aokusai. Sulmi ('sourness') is probably to be related to the
archaic adjective suli ('sour')(analyzable as su 'vinegar' + -l), which
survives in set phrases such as suli mo amai mo shitte-ru 'he knows
both the sour and the sweet', i.e. 'he has experienced all sides of
life'; strictly, though, we should expect *sumi as the regular
formation. Sammi ('sourness') can be analyzed as san ('acid' (noun))
The derivational process involved here is only partially productive: forms such as *amakarami, *horonigami, *suppami, *amazuppani, *shlokarami, *shoppami, *akuppomi, *koobashimi, *dorokusami and *aokusami, derived from other adjective forms in group I, do not occur; the form karami, from karal 'pungent', does exist, but there is no phrase of the form karami ga aru. Insofar as they do occur, phrases of the form X-mi ga aru are largely restricted to the domain of taste and thus provide some formal support for the linguistic reality of the present field. Aku in aku ga aru ('have a harshness') is identical with the initial form of akuppol ('harsh').

In group III, kaori ga II is composed of the monomorphic noun kaori 'odour (usu. pleasant)', 'aroma', the subject particle ga, and the non-past form of the adjective II 'good', which has a wide range of application comparable to, though not identical with, that of its English equivalent (cf. 6.5, note 15).

The (invariable) forms prititto ('sharply') and chotto ('somewhat') in group IV belong to a large class of lexemes in Japanese which function in an adverbial capacity as modifiers of verbals and adjectivals. The lexemes of this class are largely phonaesthetic or onomatopoeic: Japanese grammarians divide them into 'words imitative of a situation' (GITAIGO) and 'words imitative of a sound'

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4 As noted in 6.2, the most common deadjectival nominalizing suffix is -sa, and all the adjectives considered here possess -sa nominalizations. Nominalization in -mi is found with some adjectives, normally in addition to -sa forms, but phrases of the form -mi ga aru are not general: thus kanashii ('sad') has both kanashisa and kanashimi 'sadness', as nominalized forms, but there is no expression of the form *kanashimi ga aru.

Interestingly, UMAMI, from UMAI 'palatable', seems also to occur predominantly in the syntagm UMAMI GA ARU (cf. 6.5).
The class is interesting both phonologically and semantically: in general, the forms of this class constitute a group of 'phonologically special' words within the vocabulary of Japanese, initial/p/, for example, being virtually limited either to foreign loan-words in the language (e.g. PAN 'bread', PISTORU 'pistol') or to forms of the present class, where it is very common. Semantically, many of the items of the class enter into relationships of syntagmatic implication with adjectives or verbs: thus, GUSSURI 'soundly' syntagmatically implies the verb NEMURU 'sleep' (GUSSURI NEMURU 'sleep soundly'), NIKKORI-TO the verb WARAU 'laugh' (NIKKORI-TO WARAU 'smile'), and so on. PIRITTO ('sharply') can be related formally to piripiri(-suru)('smart (with pain)') and hirihiri(-suru) ('burn (of tongue due to hot food, etc.)') in the same form class, which, as lexemes, all denote a sharp sensation of some kind; furthermore, as we shall see, the lexeme PIRITTO syntagmatically implies the adjective KARA! 'pungent' in the construction adverb + adjective. The lexeme CHOTTO ('somewhat'), as its gloss suggests, has a very wide collocational range.

7.3 Semantic sub-division

At this point it is necessary to determine whether, semantically, the set of terms delimited as constituting the lexical field of AJI can be sub-divided further.

For this purpose, we introduce a new question-frame (B), which can be represented simply as:

(B) \[ X \text{ wa } Y? \]
\[ X/\text{theme}/Y? \]
\[ 'Is \ X \ Y?' \]

where \( X \) is filled, as in question-frame (A), by lexical items.

5 Miller refers to this class as 'expressive adverbs' (1967: 195). Henck calls them 'impressionistic qualifiers' (1966: 8).
denoting food-substances and Y by a member of the set of taste terms which have been found to occur in response to (A). For example:

(B1) Banana wa amazuppai?
BANANA/theme/SWEET-SOUR, non-past?
'Are bananas sweet-sour?'
yields the response:

Amazuppaku-nai. Amai.
SWEET-SOUR/negative, non-past/SWEET, non-past.
'No, they're not. They're sweet.'

Different patterns of response will be found to provide a basis for distinguishing sub-divisions of meaning within the field and, subsequently, within sub-divisions, for defining certain semantic relationships in terms of negation.

Among responses to questions of type (B) we find, in addition to examples like (B1), where the negative form of one lexeme is followed by the positive form of another, cases like (B2):

(B2) Chilizu wa karai? Karaku-nai.
CHEESE/theme/PUNGENT, non-past?
PUNGENT, negative, non-past.
'Is cheese pungent?' 'No, it's not.'

where there is simply the negative form of one lexeme in the response, without a following positive. With the same noun in question-frame (A), however, our data contains the response shown in the following:

'What kind of a taste does cheese have?' 'It's strong-flavoured.'

Given that this is so, there is a priori no reason not to expect a reply to (B2) parallel to (B1), viz.:
'Is cheese pungent? 'No, it's not. It's strong-flavoured.'

(B2'), however, is not forthcoming, and when suggested to the informant is rejected as being irrelevant (KANKEI GA NAI): i.e. KUSAMI GA ARU 'strong-flavoured' is felt as being out of place in this context.

We interpret this as indicating that, although KARAI 'pungent' and KUSAMI GA ARU 'strong-flavoured' both belong to the lexical field of AJI as delimited on the basis of question-frame (A), they belong to different lexical systems within it; AMAI 'sweet' and AMAZUPPAI 'sweet-sour', on the other hand, belong together in the same system, as shown by the response to (B1). That is to say, the distinction involved is of the kind illustrated at a grosser level in the following English examples:

Q. What do elephants look like? A. They're big and grey.
Q. Are elephants small? A. No, they're not. They're big.

*No, they're not. They're grey.

where BIG and GREY belong to a single lexical field at one level (the field of 'external appearance'), but are distinguished at a lower level within it as belonging to the systems of 'size' and 'colour', respectively. In answer to a question about size, a lexeme from the system of colour is out of place.

By applying this strategy over a large number of permutations of taste terms, it can be shown that they fall into three systems. The following examples will serve as typical illustrations of the procedure:
(B3) *Banana wa kusami ga aru?*  
BANANA/theme/SMELLINESS/subject/BE PRESENT, non-past?  
'Are bananas strong-flavoured?'  
Unun, kusami ga nai. Kaori ga ii.  
NO/SMELLINESS/subject/BE PRESENT, negative, non-past/AROMA/subject/GOOD, non past.

'Bananaaramel alu?'  
NO/SMELLINESS/subject/BE PRESENT, non-past?  
'Are bananas aromatic?'  
'No, they're aromatic.'

(B4) *Momo wa amai?*  
PEACH/theme/  
SWEET, non-past?  
'Are peaches sweet?'  
Amai kedo sua mi mo aru.  
SWEET, non-past/BUT/SOURNESS/  
ALSO/BE PRESENT, non-past.

'Momo wa amai?'  
PEACH/theme/  
SWEET, non-past?  
'Are peaches sweet?'  
'Yes, they are, but they also have a sourness.'

(B5) *Koogyoku wa suppal?*  
JONATHAN/theme/  
SOUR, non-past?  
'Are Jonathans sour?'  
Suppaku-wa-nai kedo sa mmi ga aru.  
SOUR, contrast, negative, non-past/BUT/SOURNESS/subject/BE PRESENT, non-past.

'Koogyoku wa suppal?'  
JONATHAN/theme/  
SOUR, non-past?  
'Are Jonathans sour?'  
'They're not sour, but they do have a sourness.'

(B6) *Momo wa suppai?*  
PEACH/theme/SOUR, non-past?  
'Are peaches sour?'  
Suppaku-nai. Amazuppal.  
SOUR, negative, non-past/SWEET-SOUR, non-past.

'Momo wa suppai?'  
PEACH/theme/SOUR, non-past?  
'Are peaches sour?'  
'No, they're not. They're sweet-sour.'

(B7) *Goboo wa kaori ga ii?*  
BURDOCK/theme/AROMA/subject/GOOD, non-past?  
'Is burdock aromatic?'  
Unun, betsu-ni kaori ga yoku-nai.  
NO/(NOT) PARTICULARLY/AROMA/subject/GOOD, negative, non-past.

'Goboo wa kaori ga ii?'  
BURDOCK/theme/AROMA/subject/GOOD, non-past?  
'Is burdock aromatic?'  
'No, not particularly.'

(B7') *Goboo wa kaori ga ii?*  
*Unun, kaori ga yoku-nai. Akuppol.  
(cf. (A2i))  
'Is burdock aromatic?'  
'No, it isn't. It's harsh.'

(B8) *Ninjin wa akuppol?*  
CARROT/theme/HARSH, non-past?  
'Are carrots harsh?'  
Betsu-ni akupppoku-nai.  
(NOT) PARTICULARLY/HARSH, negative, non-past.

'Ninjin wa akuppol?'  
CARROT/theme/HARSH, non-past?  
'Are carrots harsh?'  
'No, not particularly.'
(B8') Ninjin wa akuppo?  *Akuppoku-nai. Chotto amami ga aru.  
'Are carrots harsh?' 'No, they're not. They have a slight sweetness.'

(B9) Sakkarin wa nigai?  Soo-ne, chotto nigami ga aru ne.  
SACCHARINE/theme/ WELL/SOMewhat/BITTERNESS/subject/  
BITTER, non-past. BE PRESENT, non-past/tag.  
'Is saccharine bitter?' 'Well, it has a slight bitterness.'

As this small sample indicates, the form of the responses shows considerable variety, and some of the distinctions involved will be used as a guide in establishing semantic relationships below. The procedure was followed over the complete range of taste terms delimited, and it was found that the terms could be sub-divided into three lexical systems, which we shall refer to as AJI I, AJI II and AJI III: In all cases, a question of type (B) can be answered only in terms of lexemes within the same system. The groupings are as follows:

AJI I

AMAI 'sweet'  
AMAZUPPAI 'sweet-sour'  
SUPPAI 'sour'  
AMAKARAI 'sweet-pungent'  
KARAI 'pungent'  
SHIOKARAI 'salt'  
SHOPPAI 'salty'  
NIGAI 'bitter'  
HORONIGAI 'pleasantly bitter'  
SHIBUI 'astringent'  
AMAMI GA ARU 'have a sweetness'  
SUIMI GA ARU 'have a sourness'  
SAMMI GA ARU 'have a sourness'  
NIGAMI GA ARU 'have a bitterness'  
SHIBUMI GA ARU 'have an astringency'  
PIRITTO 'sharply'

AJI II

AKUPPOI 'harsh'  
AKU GA ARU 'have a harshness'

AJI III

KOOBASHII 'fragrant'  
DOROKUSAI 'muddy-flavoured'  
AOKUSAII 'grassy-flavoured'  
HUSAMI GA ARU 'strong-flavoured'  
KAIROI GA II 'aromatic'
Formally, it is worth noting that the lexemes with morphologically simple stems all occur in AJI I (AMA1, KARA1, NIGAI, SHIBU1).

7.4 The lexical system AJI I

We begin the more detailed semantic analysis with AJI I, the largest of the three lexical systems in terms of membership. For convenience we consider extralingual relationships first, then proceed to intralingual relationships.

7.4.1 Extralingual relationships

In the following chart AJI I terms are listed together with lexical items denoting food-substances to which they are typically applied by the informant. The food-substances are arranged in two columns, according to whether the associated generic proposition is more reasonably seen as a focal axiom or a taste norm; it will be recalled from the discussion in Chapter 4 that axioms serve to indicate food-substances which centrally exemplify taste qualities, while taste norms indicate taste qualities which a given food-substance is expected to possess but which may be lacking in particular instances.
<table>
<thead>
<tr>
<th>AJI1 term</th>
<th>Focal exemplars</th>
<th>Taste norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMAI 'sweet'</td>
<td>SATOO 'sugar' MIRIN 'mirin' (a sweet kind of sake used in cooking)</td>
<td>BANANA 'bananas'</td>
</tr>
<tr>
<td>AMAZUPPAI 'sweet-sour'</td>
<td></td>
<td>MIKAN 'tangerine' ICHIGO 'strawberry' MOMO 'peach' SUMOMO 'plum' SUBUTA 'sweet-and-sour pork'</td>
</tr>
<tr>
<td>SUPPAI 'sour'</td>
<td>SU 'vinegar' REMON 'lemon'</td>
<td>UMEBOSHI 'pickled plum'</td>
</tr>
<tr>
<td>AMAKARAI 'sweet-pungent'</td>
<td></td>
<td>SUKIYAKI 'sukiyaki' (a meat and vegetable dish cooked with soy sauce and sugar)</td>
</tr>
<tr>
<td>KARAI 'pungent'</td>
<td>KARASHI 'mustard' KAREEKO 'curry powder' KOSHOO 'pepper' WASABI 'wasabi' (a kind of horseradish) SHOOGA 'ginger' SHOOGYU 'soy sauce' SHIO 'salt'</td>
<td>KAREE 'curry'</td>
</tr>
<tr>
<td>SHIOKARAI 'salt'</td>
<td>UMI NO MIZU 'sea water'</td>
<td></td>
</tr>
<tr>
<td>SHOPPAI 'salty'</td>
<td>SHIO 'salt'</td>
<td>KOBUCHA 'kobucha' (tea made from a type of seaweed)</td>
</tr>
<tr>
<td>NIGAI 'bitter'</td>
<td>KONAGUSURI 'medical powders'</td>
<td></td>
</tr>
<tr>
<td>HORONIGAI 'pleasantly bitter'</td>
<td></td>
<td>BLIRU 'beer'</td>
</tr>
<tr>
<td>SHIBUI 'astringent'</td>
<td>SHIBUGAKI 'shibugaki' (an astringent kind of persimmon)</td>
<td></td>
</tr>
<tr>
<td>AMANI GA ARU 'has a sweetness'</td>
<td></td>
<td>NINJIN 'carrot'</td>
</tr>
<tr>
<td>SUIMI GA ARU 'has a sourness'</td>
<td></td>
<td>MOMO 'peach' (amakute suimi ga aru)</td>
</tr>
<tr>
<td>SAMMI GA ARU 'has a sourness'</td>
<td></td>
<td>KOOGYOKU 'Jonathan' (a kind of apple)</td>
</tr>
<tr>
<td>NIGAMI GA ARU 'has a bitterness'</td>
<td></td>
<td>SAKKARIN 'saccharine' (amai kedo nigami ga aru)</td>
</tr>
<tr>
<td>SHIBUMI GA ARU 'has an astringency'</td>
<td></td>
<td>BUDOO NO KAWA 'grape skins'</td>
</tr>
<tr>
<td>PIRITTO 'sharply (pungent)'</td>
<td></td>
<td>KARASHINA 'mustard plant'</td>
</tr>
</tbody>
</table>
(To take examples for the first term in the chart, AMAI 'sweet', the proposition expressed by the sentence Satoo wa amal 'Sugar is sweet' is thus classified as an axiom, that expressed by the sentence Banana wa amal 'Bananas are sweet' as a taste norm.)

One general feature of the chart that is worth noting is the fact that, where they form part of the normal diet, substances listed as focal exemplars are typically used to season food, rather than being consumed on their own. (Cf. the substances listed against AMAI 'sweet', SUPPAI 'sour', KARAI 'pungent', and SHOPPAI 'salty'.) That is to say, such substances are employed in the cuisine as standard sources of the taste quality they represent, and it is particularly difficult to visualize deviant instances of them, such as sugar which is not sweet, salt which is not salty, and so on. By contrast, items such as fruit, vegetables and cooked dishes are clearly more susceptible to variation due to such factors as degree of ripening, length of storage, skillfulness of preparation, etc., and are to be grouped under the heading of taste norms. Some substances seem to stand on the borderline (e.g. KAREE 'curry', UMEBOSHI 'pickled plum'), but have been classified under taste norms as theoretically permitting deviation.

Some of the individual terms also require comment. The three terms SHIOKARAI 'salt', NIGAI 'bitter' and SHIBUI 'astringent' have as focal exemplars substances that are not items of diet in the strict sense: sea water, medical powders and shibugaki (which are considered inedible unless dried, when they become sweet). That is to say, in general there are no items of normal diet which are expected, at a general level, to possess these taste qualities, although, clearly, deviant specimens may do so (cf. Kono gureepufuruutsu wa nigai 'This grapefruit is bitter', where the general taste norm is expressed by
Gureepufuruutsu wa suppal 'Grapefruit are sour'). The application of AMAKARAI 'sweet-pungent' appears to be restricted to foods that have been cooked with sugar and soy sauce (which are focal exemplars for AMAI 'sweet' and KARAI 'pungent', respectively). Finally, with respect to HORONIGAI 'pleasantly bitter' and BIIRU 'beer', it appears that BIIRU wa horonigai 'Beer is pleasantly bitter' definitely does not express a universally-held norm, but one which holds for people who like beer; other people, who dislike it, would probably subscribe to the norm expressed by BIIRU wa nigaI 'Beer is bitter'. This aspect of the relationship between NIGAI 'bitter' and HORONIGAI 'pleasantly bitter' will be discussed further below.

It is to be noted that two substances appear against more than one taste term: salt (SHIO) (against KARAI 'pungent' and SHoppAI 'salty') and peaches (MOMO) (against AMAZUPPAI 'sweet-sour' and SUIMI GA ARU 'have a sourness'). These cases will also be clarified in the course of the analysis of sense relationships.

As a whole, the denotation of the terms of AJI I ranges over the parameters of gustation (i.e. the four common gustatory qualities of sweet, sour, salty and bitter) and, additionally, the properties of pungency and astringency, which, as we have seen in 2.1, involve poorly understood tactile sensations of the tongue and mouth. Interestingly, this denotational range appears to be similar to that covered by the taste terms of Sanskrit as reported by Myers (cf.2.3, note 3).

7.4.2 Intralingual relationships

In this section we deal with the intralingual structure of AJI I terms in terms of paradigmatic and syntagmatic sense relationships.
7.4.2.1 Preliminaries

Two preliminary issues must be discussed before the analysis itself is introduced: the question of negation, which plays an important role in the analysis of paradigmatic sense relationships, and the question of the terminology to be applied to certain of the relationships involved.

Firstly, we consider the question of negation. Two types of negative responses, which we shall refer to as involving simple negation and qualified negation, occur in the data. They are illustrated in the following examples:

(BIO) Shibugaki wa nigal?  
SHIBUGAKI/theme/  
BITTER, non-past?  
'Are shibugaki bitter?'

Bitter, negative, non-past/ASTRINGENT, non-past.  
'No, they're not. They're astringent.'

(BII) Mikan wa amai?  
TANGERINE/theme/  
SWEET, non-past?  
'Are tangerines sweet?'

SWEET, contrast, negative, non-past/BUT/SWEET-SOUR, non-past.  
'They're not sweet, but they're sweet-sour.'

(B10) Shibugaki wa nigal?  
'Are shibuqaki bitter?'

*Nigaku-nal. Shibul.  
'Shibugaki/theme/  
BITTER, negative, non-past/

(H11) Mikan wa amai?  
TANGERINE/theme/  
SWEET, non-past?  
'Are tangerines sweet?'

Amaku-wa-nal kedo amazuppal.  
'SWEET, contrast, negative, non-
past/BUT/SWEET-SOUR, non-past.  
'They're not sweet, but they're sweet-sour.'

(B10') Shibugaki wa nigal?  
'Are shibugaki bitter?'

*Nigaku-wa-nal kedo shibul.  
'Shibugaki/theme/  
BITTER, negative, non-past/

(B11') Mikan wa amai?  
TANGERINE/theme/  
SWEET, non-past?  
'Are tangerines sweet?'

*Amaku-nal. Amazuppal.  
'SWEET, contrast, negative, non-
past/BUT/SWEET-SOUR, non-past.  
'They're not sweet, but they're sweet-sour.'

Here, *nigaku-nal (BIO) is an example of simple negation, and *amaku-wa-
nal (BII) an example of qualified negation. In formal terms, 
*nigaku-nal is the simple negative non-past form of NIGAI 'bitter', 
while *amaku-wa-nal contains the contrastive particle *wa within the
negative non-past form of AMAI 'sweet', amaku-nal; this distinction in the negative forms themselves correlates with a difference in the overall pattern of the response, for while the simple negation in (B10) is followed directly by an assertion, the qualified negation in (B11) is followed by kedo ('but') plus a further assertion. These responses remain constant on different occasions of elicitation: the alternative responses in (B10') and (B11') are consistently rejected by the informant. In the analysis, we shall assume initially that this distinction has semantic relevance: In terms of the above examples, that is to say, we shall assume that the regular occurrence of the different types of negation (and associated response patterns) indicates that the semantic relationship between NIGAI 'bitter' and SHIBUI 'astringent' is in some way different from that between AMAI 'sweet' and AMAZUPPAI 'sweet-sour'.

The second question concerns the labelling of semantic relationships. To consider simple negation again first, several pairs of AJI I terms are found to occur in parallel response patterns involving simple negation. Thus, in:

(B12) Momo wa suppal? Suppaku-nal. Amazuppal. 'Are peaches sour?' 'No, they're not. They're sweet-sour.'

(B13) Remon wa amazuppai? Amazuppaku-nal. Suppal. 'Are lemons sweet-sour?' 'No, they're not. They're sour.'

It is shown that the pair of terms SUPPAI 'sour' and AMAZUPPAI 'sweet-sour', can each be asserted after the simple negation of the other: we shall say that SUPPAI and AMAZUPPAI are a pair of terms that figure in bilateral simple negation. That is to say, we can deny, without qualification, that a thing is SUPPAI 'sour' and simultaneously assert that it is AMAZUPPAI 'sweet-sour', and vice versa. Now a set
of terms related by negation in this way appear natural candidates for the semantic relationship of incompatibility: primary colour terms (in English, RED, BLUE, GREEN, BLACK, WHITE, YELLOW, etc.), incompatible terms par excellence, negate each other in the same way (is it red? No, it's not (red), it's blue, etc.). However, we have already seen that, unlike colour terms, taste terms cannot be said to constitute a lexical continuum (cf. 7.1): tastes exist (such as the taste of carrots (NINJIN NO AJI, cf. (A29)) which cannot be described by means of a closed set of terms, so that the denial of a given taste term does not imply the assertion of the disjunction of the other taste terms at the same hierarchical level. In addition to this difference, there is a further feature of incompatibility as it is commonly understood which is not always present with the taste terms we are considering: With colour terms, two incompatible terms cannot be applied simultaneously to the same object: thus, we cannot say things like Fred's car is red and it is white. (We can, of course, say that Fred's car is red-and-white, but this is a different matter since red-and-white functions as a single expression semantically, and the implications Fred's car is red and Fred's car is white do not follow from this sentence.) Now this restriction holds for some, but not all, of the AJI I terms involved: for example, it holds for the two terms SUPPAI 'sour' and AMAI 'sweet' (we cannot say that something is suppakute amai 'sour and sweet'), but it does not hold for the terms NIGAI 'bitter' and SHIBU 'astringent', which, although figuring in bilateral simple negation in exactly the same way as SUPPAI and AMAI, can, unlike them, be predicated simultaneously of the same substance (e.g. Desugita ocha wa nigakute shibui 'Over-infused tea is bitter and astringent', from
which the dual implications Desugita ocha wa nigai 'Over-infused tea is bitter' and Desugita ocha wa shibui 'Over-infused tea is astringent' follow). Thus NIGAI 'bitter' and SHIBUI 'astringent' stand even further removed from the standard definition of incompatible terms than do SUPPAI 'sour' and AMAI 'sweet'. Whatever labels we eventually adopt, it is clear that occurrence in bilateral simple negation in itself is nothing more than an initial step towards more detailed semantic analysis, failing as it does to distinguish between items which display such different semantic properties.

In fact the same kind of reservation holds also for qualified negation. While occurrence in simple vs. qualified negation is taken initially as reflecting some difference in the semantic relationship of the terms involved, it is clear that qualified negation itself, like the analogous (prosodic) pattern in English, may relate to a variety of semantic factors, which must be elucidated by further investigation. Let us take a simple example from English:

(1) Is the climate there hot? No, it isn't. It's cold.
(ii) Is the climate there hot? No, it's not hot, but it's quite warm.

where the response pattern in (i) is analogous to simple negation in the Japanese examples, and that in (ii), with stress and rising-falling intonation on hot, to qualified negation. It seems commonly to be the case that, in qualified negation, the terms involved (here, HOT and (QUITE) WARM, in the Japanese example AMAI 'sweet' and AMAZUPPAI 'sweet-sour') are in some sense semantically 'closer' than terms involved in simple negation (HOT and COLD, AMAI 'sweet' and SUPPAI 'sour'): qualified negation appears to carry a concession that the questioner is, as it were, on the right semantic lines but is not quite correct in his choice of term. Such a characterization, even
If it is true, is highly imprecise as it stands, and the notion of semantic 'closeness' may clearly translate into a variety of intralingual semantic relationships: the terms could be adjacent members on the same scale (as HOT and WARM are), hyponym and superordinate (It's not a nettle, but it's a weed), and so on.

In summary, response patterns involving simple and qualified negation will be used in an initial sorting procedure of AJI I terms, without either of them being regarded as criterial for any precise semantic relationship. The nature of such relationships, and questions of labelling, will be determined on the basis of further testing.

7.4.2.2 Response patterns

We now proceed to the initial stage of the analysis, conducted in terms of the types of negation just discussed. Throughout, the analysis of AJI I terms is presented in roughly the steps by which it originally developed, the results of earlier stages being refined, and in some cases considerably modified, in succeeding stages.

(B12) and (B13) have shown that SUPPAI 'sour' and AMAZUPPAI 'sweet-sour' constitute a pair of terms which figure in bilateral simple negation. The following examples show that SUPPAI 'sour' and AMAL 'sweet' also constitute such a pair:

(B14)  
Banana wa suppai?  
'Suppaku-nai. Banana wa amal.  
'Are bananas sour?'  
'No, they're not. Bananas are sweet.'

(B15)  
Ramon wa amai?  
'Amaku-nal. Ramon wa suppai.  
'Are lemons sweet?'  
'No, they're not. Lemons are sour.'

However, the third pairing of the three terms AMAL 'sweet' and AMAZUPPAI 'sweet-sour', behave differently:

(B16)  
Banana wa amazuppaI?  
'Amazuppaku-nal. Amal.  
'Are bananas sweet-sour?'  
'No, they're not. They're sweet.'
(B17) Mikan wa amai? Amaku-wa-nal kedo amazuppal. 'Are tangerines sweet? 'They're not sweet, but they're sweet-sour.'

(B17') Mikan wa amai? Amaku-nal. Amazuppal. 'Are tangerines sweet? 'No, they're not. They're sweet-sour.'

The response to (B17) exhibits qualified negation, and simple negation (B17') is rejected. The semantic relationship between AMAZUPPAI 'sweet-sour' and AMAI 'sweet' is therefore assumed to be different from that between the other pairs of terms.

It will be seen that the procedure employed here is to use question-frame (B) (X wa Y? 'Is X Y?') to elicit response patterns for permutations of AJI I expressions. In each case, the precise formulation of the question used is based on the information gained from the earlier responses to question-frame (A) (X wa donna ajl ga suru? 'What kind of a taste does X have?'). For example, given the information from (A) that lemons are said to be SUPPAI 'sour' ((A5)) and that onions are said to be KARAI 'pungent' ((A8)), we can devise the following (B)-type questions to test the response patterns for the two terms SUPPAI and KARAI:

(B18) Remon wa karal? Karaku-nal. Suppal. 'Are lemons pungent?' 'No, they're not. They're sour.'

(B19) Tamanegi wa suppai? Unun, suppaku-nal. Tamanegi wa karal.6 'Are onions sour?' 'No, they're not. Onions are pungent.'

On the basis of such response patterns, each pair of AJI I terms can initially be classified as either figuring in bilateral simple

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6 Unun ('no') co-occurs with simple negation in (B19). It may also occur without the actual negative form being present, i.e. Unun. Tamanegi wa karal. 'No. Onions are pungent' is also a possible response to (B19). Throughout we regard abbreviated responses of this form as being equivalent to explicit simple negation.
negation or not. Thus, (B12) - (B19) yield the pairs SUPPAI 'sour'/AMAZUPPAI 'sweet-sour', SUPPAI/AMAI 'sweet' and SUPPAI/KARAI 'pungent' as falling within the bilateral pattern, and the pair AMAI/AMAZUPPAI as standing outside it.

All permutations of pairs of AJI I terms (except -MI GA ARU terms, which stand apart and are dealt with separately below) were tested in this way. The following pairs of terms did not figure in bilateral simple negation:

- NIGAI 'bitter'/HORONIGAI 'pleasantly bitter'
- AMAI 'sweet'/AMAZUPPAI 'sweet-sour'
- AMAI 'sweet'/AMAKARAI 'sweet-pungent'
- KARAI 'pungent'/SHIOKARAI 'salt'
- SHOPPAI 'salty'/SHIOKARAI 'salt'
- KARAI 'pungent'/PIRITTO 'sharply (pungent)'

For all other permutations, bilateral simple negation was found to hold.

The relevant data for the above non-bilateral pairs is as follows. First, for NIGAI 'bitter' and HORONIGAI 'pleasantly bitter':

\[(B20) \text{Konagusuri wa horonigai?} \quad \text{Unun, horonigaku-nal. Nigal.}\]

'Are medical powders pleasantly bitter?' 'No, they're not. They're bitter.'

\[(B21) \text{Chokoreeto no burakku wa nigal?} \quad \text{Nigaku-wa-nal kedo horonigal.}\]

'Is plain chocolate bitter?' 'It's not bitter, but it's pleasantly bitter.'

show that simple negation holds in only one direction (B20), qualified negation occurring in the other.

The same pattern holds for AMAI 'sweet'/AMAZUPPAI 'sweet-sour' and AMAI 'sweet'/AMAKARAI 'sweet-pungent'. Examples for AMAI/AMAZUPPAI have already been given ((B16) and (B17)).
With AMAI/AMAKARAI we have:

(B22) Mame no kanroni wa amakaral? Amakaraku-nal. Amal.  
'Are sweet-boiled beans sweet-pungent?'  
'No, they're not. They're sweet.'

(B23) Suklyakl wa amal? Soo-ne, amaku-wa-nal kedo amakaral.  
'Is suklyakl sweet?'  
'Well, it's not sweet, but it's sweet-pungent.'

AMAZUPPAI and AMAKARAI are thus alike in that they each enter into bilateral simple negation with one of the AJI I terms that figures in their morphological make-up (SUPPAI 'sour' and KARAI 'pungent', respectively), but not with the other (AMAI 'sweet').

With KARAI 'pungent' and SHIOKARAI 'salt', new patterns are found:

'Is soy sauce salt?'  
'No, it Isn't. Soy sauce is just pungent.'

(B25) Umi no mlzu wa karal? Un, karal. Shlokarai.  
'Is sea water pungent?'  
'Yes, it is. It's salt.'

The situation with AMAZUPPAI 'sweet-sour' is complicated in that the typical response pattern with certain food-substances, notably peaches (MOMO), is illustrated by (B4) rather than (B4'):

(B4) Momo wa amal? Amal kedo suimi mo aru.  
'Are peaches sweet?'  
'Yes, but they also have a sourness.'

(B4') Momo wa amal? ?Amaku-wa-nal kedo amazuppal.  
'Are peaches sweet?'  
'They're not sweet, but they're sweet-sour.'

Here, against expectations from question-frame (A) (where Amazuppal 'They're sweet-sour' is a permissible response to Momo wa dona aji ga suru 'What kind of a taste do peaches have?' (cf. (A3))), AMAZUPPAI has doubtful status. This contrasts with substances such as tangerines (MIKAN), where the response with AMAZUPPAI is accepted and that with SUIMI GA ARU 'has a sourness' rejected (cf. (B17)). This is a question that must be examined further below. For the present, however, it is clear that, where AMAI and AMAZUPPAI do occur together, they show the same patterns as AMAI and AMAKARAI.

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With this pair, while there is simple negation in one direction ((B24), though with the addition of DAKE 'only'), in the other direction there is no negation at all, but affirmation. The examples strongly suggest a relationship of hyponymy, with KARA ‘pungent’ functioning as the superordinate of SHIOKARAI ‘salt’: the use of DAKE 'only' in (B24) may be compared with English JUST in cases like

Is X sea-green? No, it's just green.

The pair SHIOKARAI 'salt' and SHOPPAI 'salty' also show a new pattern:

(B26) Uml no mizu wa shoppai? Shoppai dokoroka shiokarai.

'Is sea water salty?' 'Far from being (just) salty, it's salt.'

(B27) Kobucha wa shiokarai? Kobucha wa shiokaraku-nal. Chotto shoppai dake.

'Is kobucha salt?' 'No, it isn't. It's just somewhat salty.'

The construction with DOKOROKA ((B26)) typically occurs where a suggestion is overruled as being insufficiently extreme (cf. Indo wa attakal-daro? 'India is warm, I suppose' Attakal dokoroka atsul yo 'Warm? It's hot!'); its replacement here by simple negation is rejected by the informant. The examples are thus suggestive of a scalar relationship, with SHOPPAI 'salty' as a lesser degree of the extreme SHIOKARAI 'salt'. The following example also occurs in the data and provides additional support for such a relationship:

(B28) Shiomizu wa shiokarai? Soo-ne, ammarl koi to ne. Usukereba shoppai gural da kedo.

WELL/EXCEEDINGLY/CONCENTRATED, non-past/IF/tag/DILUTE, provisional/SALTY, non-past/EXTENT/copula, non-past/BUT.

'Is a salt-and-water solution salty?' 'Well, it is if it's very concentrated. If it's weak, it's only salty, though.'
where the suggested SHOPPAI-SHIOKARAI scale is clearly correlated
with the dimension USUI 'weak, dilute' - KOI 'strong, concentrated'.
The following example is also worth noting:

(B29) Shiomizu wa karai? Un, chotto koi to karai.
YES/SOMETHAT/CONCENTRATED, non-
past/IF/PUNGENT, non-past.

'Is a salt-and-water solution pungent?' since it simultaneously supports both the suggested relationships of
SHIOKARAI (hyponomy with KARAI 'pungent' and scalarity with SHOPPAI
'salty').

Before the response patterns of KARAI 'pungent' and PIRITTO
'sharply (pungent)' can be considered, certain formal features of
PIRITTO must be clarified. Thus far, PIRITTO has occurred, in the
response to (A10), as a modifier of KARAI 'pungent', and it has been
noted that KARAI is indeed the only term with which PIRITTO can
collocate: that is to say, in the grammatical frame PIRITTO +
adjective, there is a relationship of syntagmatic implication between
PIRITTO and the adjective KARAI. The matter is complicated, however,
by the fact that, as well as functioning as modifiers of fully-
fledged lexical items (such as KARAI), many members of this form-class
may also occur modifying the dummy verb SURI: PIRITTO is in fact
used in this way in certain (B)-type questions. The distribution
can be clarified by examining the following question-and-answer pairs
from the data:

(A10) Karashina wa donna ajii ga suru? Karashina wa piritto karai.
"What kind of a taste does mustard-plant have?'
"It's sharply pungent.'
(B30) Karashina wa amai?

Unun, amaku-nai. Karashina wa piritto karai.

* .... Karashina wa piritto shite-iru.

'Is mustard-plant sweet?'

'No, it isn't. Mustard-plant is sharply pungent.'

(B31) Karashina wa shlokarai?

Unun, shlokaraku-nai. Karashina wa chotto piritto karai.

* .... Karashina wa chotto piritto shite-iru.

'Is mustard-plant salt?'

'No, it isn't. Mustard-plant is somewhat sharply pungent.'

(B32) Karashina wa karai?

Un, chotto piritto karai ne.

'Yes, It's somewhat sharply pungent.'

(B33) Karashina wa karai?

Un, chotto piritto shite-iru ne.

'Yes, It's somewhat sharp.'

(B34) Karashina wa karai?

Un, chotto karai. Chotto piritto shite-iru.

'Yes, It's somewhat pungent. It's somewhat sharp.'

(B35) Karashina wa piritto shite-iru?

Un, piritto karai ne.

'Yes, It's sharply pungent.'

(B36) Karashina wa piritto shite-iru?

Un, chotto piritto shite-iru ne.

'Yes, It is somewhat sharp.'

(B37) Umi no mizu wa piritto shite-iru?

Unun, piritto shite-inai yo. Shlokarai yo.

'Is sea-water sharp?'

'No, It isn't. It's salt.'

(B38) Banana wa piritto shite-iru?

Unun, banana wa piritto shite-inai yo. Banana wa amai.

'Are bananas sharp?'

'No, they're not. Bananas are sweet.'
In these examples, PIRITTO occurs either modifying KARAI (i.e. *piritto karal, cf. (A10), for example) or in construction with the dummy verb SURU in its positive resultative form (*piritto shite-iru, in e.g. (B33)) or negative resultative form (*piritto shite-inai, in e.g. (B37)). How are the two types of construction distributed? Firstly, let us note that in questions (the questions in (B35) - (B37)) and negative responses ((B37) and (B38)), only SURU is employed: i.e. *piritto karal? ('Is it sharply pungent?') and *piritto karaku-nai ('It isn't sharply pungent) do not occur. The possibility of alternation of the two types thus arises only in the case of positive responses, i.e. in (A10) and (B30) - (B36). In (A10), which asks for general information concerning taste, only *piritto karal occurs, as noted; the same applies to (B30), where the response rejects the question *Amal? 'Is it sweet', and to (B31), where the response rejects the question Shlokaral? 'Is it salt?'. In the other cases ((B32) - (B36)), i.e. in reply to the questions *karal? 'Is it pungent?' and *piritto shite-iru? 'Is it sharp?' itself, either type occurs. The two types of construction thus answer different questions: *piritto karal answers all the questions considered here (as well as questions containing other AJI I terms, such as *Ngaal? 'Is it bitter?'), while *piritto shite-iru optionally answers *karal? and *piritto shite-iru?, but no others. Since, as we shall see below, PIRITTO can in fact be viewed as a hyponym of KARAI, we can say that *piritto shite-iru optionally answers questions containing itself or its superordinate KARAI 'pungent'. We must now ask whether, in these cases where both types occur, there is any semantic difference between them; and the answer is that, in such contexts, the two types of response are regarded as semantically equivalent by the informant, i.e. they are regarded as
essentially repetitions of each other, and there is no possibility
of denying one and simultaneously asserting the other ("piritto karal
kedo piritto shite-inai 'It's sharply pungent but it isn't sharp').
This is in fact to be expected from the discussion up to this point:
It has been seen that PIRITTO occurs (a) modifying the adjective
KARAI in a relationship of syntagmatic implication and (b) modifying
the dummy verb SURU; since KARAI in (a) is in effect semantically
redundant due to the syntagmatic implication and SURU in (b) is de-
void of lexical content, a relationship of synonymy follows as a
matter of course: whereas piritto karal explicitly states KARAI
'pungent', piritto shite-ru, as we shall illustrate below, implies
it. We therefore propose that we are dealing in all cases with a
single lexical item, PIRITTO 'sharp', and that the distributional
distinctions noted are a matter of alternative realizations which
occur in different contexts.

We may now turn to the patterns which hold for PIRITTO 'sharp'
and KARAI 'pungent'. The pattern in one direction has in fact
already been illustrated in (B32) - (B34): as with SHIOKARAI 'salt'
and KARAI in (B25), there is no negation, but affirmation. The
opposite direction is shown by:

(B39) Shooyu wa piritto shite-ru?  Unun, piritto shite-inai.
    'Is soy sauce sharp?'             Shooyu wa karal dake.
    'No, it isn't. Soy sauce is
    just pungent.'

and

(B40) Shooyu wa piritto shite-ru?  Unun, shooyu wa piritto shita
    kerasa ja-nal.                NO/SOY SAUCE/theme/SHARP/
    'Is soy sauce sharp?'            verbalizer, past/PUNGENCY/
                                       copula, neg., non-past.
    'No, it isn't a sharp pungency
    in the case of soy sauce.'
Here (B39), with DAKE 'only', is again parallel to the case of SHIOKARAI/KARAI (B24), and together with the other examples likewise suggests a relationship of hyponymy, with KARAI 'pungent' as superordinate to PIRITTO 'sharp'. (B40) also supports this, with pirittoo shite (the pre-nominal form of pirittoo shite-ru) modifying the noun KARASA 'pungency'.

The patterns and suggested relationships observed up to this point can be summarized diagrammatically as follows:

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<table>
<thead>
<tr>
<th>AMАЗУPPAI</th>
<th>PIRITTO</th>
<th>SUPПAI</th>
<th>NIGAI</th>
<th>SHIBUI</th>
</tr>
</thead>
<tbody>
<tr>
<td>'sweet-sour'</td>
<td>'sharp'</td>
<td>'sour'</td>
<td>'bitter'</td>
<td>'astringly'</td>
</tr>
<tr>
<td>AMAI</td>
<td>KARAI</td>
<td>SHОPPAI</td>
<td>HORONIGAI</td>
<td></td>
</tr>
<tr>
<td>'sweet'</td>
<td>'pungent'</td>
<td>'salty'</td>
<td>pleasantly bitter</td>
<td></td>
</tr>
<tr>
<td>AMAKARAI</td>
<td>SHIOKARAI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>'sweet-and-pungent'</td>
<td>'salt'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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The diagram represents a skeleton structure for the items in terms of response patterns. Terms in different boxes enter into bilateral simple negation, as do non-adjacent terms in the same box (i.e. AMАЗУPPAI and AMАКARAI, and PIRITTO and SHIOKARAI). Adjacent terms in the same box separated by a broken line have simple negation in one direction and qualified negation in the other; terms separated by a wavy line are candidates for the relationship of hyponymy; and the arrow connecting SHIOKARAI and SHОPPAI represents the proposed scalar relationship. The precise semantic relationships between terms in different boxes (i.e. figuring in bilateral simple negation) and terms separated by broken lines (i.e. figuring in simple and qualified negation) remain to be specified, and will be elucidated in subsequent stages of the analysis dealing with combinatory aspects of АJI I terms.
At this point we turn to -Ml GA ARU terms. It has been stated that they stand apart from the AJI I terms already discussed: In fact, their status is bound up with the question of combinations of taste terms, which we briefly discuss at a general level here by way of introduction.

If we take (English) colour terms as a point of comparison, incompatible terms there commonly combine in co-ordinate expressions, apparently without restriction. Thus, just as an object can be described as RED, so objects can be described as RED-AND-BLACK, RED-AND-YELLOW, RED-WHITE-AND-BLUE, and so on; objects of this type we may call multi-coloured. In addition, there also exist cases of what we may call colour blends, described by expressions such as BLUISH-GREEN, GREENISH-BLUE, ORANGEY-YELLOW, etc., in which one colour term is typically modified by a term morphologically derived from another colour term. In this case, certain restrictions based on the semantic relationships (of order, etc.) that hold between colour terms come into play, with the result that certain expressions, such as *BLACKISH-WHITE, *WHITISH-RED, etc., are normally unacceptable; moreover, such expressions are normally restricted to two members. Psycho-physically, whereas a multi-coloured object exhibits a combination of discrete colours, a colour blend normally involves a more-or-less uniform shade intermediate between the predominant colour and the subsidiary colour with which it is tinged. In the case of

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8 Derived terms such as BLUISH also occur alone, as in a bluish light, a reddish glow, a yellowish skin, and it seems that colour blends can be said to be involved in such cases too: a bluish light is a light of a uniform colour which is a blend of the basic colour of light (i.e. colourless) with a tinge of blue, and so on. In these cases, that is, the other member of the colour blend is implicitly present, whereas in expressions like BLUISH-GREEN it is explicitly stated. Phrases such as a yellowish dress, bluish wallpaper thus seem imprecise, since there is no implicit colour norm for dresses and wallpaper as there is for light, skin, etc.
colour, then, there is a clear psycho-physical distinction, reflected, in English, in a clear difference of linguistic formulation.

Now, impressionistically, the psycho-physical situation for taste appears much less clear-cut: independently of linguistic differences it is not at all clear, for example, that there is a corresponding distinction of multi-taste combination vs. taste blend. Our observations for taste must therefore centre on the linguistic data. As linguistic questions relating to combinations of AJI I terms, we must answer the following: Can AJI I terms be combined? If so, how are they combined? Are there any restrictions on the co-occurrence of particular terms in combination and on the number or order of terms? Can all terms that figure in combinations also occur freely in isolation?

That AJI I terms can indeed by combined is already clear from the responses to question-frame (A): the responses to (A17) - (A20) all involve two-term combinations, with a -MI GA ARU term as one of the members. The actual mechanics of combination we shall leave until later, and consider the last question, which is particularly relevant to -MI GA ARU terms: Are there any AJI I terms that occur only in combinations? The AJI I terms considered so far all occur in isolation in answer to question-frame (A) (cf. (A1), (A3), (A5), (A7), (A8), (A10) - (A16)), so that the question in fact centres on the status of -MI GA ARU terms. In the answers to (A), we in fact find that they do not occur in isolation, but always accompanied by another term, typically by one of the AJI I terms already considered, but also by AJI III terms (e.g. AOKJSAI 'grassy-flavoured' in (A27)) or by expressions outside the present field (e.g. NINJIN NO AJI 'the taste of carrots' in (A29)). This suggests the hypothesis that -MI GA ARU terms are in fact restricted to such combinatorial contexts.
Apparent counterexamples to this hypothesis occur:

(A32) Sukotchiuisukii wa donna aji ga suru? Chotto amami ga aru.

'What kind of a taste does Scotch whisky have?' 'It has a slight sweetness.'

where AMAMI GA ARU 'has a sweetness' occurs in isolation. It is important to note, however, that the item of diet concerned here clearly occupies a subordinate position in a lexical hierarchy: SUKOTCHIUISUKII 'Scotch whisky' is a hyponym of UISUKII 'whisky'.

Now a question about the taste of whisky in general will typically be answered as follows:

(A33) UISUKII wa donna aji ga suru? Chotto karaI.

'What kind of a taste does whisky have?' 'It's somewhat pungent.'

and the response to (A32) can be seen as set against the background of this taste norm for whisky in general (i.e. expressed by UISUKII wa chotto karaI 'Whisky is somewhat pungent'). (UISUKII 'whisky' itself, of course, figures in a lexical hierarchy headed by Sake 'alcoholic drink' and including as its co-hyponyms BIRRU 'beer', Sake 'saké', etc., but there is no single taste norm for Sake as such to interfere in this case.) Although AMAMI GA ARU 'has a sweetness' occurs in isolation in (A32), then, the norm KARAI 'pungent' can be regarded as implicitly present. This suggests the modified hypothesis that -MI GA ARU terms are restricted to implicitly or explicitly combinatorial contexts.

One consequence of the hypothesis is that, where there is no clear implicit partner term, the use of a -MI GA ARU term in isolation should be deficient as an answer to a taste question. This seems to be confirmed by the informant's reaction to the following constructed exchange involving a fictional item of diet:
Speaker 1: Kyoo Falzaa to yuu nomimono o nonda yo.
   TODAY/FIZER/quotative/SAY, non-past/DRINK/
   object/DRINK, past/emphatic particle.
   'Today I drank a drink called Fizer.'

Speaker 2: Falzaa tte donna nomimono?
   FIZER/quotative-/WHAT KIND OF/DRINK?
   'What kind of a drink Is Fizer?'

Speaker 1: Amami ga aru.
   'It has a sweetness.'

The Informant's reaction to the response Amami ga aru 'it has a sweetness' Is that the taste of Fizer is basically not sweet (motomoto
amaku-nal), but that, In the absence of further information, the reply
is informatively incomplete. In the following constructed exchange,
where the Item is equally fictional but where a higher degree of
implicit taste information is present, the same reply is accepted as
natural:

Speaker 1: Kyoo Falzaa-Koora to yuu nomimono o nonda yo.
   'Today I drank a drink called Fizer-Cola.'

Speaker 2: Falzaa-Koora tte donna nomimono?
   'What kind of a drink is Fizer-Cola?'

Speaker 1: Amami ga aru.
   'It has a sweetness.'

Here the drink Is taken to be basically of the Cola variety and the
response interpreted against the relevant background norm (i.e.
chotto karaI 'somewhat pungent').

More formal support for the hypothesis Is afforded by the pattern
of response to questions incorporating -MI GA ARU terms. As we have
seen, where no -MI GA ARU terms are present, the following is a typical
response pattern:
The response to a similar question involving a -MI GA ARU term, however, is as follows:

(B42) Koohii wa amami ga aru? Unun, amami ga nai. Koohii we nigaal dake.

'Does coffee have a sweetness?' 'No, it doesn't. Coffee is just bitter.'

with DAKE 'only, just' in the answer. There is thus a clear lack of parallelism between the two cases: whereas, in (B41), the plain assertion of NIGAI 'bitter' is compatible with the denial of AMAI 'sweet', in (B42) the assertion of NIGAI 'bitter' alone is not sufficient to justify the denial of AMAI GA ARU 'has a sweetness', but must be followed by DAKE, explicitly excluding the possibility of a taste combination. Similar examples occur with the other -MI GA ARU terms:

(B43) Remon wa nigami ga aru? Unun, nigami ga nai. Remon wa suppal dake.

'Do lemons have a bitterness?' 'No, they don't. Lemons are just sour.'

(B44) Natsumikan wa shibumi ga aru? Unun, natsumikan wa shibumi ga nai. Are wa suppal dake.

'Do natsumikan (a type of orange) have an astringency?' 'No, they don't. They're just sour.'

(B45) Maron wa sulmi ga aru? Unun, sulmi ga nai. Maron wa amai dake.

'Do melons have a sourness?' 'No, they don't. Melons are just sweet.'

(B46) Shibugaki wa sammi ga aru? Unun, sammi ga nai. Shibugaki wa shibul dake.

'Do shibugaki have a sourness?' 'No, they don't. Shibugaki are just astringent.'
We conclude that there are certain Ajji I terms, namely -MI GA ARU terms, which are inherently combinatorial in that, explicitly or implicitly, they predicate a taste quality as a component of a complex taste.

The combinatorial nature of -MI GA ARU terms leads us to consider the question of their status in such combinations. Are complex tastes always linguistically encoded using -MI GA ARU terms, and, if not, what differences exist between alternative linguistic formulations? The following examples are relevant here:

(A34) Desugita ocha wa nigakute shibul.
OVERINFUSE, past/GREEN TEA/theme/
BITTER, conjunctive/ASTRINGENT, non-past.
'Over-infused tea is bitter and astringent.'

(A20) Desugita ocha wa nigakute shibumi ga aru.
'Over-infused tea is bitter and has an astringency.'

Both (A34) and (A20) are acceptable responses to the (A)-type question Desugita ocha wa donna aji ga suru? 'What kind of a taste does over-infused tea have?'. and (A34) shows that, at least in certain cases, taste combinations can be predicated without using -MI GA ARU terms. As for the difference between the two, the informant stated her impression that in (A20) the main taste is bitter (NIGAI), whereas in (A34) both bitter (NIGAI) and astringent (SHIBUI) tastes are presented on an equal footing; this suggests that -MI GA ARU terms predicate a taste quality as a subordinate component of a complex taste. In this light, the two types of combination in (A34) and (A20) are somewhat reminiscent of the distinction noted earlier between multi-colour combinations and colour blends: derived terms like BLUISH, used in 2-term expressions denoting colour blends, are, it was suggested, implicitly or explicitly
combinatorial in much the same way as -MI GA ARU terms, and denote a subsidiary tinge present within the main colour concerned. The comparison can be pursued further: just as an object can be YELLOW- AND-BROWN or YELLOWISH-BROWN, (A34) and (A20) show that an item can be described as nigakute shibui 'bitter and astringent' or nigakute shibumi ga aru 'bitter with an astringency'; now it is possible in English to speak of a YELLOWISH BROWN, using the 'blend' term as a modifier, but not of a YELLOW BROWN, and similarly in Japanese we can have SHIBUMI GA ARU NIGASA 'a bitterness which has an astringency' but not SHIBUI NIGASA 'an astringent bitterness'. In terms of this parallelism, we might say that -MI GA ARU terms predicate taste qualities as 'tinges' existing in implicitly or explicitly present main tastes. So much for -MI GA ARU terms as a group. Before considering further aspects of taste-term combinations, we discuss here the semantic relationships of individual -MI GA ARU terms. Of the five terms in the system, AMAMI GA ARU 'has a sweetness', NIGAMI GA ARU 'has a bitterness' and SHIBUMI GA ARU 'has an astringency' can be expected, assuming a straightforward morphological-semantic correlation, to function semantically as the 'tinge' terms corresponding to

9 It is worth noting here that lexical items denoting colour blends in Japanese are typically related to basic colour adjectives in terms of the following morphological process:

Adj. stem \(\rightarrow\) -i \(\rightarrow\) Adj. stem \(\rightarrow\) -mi \(\rightarrow\) -gakatta

(e.g. shiroi 'white' \(\rightarrow\) shirumigakatta 'tinged with white, whitish'). Here -mi is basically a nominalizing suffix which, in the written language, is represented by the same character as -mi in -MI GA ARU taste terms. The suggested colour-taste parallel is thus echoed formally in Japanese.
AMAI 'sweet', NIGAI 'bitter' and SHIBUI 'astringent', respectively. The following schema illustrates the response pattern which occurs:

(B47) \( \text{X wa amai/nigai/shibui?} \)  \( \text{Soo-ne, chotto amami/nigami/shibumi ga aru.} \) \( '\text{Is X sweet/bitter/astringent?}' \) \( '\text{Well, it has a slight sweet-ness/bitterness/astringency.'} \)

where the typical response in this direction may be called a qualified assertion, and simple negation is impossible. (Appropriate expressions in slot X are NINJIN 'carrots' for AMAI, SAKKARIN 'saccharine' for NIGAI, and BUDDO NO KAWA 'grape skins' for SHIBUI.)

The semantic status of SAMMI GA ARU 'has a sourness' and SUIMI GA ARU 'has a sourness' is less obvious from formal inspection: morphologically, we have seen that sammi can be analyzed as san 'acid' (noun) + -mi, and suimi as su(l) 'sour' (archaic) + -mi, in the light of which a semantic connection with SUPPAI 'sour' appears feasible. In the case of SAMMI GA ARU 'has a sourness', the pattern with SUPPAI is indeed identical with that seen in (B47):

(B48) \( \text{Moka wa suppal?} \)  \( \text{Soo-ne, chotto sammi ga aru.} \) \( '\text{Is mocha sour?}' \) \( '\text{Well, it has a slight sourness.'} \)

With SUIMI GA ARU 'has a sourness' and SUPPAI, however, the pattern is quite different:

(B49) \( \text{Momo wa suppal?} \)  \( \text{Suppaku-nal kedo suimi wa aru.} \) \( '\text{Are peaches sour?}' \) \( '\text{No, they're not, but they do have a sourness.'} \)

Here, SUPPAI is negated but followed by kedo 'but' and an assertion containing contrastive wa. Assuming that the difference in response pattern has semantic relevance, the semantic status of SUIMI GA ARU vis-a-vis SUPPAI must differ from that of SAMMI GA ARU.

Two points are central to the semantic analysis of SUIMI GA ARU. The first is that SUIMI indeed denotes a type of sourness, (as
Indicated by the informant's 'metalinguistic' statement Suimi wa suppasa no Isshu 'SUIMI is a type of sourness'). Secondly, as the discussion of the combinatorial possibilities of AJI I terms in the next section will show, SUIMI GA ARU is exceptional in that, while, like other -MI GA ARU terms, it predicates a taste quality as a subordinate component of a complex taste, it carries a definite implication as to the main taste quality involved: this must be AMAI 'sweet'. That is to say, if a substance can be described as having a sourness (SUIMI GA ARU), then it implicitly follows that that substance is sweet and has a sourness (i.e. AMAKUTE SUIMI GA ARU). Thus, although 'sourness' has been adopted as a gloss for SUIMI up to this point, 'sourness within a sweet taste' is a more precise label, and we shall adopt it from this point on. These points provide a feasible explanation of the form of the response in (B49). In that response, SUIMI GA ARU 'has a sourness' is predicted, and hence, by implication so is AMAI 'sweet'; now AMAI 'sweet' and SUPPAI 'sour' stand, as we have seen, in bilateral simple negation, which accounts for the simple negative suppaku-nai in (B49). At the same time, however, SUIMI denotes a type of sourness, so that the parameter is not entirely irrelevant, and this is reflected in the overall construction with kedo 'but' and contrastive wa.

If SUIMI GA ARU, then, denotes sourness within a sweet taste, SAAMI GA ARU, by contrast denotes sourness within a non-sweet taste, since the combination AMAKUTE SAAMI GA ARU does not occur (see below). The response patterns for the two terms are illustrated by the following:
(B50) Momo wa sammi ga aru? Unun, sammi ja-nai. Suimi ga aru.
NO/SOURNESS/copula, neg., non-past/
SOURNESS/subject/BE PRESENT, non-
past.

'Do peaches have a sour-
ness (within a non-sweet
taste)??'

'No, it isn't sourness (within a non-
sweet taste). They have a sourness
(within a sweet taste).'

(B51) Koogyoku wa suimi ga aru? Suimi wa nai. Sammi ga aru.
SOURNESS/contrast/BE PRESENT, neg.,
non-past/SOURNESS/subject/BE
PRESENT, non-past.

'Do Jonathans have a sourness (within a sweet

taste)??'

'They don't have a sourness
(within a sweet taste). They have
a sourness (within a non-sweet
taste).'

where (B50) has the copula, and (B51) contrastive wa, and both can
be seen as serving to correct the choice of expression rather than to
deny the relevance of the suggested parameter outright. These
patterns contrast with the simple negation found with denotationally
unrelated terms, as in:

(B52) Sakkarin wa sammi ga aru? Unun, sammi ga nai. Nigami ga
aru.

'Does saccharine have a sourness (within a non-
sweet taste)??'

'No, it doesn't. It has a bitterness.'

A further point concerns the semantic status of SUIMI GA ARU
'has a sourness (within a sweet taste)' vis-a-vis AMAZUPPAL 'sweet-
sour', raised in note 7. The data thus far contains the following
examples:

(A3) Momo wa donna aji ga suru? Amazuppai.

'What kind of a taste do
peaches have?'

'A They're sweet-sour.'

(A4) Mikan wa donna aji ga suru? Amazuppai.

'What kind of a taste do
tangerines have?'

'A They're sweet-sour.'
What kind of a taste do peaches have? ‘They’re sweet and have a sourness (within a sweet taste).’

What kind of a taste do tangerines have? ‘They’re sweet and have a sourness (within a sweet taste).’

However, (A4’) does not occur:

What kind of a taste do tangerines have? ‘They’re sweet and have a sourness (within a sweet taste).’

These examples show that, in reply to question-frame (A), certain substances can have predicated of them both AMAZUPPAI and AMAKUTE SUIMI GA ARU, while others can be characterized as AMAZUPPAI but not as AMAKUTE SUIMI GA ARU. Analogous contrasts also appear in responses to (B)-type questions:

Are peaches sweet? ‘Yes, they are, but they also have a sourness (within a sweet taste).’

Are tangerines sweet? ‘They’re not sweet but they’re sweet-sour.’

Are peaches sweet? ‘Yes, they are, but they also have a sourness (within a sweet taste).’

Are tangerines sweet? ‘They’re not sweet, but they’re sweet-sour.’

Are peaches sour? ‘No, they’re not. They’re sweet-sour.’

Are peaches sour? ‘No, they’re not. They’re sweet.’

Are peaches sour? ‘They’re not sour, but they do have a sourness (within a sweet taste).’
Mikan wa suppai?
'Are tangerines sour?'
Suppaku-nai. Amazuppai.
'No, they're not. They're sweet-sour.'

(Mikan wa suppai?)
'Are tangerines sour?'
'No, they're not. They're sweet.'

(Mikan wa suppai?)
'Are tangerines sour?'
'No, they're not. They're sweet-sour.'

where the trend of the responses again indicates that some, but not all, substances that can be said to be AMAZUPPAI 'sweet-sour' can also be said to be AMAKUTE SUIMI GA ARU 'sweet with a sourness'.

Thus peaches (MOMO) can be described in both ways throughout (although in reply to Amal? 'Are they sweet?', the response preserving Amal seems to be preferred), while tangerines (MIKAN) (and a cooked item like sweet-and-sour pork (SUBUTA)) can only be said to be AMAZUPPAI. In fact, whenever (AMAKUTE) SUIMI GA ARU 'sweet with a sourness' can be predicated of a substance, so can AMAZUPPAI 'sweet-sour': suimi ga aru kedo amazuppaku-nai 'has a sourness (within a sweet taste) but is not sweet-sour' is rejected as strongly by the Informant as suimi ga aru kedo amaku-nal 'has a sourness (within a sweet taste) but is not sweet'. This is to say, that the following implications hold in this area:

X wa suimi ga aru 'X has a sourness (within a sweet taste)' ⊨
X wa amakute suimi ga aru 'X is sweet and has a sourness (within a sweet taste)' ⊨ X wa amazuppal 'X is sweet-sour'.

To sum up the discussion of -MI GA ARU terms, it appears that, as a group, they predicate a taste quality implicitly or explicitly as a subordinate component, or 'tinge', of a complex taste. Individually, AMAMI GA ARU 'has a sweetness', NIGAMI GA ARU 'has a
bitterness' and SHIBUMI GA ARU 'has an astringency' relate in a straightforward manner to the terms AMAI 'sweet', NIGAI 'bitter' and SHIBUI 'astringent', respectively, while SAMMI GA ARU 'has a sourness (within a non-sweet taste)' and SUIMI GA ARU 'has a sourness (within a sweet taste)' relate in different ways to SUPPAI 'sour'. SUIMI GA ARU carries an implication as to the main taste involved (viz. AMAI 'sweet'), AMAI being in turn excluded as the main taste with SAMMI GA ARU. Furthermore, the whole combination AMAKUTE SUIMI GA ARU 'sweet with a sourness' stands in a hyponymy-like relationship to AMAZUPPAI 'sweet-sour'. -MI GA ARU terms may be incorporated into the earlier diagram of AJI I terms as follows:

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AMAZUPPAI</td>
<td>SUPPAI</td>
<td>SHOPPAI</td>
<td>SHIBUI</td>
</tr>
<tr>
<td>'sweet-sour'</td>
<td>'sour'</td>
<td>'salty'</td>
<td>'astringent'</td>
</tr>
<tr>
<td>AMAI</td>
<td>KARAI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'sweet'</td>
<td>'pungent'</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMAKARAI</td>
<td>SHIOKARAI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>'sweet-pungent'</td>
<td>'salt'</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>AMAMI GA ARU</td>
<td>SUIMI GA ARU</td>
<td>SAMMI GA ARU</td>
<td>NIGAMI GA ARU</td>
</tr>
<tr>
<td></td>
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<td></td>
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</tr>
<tr>
<td>'has a sourness'</td>
<td>'has a sourness' (within a sweet taste)</td>
<td>'has a sourness' (within a non-sweet taste)</td>
<td>'has a bitterness'</td>
</tr>
</tbody>
</table>

Interestingly, KARAI 'pungent' and its associated terms are thus shown to have no associated -MI GA ARU terms.
7.4.2.4 Combinations of AJI I terms

We now return to the general question of the mechanics of combining AJI I terms: How are AJI I terms combined? Are there any restrictions, on the combination of particular items, and on the number and order of terms?

In fact two grammatical patterns of combination are found. They have already appeared in the data, and may be summarized as:

(I) X-te Y ('is X and Y')  e.g. (A17)

(II) X kedo Y ('is X but is Y')  e.g. (A18)

In (I), the first term (X) is inflected in the conjunctive -te ('and') form and the second term (Y) follows in the non-past form. In (II), the item kedo 'but' appears between the two terms, which are both in the non-past form. We shall refer to these patterns as AND-combination (I) and BUT-combination (II), respectively.

Restrictions on particular combinations and on order can be investigated by testing permutations of AJI I terms for acceptability in the two frames. At the outset it may be stated that, as far as the number of terms occurring in combination is concerned, no combinations of more than two terms have been attested in either pattern.

Throughout the testing, the controlling question-frame is assumed to be (A), i.e. X wa donna ajl ga suru? 'What kind of a taste does X have?'. The testing was conducted in two stages: first, combinations of AJI I terms other than -MI GA ARU terms were considered.

A two-way matrix was drawn up and all possible two-term combinations, in both orders, were presented to the informant and judged for acceptability as responses to question-frame (A). The matrix, with the results of testing, is set out below.
(The matrix is to be read as follows: Each cell represents the combination of the two AJI I terms at whose intersection it occurs, with the terms at the left occurring first in the combination and the terms at the top second. The hatched cells occur at the intersection of each term with itself and such combinations are naturally ruled out. A cross in a cell indicates that the combination does not occur. Where combinations are accepted by the informant, they are written in the cells, with terms abbreviated to initial letters (in the case of PIRITTO, piritto karai being abbreviated as pk, piritto shite-iru as p s).)
It must be stressed that borderline cases of acceptability occur in tests of this kind: in particular, a few of the possible combinations are unlikely ever to occur in the real world and were no doubt rejected by the informant for this, non-linguistic, reason. However, the main trends are clear and can be summarized as follows:

1. Combinations of non-MI GA ARU terms are all AND-combinations, i.e. the first term always appears in the conjunctive -te form.

2. The order of terms is irrelevant, with one exception: HORONIGAI 'pleasantly bitter' can in some cases occur in second position but not initially.

3. AMAI 'sweet' and the two terms which do not enter into bilateral simple negation with it, AMAZUPPAI 'sweet-sour' and AMAKARAI 'sweet-pungent', do not combine among themselves. Moreover, as a group, these three terms are highly restricted in combinatory power; in particular, AMAI and AMAZUPPAI each combines with only one term, HORONIGAI 'pleasantly bitter', which is moreover typically modified by CHOTTO 'somewhat' in such cases.

4. NIGAI 'bitter' and HORONIGAI 'pleasantly bitter', which do not enter into bilateral simple negation, do not combine with each other.

5. In the group of terms consisting of KARAI 'pungent', its putative hyponyms SHIOKARAI 'salt' and PIRITTO 'sharp', and SHOPPAI 'salty' (which stands in a scalar relationship with SHIOKARAI), the matrix shows, as expected, that PIRITTO does not combine with KARAI and that SHOPPAI does not combine with SHIOKARAI. (In combination, PIRITTO appears freely as piritto karai or piritto shite-iru, except where it precedes AMAKARAI where
pirilto karakute amakaral is excluded; since this form is accepted in the opposite order (i.e. amakarute pirlitto karal), we interpret this exception as being due to euphonic factors, two forms of KARAI in immediate succession being felt as ill-sounding, and of no other significance.) A major deviation from the proposed analysis so far, however, is that the combination of KARAI 'pungent' and SHIOKARAI 'salt' is permitted; since, by definition, a superordinate term and a hyponym cannot combine in this fashion, the status of these two terms must now be re-considered. First, for convenience let us repeat the relevant examples for KARAI 'pungent' and SHIOKARAI 'salt':

(B24) Shooyu wa shiokaral? Unun, shiokaraku-nai. Shooyu wa karal dake.
'Is soy sauce salt?' 'No, it isn't. Soy sauce is just pungent.'

(B25) Umi no mizu wa karal? Un, karal. Shiokaral.
'Is sea-water pungent?' 'Yes, it is. It's salt.'

As noted earlier, these examples clearly suggest a relationship of hyponymy between KARAI, as superordinate, and SHIOKARAI; the evidence from combinatorial possibilities, however, shows that such an analysis cannot be correct as it stands. A hypothesis that would account for both aspects of the data is that KARAI in fact functions at two levels of generality, subsuming SHIOKARAI in one case but not in the other: i.e. analytically, there is not one sense of KARAI but two senses, KARAI₁ and KARAI₂, in a structure that can be represented as follows:
with SHIOKARAI a hyponym of KARAI₁ but at the same contrast level with KARAI₂. Let us consider whether such a re-structuring can be supported.

Firstly, from the point of view of extralingual relationships, it is noticeable that the denotation of KARAI covers a relatively wide range of taste qualities. As we have seen, focal exemplars include hot substances such as mustard (KARASHI), curry powder (KAREEKO), pepper (KOSHOO), horse-radish (WASABI) and ginger (SHOOGA), and also substances such as soy sauce (SHOOYU) and salt (SHIO). It is not difficult to imagine, at least theoretically, a substance which combines different taste qualities from within this range: when asked to what type of substance the combination KARAKUTE SHIOKARAI 'pungent and salt' would be likely to apply, the informant replied that a salty type of curry would be an example. Since KARAKUTE SHIOKARAI must involve KARAI₂, KARAI₁ being superordinate to SHIOKARAI, this points to curry (KAREE), a hot substance, as being a central example for KARAI₂. Clearly, then, extralingual considerations appear to indicate that there is room for an intralingual re-structuring on the lines proposed.

The wide denotational range of KARAI is also reflected in the fact that, after a response in which it occurs, such as in the following example:

(A35) Hagis su wa don na ajl ga suru? Karai.
'What kind of a taste does haggis have?' 'It's pungent.'

It is worth noting that definitions of the taste term KARAI in Japanese dictionaries are typically organized in terms of two sub-entries, one covering the taste of hot substances such as mustard, the other covering a salt taste. For example, Tokieda(ed.) defines KARAI as (1) Shīta o sasu yoo na kanji ga suru ('Producing a sensation of pricking of the tongue') and (2) Shiokoe no ool ajl no kelyoo. Shiokarai. Shoppal. ('Describing a taste containing much salt. Salt. Salty.') (1956: 148)
one can go on to ask the natural question:

Donna karasa?

'What kind of pungency?'

and appropriate responses include Shiokarai 'It's salt', Kareeko no karasa 'The pungency of curry powder', Shooyu no karasa 'The pungency of soy sauce', Piritto shite-iru 'It's sharp', etc. KARAI appears to be the only AJI I term for which it is natural to ask for further specification in this way, i.e. only KARAI is recognized as subsuming types in this fashion.

To return to intralingual analysis, we in fact find that different food-substances do give rise to different response patterns for SHIOKARAI and KARAI:

(B24) Shooyu wa shikokarai? Unun, shikokaraku-nai. Shooyu wa karai dake.

'Is soy sauce salt?' 'No, it isn't. Soy sauce is just pungent.'

(B55) Karee wa shikokarai?

'Is curry salt?' 'No, curry is pungent.'

(B56) Shooga wa shikokarai?

'Is ginger salt?' 'No, it isn't. Ginger is pungent.'

(B57) Karashi wa shikokarai?

'Is mustard salt?' 'No, mustard is pungent.'

In response to the question X wa shikokarai? 'Is X salt?', (B24), with SHOOYU 'soy sauce' contains DAKE 'only, just' In the reply, while (B55) - (B57), with KAREE 'curry', SHOOGA 'ginger' and KARASHI 'mustard', do not. These patterns are consistent, and attempts to interchange them are rejected by the informant. The results indicate that we are dealing with two different senses of KARAI: (B24), with DAKE 'only, just', contains KARAI, the superordinate of SHIOKARAI
'salt', while (B55) - (B57), without Dake, contain KARAI_2. Moreover, the extralingual distinction referred to above seems clear in these examples: curry, ginger and mustard, to which, we are assuming, KARAI_2 is applied, are all hot tastes; the denotation of KARAI_1 additionally ranges over the taste of substances such as soy sauce and (by virtue of its status as superordinate to SHIOKARAI) of highly salty items.

We conclude, then, that the re-structuring proposed above is essentially correct, with KARAI having both a wider and a narrower sense (and corresponding denotational range). From this point on we maintain the gloss 'pungent' for the more general KARAI_1; for KARAI_2, 'hot' seems an appropriate equivalent.

This new analysis necessitates a re-examination of the status of PIRITTO 'sharp'. To repeat the examples considered thus far:

(B39) Shooyu wa piritto shite-iru? Unun, piritto shite-inai. Shooyu wa karai dake.

'Is soy sauce sharp?' 'No, it isn't. Soy sauce is just pungent.'

and

(B33) Karashina wa karai? Un, chotto piritto shite-iru ne.

'Is mustard-plant pungent?' 'Yes, it's somewhat sharp.'

were interpreted as indicating a relationship of hyponymy between KARAI (as superordinate) and PIRITTO 'sharp'. Given the analysis in terms of KARAI_1 'pungent' and KARAI_2 'hot', however, the question now arises of how PIRITTO relates to each of these terms. It seems reasonable to interpret (B39) as containing KARAI_1 'pungent', on the basis of the item SHOOYU 'soy sauce', and to conclude that PIRITTO is a hyponym of that term, on the strength of the occurrence of Dake 'just'. It remains, therefore, to test its relationship to KARAI_2.
'hot'. If we construct questions containing hot food-substances, as follows:

(B58)  Karae wa piritto shite-iru?  Piritto shite-iru dokoroka karai.
   'Is curry sharp?'  'Far from being just sharp, it's hot.'

(B59)  Karashi wa piritto shite-iru?  Soo-ne, chotto taberu to ne. Amari taberu to karai.
   'Is mustard sharp?'  'Well, it is if you just eat a little. If you eat a lot, it's hot.'

we find different response patterns. Replies with DAKE 'only, just' to (B58) and (B59) are rejected by the informant, and the difference appears to confirm that we are here dealing with KARAI_2. The construction with DOKOROKA in (B58) has already been seen with SHOPPAI 'salty' and SHIOKARAI 'salt' (cf. (B26)); it appears to indicate a scalar relationship between PIRITTO and KARAI_2, which is indeed supported by the response to (B59).

The semantic structure arrived at for KARAI_1 and its associated terms can now be represented as follows:

```
    KARAI_1
     |   'pungent'
     
     KARAI_2
     | 'hot'
     |
     PIRITTO
     | 'sharp'
     
     SHIOKARAI
     | 'salt'
```

KARAI_1 'pungent' is the superordinate term of which KARAI_2 'hot', PIRITTO 'sharp' and SHIOKARAI 'salt' are hyponyms. At the same time PIRITTO and KARAI_2 are related as lesser and extreme terms on the scale of hotness. It is important to note that the denotation of the hyponyms do not exhaust the denotational range of KARAI_1; certain
substances, notably soy sauce (SHOOYU), but also bean paste (MISO), are described as KARAI without falling within the range of either PIRITTO, KARAI or SHIOKARAI, the type of pungency involved in such cases being capable of specification, where necessary, by syntagmatic means (SHOOYU NO KARASA 'the pungency of soy sauce', etc.). This situation is in fact analogous to that found with English colour terms: hyponyms of RED such as SCARLET and CRIMSON do not exhaust its range and certain shades remain to be characterized by expressions such as JUST RED, LIGHT RED, etc.

The combinatorial matrix above must be enlarged at this point to include both senses of KARAI. The entries already present against KARAI will be interpreted, in the light of the discussion above, as holding for KARAI (with which SHIOKARAI combines), and KARAI will be added as an extra term, with identical entries to KARAI except that it does not combine with its hyponym SHIOKARAI. Needless to say, KARAI and KARAI do not combine. The relevant sections of the matrix will thus be as follows:

<table>
<thead>
<tr>
<th>KARAI</th>
<th>KARAI</th>
<th>SHIOKARAI</th>
<th>PIRITTO</th>
</tr>
</thead>
<tbody>
<tr>
<td>'pungent'</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>'hot'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>'salt'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>'sharp'</td>
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<td></td>
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</tbody>
</table>

As a whole, the matrix shows up interesting differences in incompatibility, applied in the restricted sense to terms that cannot simultaneously be predicated of the same subject (cf. 7.4.2.1). Thus, in this sense, SUPPAI 'sour' and AMAI 'sweet', and NIGAI 'bitter' and HORONIGAI 'pleasantly bitter' are incompatible in a way that SUPPAI and KARAI 'pungent', and NIGAI and SHIBUI 'astringent' are not.
Before examining these differences in greater detail, we consider combinations involving -MI GA ARU terms.

The combinatorial possibilities can again be summarized in matrix form, as set out on the following page.
<table>
<thead>
<tr>
<th>SUPPAI</th>
<th>AMAZUPPAI</th>
<th>AMAI</th>
<th>ANAKARAI</th>
<th>KARAI</th>
<th>KARAI</th>
<th>SHIOKARAI</th>
<th>PITITTO</th>
<th>SHOPPAI</th>
<th>NIGAI</th>
<th>HORONIGAI</th>
<th>SHIBUI</th>
</tr>
</thead>
<tbody>
<tr>
<td>'sour'</td>
<td>'sour-sour'</td>
<td>'sweet'</td>
<td>'sweet-pungent'</td>
<td>'hot'</td>
<td>'salt'</td>
<td>'sharp'</td>
<td>'salty'</td>
<td>'bitter'</td>
<td>'bitter'</td>
<td>'pleasantly bitter'</td>
<td>'astringent'</td>
</tr>
<tr>
<td>SAMMI GA ARU</td>
<td>'has a sourness (within a non-sweet taste)'</td>
<td>X</td>
<td>X</td>
<td>a-te</td>
<td>k-te</td>
<td>k-te</td>
<td>s-te</td>
<td>p s/k-te</td>
<td>s-te</td>
<td>n-te</td>
<td>h-te</td>
</tr>
<tr>
<td>SUIMI GA ARU</td>
<td>'has a sourness (within a sweet taste)'</td>
<td>X</td>
<td>a-te</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>AMAMI GA ARU</td>
<td>'has a sweetness!'</td>
<td>s kedo</td>
<td>a ga aru</td>
<td>X</td>
<td>X</td>
<td>k kedo</td>
<td>k kedo</td>
<td>s kedo</td>
<td>p s/k kedo</td>
<td>s kedo</td>
<td>n kedo</td>
</tr>
<tr>
<td>NIGAMI GA ARU</td>
<td>'has a bitterness!'</td>
<td>n ga aru</td>
<td>n ga aru</td>
<td>a kedo</td>
<td>a kedo</td>
<td>k-te</td>
<td>k-te</td>
<td>s-te</td>
<td>p s/k-te</td>
<td>s-te</td>
<td>s-te</td>
</tr>
<tr>
<td>SHIBUMI GA ARU</td>
<td>'has an astringency!'</td>
<td>s-te</td>
<td>a kedo</td>
<td>a kedo</td>
<td>a kedo</td>
<td>k-te</td>
<td>k-te</td>
<td>s-te</td>
<td>p s/k-te</td>
<td>s-te</td>
<td>n-te</td>
</tr>
</tbody>
</table>

(The conventions are similar to those in the earlier matrix: Each cell represents the combination of the ordinary term and the -MI GA ARU term at whose intersection it occurs. -MI GA ARU terms do not combine among themselves, and thus are only listed once. In all cases -MI GA ARU terms occur second in the combination. The hatched cells occur at the intersection of an ordinary term and its associated -MI GA ARU term, and such combinations naturally do not occur.)
The main patterns illustrated in the matrix can be summarized as follows:

(1) Both AND- and BUT-combinations occur; i.e. the first term appears in some cases in the conjunctive -te form, in other cases followed by kedo 'but'.

(2) The natural order is ordinary term + -MI GA ARU term.

(3) SAMMI GA ARU 'has a sourness (within a non-sweet taste)' and SUIMI GA ARU 'has a sourness (within a sweet taste)' are virtually complementary in their combinatory power: apart from AMAZUPPAI 'sweet-sour', with which neither term combines, SAMMI GA ARU combines with all terms except AMAI 'sweet', while SUIMI GA ARU combines only with AMAI.

(4) NIGAM GA ARU 'has a bitterness' and SHIBUMI GA ARU 'has an astringency' are unrestricted in combinatory power except that NIGAM GA ARU and HORONIGAI 'pleasantly bitter' do not combine.

(5) AMAI 'sweet' and the two terms which do not enter into bilateral simple negation with it, AMAZUPPAI 'sweet-sour' and AMAKARAI 'sweet-pungent', feature in BUT-combination with NIGAM GA ARU 'has a bitterness' and SHIBUMI GA ARU 'has an astringency'.

(6) AMAMI GA ARU 'has a sweetness' does not combine with AMAZUPPAI or AMAKARAI. With the exception of HORONIGAI 'pleasantly bitter', all combinations into which it enters are BUT-combinations.

This matrix, again, brings to light interesting differences: not only are some combinations not permitted, but within those that are permitted some terms are opposed (i.e. appear in BUT-combination) in a way that others are not.

If we continue to define incompatible terms as terms which cannot simultaneously be predicated of the same subject, then, on
the basis of the two matrices, we can set up the following initial groups of incompatible terms:

Group S ..... SUPPAI 'sour'/SAMMI GA ARU 'have a sourness (within a non-sweet taste)'/SUIMI GA ARU 'have a sourness (within a sweet taste)'

Group A ..... AMAI 'sweet'/AMAZUPPAI 'sweet-sour'/AMAKARAI 'sweet-pungent'/AMAMI GA ARU 'have a sweetness'

Group N ..... NIGAI 'bitter'/HORONIGAI 'pleasantly bitter'/NIGAMI GA ARU 'have a bitterness'

Group SH .... SHIBUI 'astringent'/SHIBUMI GA ARU 'have an astringency'

In these groups, each term is incompatible in the sense defined with all other terms in the same group. We may set up a further group, Group K, containing several incompatible pairs:

Group K ..... KARAI₁ 'pungent'/KARAI₂ 'hot'

  KARAI₁ 'pungent'/SHIOKARAI 'salt'
  KARAI₁ 'pungent'/PIRITTO 'sharp'
  KARAI₂ 'hot'/PIRITTO 'sharp'
  SHIOKARAI 'salt'/SHOPPAI 'salty'

In the majority of the above cases, the relationship of incompatibility is a natural consequence of other paradigmatic relationships that have been shown to obtain. Thus, ordinary terms and their associated -MI GA ARU terms are naturally incompatible since the latter denote essentially the same taste quality but as a subordinate element in a complex taste: since a taste quality cannot be simultaneously subordinate and non-subordinate, this accounts for the incompatibility of SUPPAI with SAMMI GA ARU and SUIMI GA ARU, of AMAI with AMAMI GA ARU, of NIGAI with NIGAMI GA ARU, and of SHIBUI
with SHIBUMI GA ARU. In group K, the various incompatible pairs have been shown to be related in terms of hyponymy and scalarity, and such terms are naturally incompatible as a result.

As yet unaccounted for is the incompatibility of the following terms: AMAI/AMAZUPPAI/AMAKARAI, NIGAI/HORONIGAI, AMAZUPPAI/AMAMI GA ARU, AMAKARAI/AMAMI GA ARU, HORONIGAI/NIGAMI GA ARU. As far as the ordinary, non-MI GA ARU terms, are concerned, we have seen that the pairs AMAI/AMAZUPPAI, AMAI/AMAKARAI and NIGAI/HORONIGAI are alike in that they do not enter into bilateral simple negation, but have qualified negation in one direction (in denials of AMAI and NIGAI, respectively) and simple negation in the other (cf. (B16-17), (B20-21), (B22-23)). These response patterns were noted as being of probable semantic relevance, but no further semantic specification has as yet been given. The fact is, however, that no alternative response patterns suggestive of semantic relationships such as hyponymy or scalarity, for example, are forthcoming for these terms: it appears that they are incompatible pairs, pure and simple. This being the case, it has in fact turned out that the distinction between bilateral simple negation, on the one hand, and qualified + simple negation, on the other, does not translate into any precise difference of sense relationships: for AMAI 'sweet' and KARAIi 'pungent' are incompatible terms, as we shall discuss further below, as are NIGAI 'bitter' and HORONIGAI 'pleasantly bitter', but the former pair stand in bilateral simple negation while the latter pair have qualified negation in one direction. That the distinction is not criterial for a difference in sense relationships is not, of course, to deny it any possible semantic relevance: it is intuitively clear that the pairs NIGAI/ HORONIGAI, AMAI/AMAZUPPAI and AMAI/AMAKARAI are, denotationally,
closer in meaning than a pair such as AMAI and KARA|, and the presence of qualified negation can reasonably be seen as reflecting this fact. As far as sense relationships are concerned, however, the terms are to be analyzed as incompatible pairs. The remaining incompatibilities, between the three terms AMAZUPPAI 'sweet-sour', AMAKARAI 'sweet-pungent' and AMAMI GA ARU 'have a sweetness', are readily explained in view of the shared denotational parameter of sweetness.

Within the groups given, then, incompatibility is found either as a natural consequence of other sense relationships, or on the basis of some denotational similarity. Superimposed on this type of incompatibility within natural groupings, however, we find cases of incompatibility between groups. Since combination across groups might be expected to be free, such restrictions clearly reflect a significant aspect of the lexical structure of AII I.

The general nature of the inter-group restrictions can be clearly seen in the following diagram. The letters stand for groups of terms, as above; unbroken lines between groups represent free combination, broken lines restricted combination.

\[
\begin{align*}
S & \quad \text{SH} \quad A \\
N & \quad K
\end{align*}
\]

(That -MI GA ARU terms do not combine among themselves is taken for granted in the diagram as a general restriction. SAMMI GA ARU and

11 There is still a problem here in that it is not intuitively clear that the denotation of AMAZUPPAI 'sweet-sour' is 'closer' to that of AMAI 'sweet' than to that of SUPPAI 'sour', although only AMAI/AMAZUPPAI show qualified + simple negation. The same applies to AMAKARAI 'sweet-pungent' vis-a-vis AMAI and KARA| 'pungent'.

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SUIMI GA ARU 'have a sourness (within a non-sweet/sweet taste)' are conflated as complementary variants.

The diagram clearly shows that combination between groups is everywhere free except where group A is involved: for group A, there are restrictions with all other groups. Group A terms thus stand out within AJI I as having unique properties of incompatibility vis-a-vis the terms of other groups.

The incompatibilities concerned can be stated by groups as follows:

\[ A \times S: \]
\[ \text{AMAI 'sweet'} + \text{SUPPAI 'sour'} \]
\[ \text{AMAZUPPAI 'sweet-sour'} + \text{SUPPAI 'sour'} \]
\[ \text{AMAZUPPAI 'sweet-sour'} + \text{SAMMI GA ARU} \sim \text{SUIMI GA ARU} \]
\[ 'have a sourness (within a non-sweet/sweet taste)' \]

\[ A \times K: \]
\[ \text{AMAI 'sweet'} + \text{KARAI}_1 'pungent', \text{KARAI}_2 'hot', \]
\[ \text{SHIOKARAI 'salt', PIRITTO 'sharp',} \]
\[ \text{SHOPPAI 'salty'} \]
\[ \text{AMAZUPPAI 'sweet-sour'} + \text{KARAI}_1 'pungent', \text{KARAI}_2 'hot', \]
\[ \text{SHIOKARAI 'salt', PIRITTO 'sharp',} \]
\[ \text{SHOPPAI 'salty'} \]
\[ \text{AMAKARAI 'sweet-pungent'} + \text{KARAI}_1 'pungent', \]
\[ \text{KARAI}_2 'hot', \text{SHIOKARAI 'salt',} \]
\[ \text{SHOPPAI 'salty'} \]

\[ A \times N: \]
\[ \text{AMAI 'sweet'} + \text{NIGAI 'bitter'} \]
\[ \text{AMAZUPPAI 'sweet-sour'} + \text{NIGAI 'bitter'} \]
\[ \text{AMAKARAI 'sweet-pungent'} + \text{NIGAI 'bitter'} \]

\[ A \times SH: \]
\[ \text{AMAI 'sweet'} + \text{SHIBUI 'astringent'} \]
\[ \text{AMAZUPPAI 'sweet-sour'} + \text{SHIBUI 'astringent'} \]
\[ \text{AMAKARAI 'sweet-pungent'} + \text{SHIBUI 'astringent'} \]
These restrictions may be summarized by repeating that, with few exceptions, AMAI, AMAZUPPAI and AMAKARAI do not combine with other non-MI GA ARU AJI I terms. The exceptions are HORONIGAI 'pleasantly bitter', with which all three terms combine, and the combinations of AMAKARAI with SUPPAI 'sour' and PIRITTO 'sharp'. AMAI and AMAZUPPAI are thus particularly restricted, and it is to be noted that HORONIGAI, their sole partner, is typically modified by CHOTTO 'somewhat' and stands second in such combinations, suggesting that even here AMAI and AMAZUPPAI prefer a partner which is subordinated in some way. The morphologically hybrid terms AMAZUPPAI and AMAKARAI may perhaps be seen as functioning to lexicalize complex taste qualities which cannot be described by combinatorial means as AMAI + SUPPAI and AMAI + KARAI, respectively.

Turning to combinations involving -MI GA ARU terms, combination across groups here is in general free, the only exception being that AMAZUPPAI 'sweet-sour' does not combine with SAMMI GA ARU—SUIMI GA ARU 'have a sourness (within a non-sweet/taste)'. This exception is easily explained on the basis of the shared denotational parameter of sourness and, in fact, it has already been shown that the combination AMAI + SUIMI GA ARU implies AMAZUPPAI. -MI GA ARU terms, however, involve the new distinction between AND-combination and

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12 In connection with the opposition of AMAI 'sweet' and its associated terms to other ordinary AJI I terms, it is interesting to note that, in English too, SWEET seems to stand opposed to other taste terms in that such pairs as SWEET/SOUR and SWEET/BITTER are felt as 'opposites' more than, say, SOUR/BITTER. In fact, in Japanese the major opposition in this sense is felt to be AMAI/KARAI: these two terms are typically listed as opposites in Japanese dictionaries of antonyms (e.g. Nakamura (ed.) lists AMAI and KARAI as opposites of each other, there being no analogous entries for AMAI and SUPPAI (1965: 28, 124), and, as noted below, they function as true antonyms in certain extended fields of meaning.

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BUT-combination, which must be regarded as reflecting the semantic characteristics of individual lexical items. The cases of BUT-combination are as follows:

- **AMAI** 'sweet' + NIGAMI GA ARU 'have a bitterness',
  - SHIBUMI GA ARU 'have an astringency'
- **AMAZUPPAI** 'sweet-sour' + NIGAMI GA ARU, SHIBUMI GA ARU
- **AMAKARAI** 'sweet-pungent' + NIGAMI GA ARU, SHIBUMI GA ARU
- AMAMI GA ARU 'have a sweetness' + SUPPAI 'sour', KARAI₁ 'pungent', KARAI₂ 'hot', PIRITTO 'sharp', SHIOKARAI 'salty', SHOPPAI 'salty', NIGAI 'bitter', SHIBUI 'astringent'

Thus, in all cases of BUT-combination, a member of group A is involved. However, not all combinations involving group A terms are BUT-combinations. The following are AND-combinations:

- **AMAI** 'sweet' + SUIMI GA ARU 'have a sourness'
- **AMAKARAI** 'sweet-pungent' + SAMMI GA ARU 'have a sourness'
- **AMAMI GA ARU** 'have a sweetness' + HORONIGAI 'pleasantly bitter'

Group A terms thus stand out again as being the only group which enters into two types of -MI GA ARU combinations: where no group A terms are involved, AND-combination holds throughout. In addition, **AMAI**, of course, possesses the unique characteristic of combining with **SUIMI GA ARU** rather than with **SAMMI GA ARU** 'have a sourness'.

Assuming that BUT-combination indicates a certain semantic repulsion between the terms concerned, we conclude that the majority of **AJI I** terms are semantically 'opposed' to group A terms in a way that a few (i.e. **SUIMI GA ARU, SAMMI GA ARU** and **HORONIGAI**) are not.

### 7.4.2.5 Affective value of **AJI I** terms

It is natural to enquire whether the distinction between AND- and BUT-combination can be found to correlate with any other semantic
property of AJI I terms. One that suggests itself is the affective
value intuitively associated with some taste terms: some tastes
(notably 'sweet') are commonly regarded as inherently pleasant, others
(such as 'bitter') as inherently unpleasant. Can a linguistic basis
for assigning such values be found, which may cast some light on the
above facts of combination?

One method of establishing a linguistic basis for an affective
dimension of meaning is in terms of combination with the lexical
items OISHII 'palatable' and MAZUI 'unpalatable'. Such combinations
may occur in answer to questions of the type X wa oishii? 'Is/are X
good?' (question-frame (C)), and different AJI I terms indeed show
different patterns. Some examples of typical question-and-answer
pairs are the following:

(C1) Momo wa oishii? PEACH/theme/PALATABLE, non-past?
Un, oishii -- amakute oishii.13
'Are peaches good?' 'Yes, they are -- they're nice and sweet.'

(C2) Chokoreeto no burakku wa oishii?
'Is plain chocolate good?'
Un, horonigakute oishii.'

(C3) Kobucha wa oishii?
'Is kobucha good?'
Un, chotto shoppal kedo oishii.
YES/SOMewhat/SALTY, non-past/BUT/PALATABLE, non-past.
'Yes, It's a bit salty but It's good.'

13 In these examples, the constructions with the conjunctive
(X-te Y) have causal meaning 'Is X and (thereby) is Y', in
contrast with the simple co-ordinative meaning seen in AND-
combinations of AJI I terms. Here, the order descriptive
taste term + evaluatory taste term is strictly fixed.
"Are pickled plums good?" 'Yes, they're sour but they're good.'

"Is Madras curry good?" 'Well, it's hot but, yes, it's good.'

"Is sea-water good?" 'No, it's pungent and (thereby) tastes bad.'

"Are shibugaki good?" 'No, they taste bad -- since they're astringent.'

The patterns of combination in such responses can be divided into three types, as follows:

(a) X-te oishii 'Is X and is thereby palatable (cf. (C1), (C2))

(b) X kedo oishii 'Is X but is palatable' (cf. (C3) - (C5))

(c) X-te mazui 'Is X and is thereby unpalatable' (cf. (C6))

Alternative constructions which occur, such as the causal construction with KARA 'since' in (C7), are readily assimilated under one of these three types, (c) in this case.

On this basis, AJI I terms can be classified into three groups: Occur in (a) alone: AMAI 'sweet', AMAZUPPAI 'sweet-sour', AMAKARAI 'sweet-pungent', PIRITTO 'sharp', HORONIGAI 'pleasantly bitter', AMAMI GA ARU 'have a sweetness', SAMMI GA ARU and SUIMI GA ARU 'have a sourness (within a non-sweet/sweet taste)'
Occur in (c) alone: SHIOKARAI 'salt', NIGAI 'bitter',

SHIBUI 'astringent'

Occur in (b) and (c): SUPPAI 'sour', KARAI, 'pungent',

KARAI, 'hot', SHOPPAI 'salty', NIGAMI

GA ARU 'have a bitterness', SHIBUNI GA

ARU 'have an astringency'.

For convenience, we may symbolize occurrence in these patterns as follows: terms which occur in (a) alone are characterized as +OISHII, terms which occur in (c) alone are characterized as -OISHII, and terms which occur in both (b) and (c) are characterized as (-)OISHII. These linguistic facts appear to fit in well with everyday affective reactions to taste qualities: AMAI 'sweet' and NIGAI 'bitter', for instance, which denote the two taste qualities most commonly cited in connection with the pleasant/unpleasant dimension, are clearly characterized as +OISHII and -OISHII, respectively.

Characterized as +OISHII, then, are all terms of group A, together with HORONIGAI, PIRITTO and SAMMI GA ARU ~ SUIMI GA ARU. Now, as we have seen, in combinations with group A terms involving -MI GA ARU terms, HORONIGAI and SAMMI GA ARU ~ SUIMI GA ARU are the only terms which enter into AND-combination. There is thus a close, though not perfect, correlation between the two linguistic characteristics: in -MI GA ARU combinations involving terms from group A, AND-combination is possible only if the other member of the combination shares the +OISHII characterization. This is a necessary, not

\[14\]

It is important to note that in these examples, as throughout this study, we are operating at a generic, or 'normal', level: i.e. in general, AMAI 'sweet' is a pleasant taste. Clearly, this does not prevent sweetness from being considered as an undesirable attribute in specific cases where taste-norms are infringed: thus, in a specific sentence such as Kono b11ru wa amakute mazul 'This beer is sweet and (thereby) tastes bad', AMAI in fact occurs in pattern (c).
a sufficient, condition for AND-combination since PIRITTO 'sharp',
despite being +OISHII, enters into BUT-combination. We may summarize
this finding by saying that, alone among AJI I terms, the terms of
group A exhibit two degrees of tolerance toward other terms in
-MI GA ARU combinations: terms from groups S and N, provided they
share the +OISHII characterization, are tolerated more readily than
other terms.

As for the OISHII marking of AJI I terms as a whole, group A is
unique in having the same characterization, +OISHII, for all its
terms. The other groups all contain mixed terms. Within group K,
it is interesting to note that in both relationships of scalarity, the
lesser term is less unpleasant than its extreme term; thus, PIRITTO
'sharp' is +OISHII while its extreme term KARAI₂ 'hot' is (-)OISHII,
and SHOPPAI 'salty' is (-)OISHII while SHIOKARAI 'salty' is -OISHII.
Group N contains all three characterizations: HORONIGAI 'pleasantly
bitter' is +OISHII, NIGAMI GA ARU 'have a bitterness' is (-)OISHII,
while NIGAI 'bitter' is -OISHII, and there are clear differences in
combinatory behaviour with group A terms. Apart from group A, where
all terms are +OISHII, -MI GA ARU terms are everywhere less unpleasant
than their associated ordinary terms.

7.4.2.6 Summary

The sense relationships established among the terms of AJI I may
be summarized as follows:

(a) Paradigmatic sense relationships:

Hyponymy: SHIOKARAI 'salt' ⇒ KARAI₁ 'pungent'

PIRITTO 'sharp' ⇒ KARAI₁ 'pungent'

(KARAI₂ 'hot' ⇒ KARAI₁ 'pungent')

KARAI₂ combines with SHIOKARAI and thus functions at a more speci-
fic level than KARAI₁. It is naturally impossible to provide an
Illustrative question-and-answer pair for polysemous items of this
type.
Scalarity: SHOPPAI 'salty' + SHIOKARAI 'salt'
PIRITTO 'sharp' + KARAI\(^2\) 'hot'

Incompatibility\(^16\):

AMAI 'sweet'/AMAZUPPAI 'sweet-sour'/
AMAKARAI 'sweet-pungent'

NIGAI 'bitter'/HORONIGAI 'pleasantly bitter'

AMAMI GA ARU 'have a sweetness'/
SAMMI GA ARU 'have a sourness (within a non-
sweet taste)'/SUIMI GA ARU 'have a sourness
(within a sweet taste)'/NIGAMI GA ARU 'have
a bitterness'/SHIBUMI GA ARU 'have an astrin-
gency' (i.e. -MI GA ARU terms constitute an
incompatible set.)

AMAI 'sweet'/AMAM\(^1\)I GA ARU
SUPPAI 'sour'/SAMMI GA ARU
SUPPAI 'sour'/SUIMI GA ARU
NIGAI 'bitter'/NIGAMI GA ARU
SHIBUI 'astringent'/SHIBUMI
GA ARU

AMAMI GA ARU 'have a sweetness'/AMAZUPPAI
'sweet-sour', AMAKARAI 'sweet-pungent'

SAMMI GA ARU 'have a sourness (within a non-
sweet taste)'/AMAZUPPAI 'sweet-sour'

NIGA\(^1\)I GA ARU 'have a bitterness'/
HORONIGAI 'pleasantly bitter'

SUIMI GA ARU 'have a sourness (within a sweet
taste)/all terms except AMAI 'sweet'

\(^{16}\) As noted earlier, Incompatibility is defined in terms of the
Impossibility of being predicated simultaneously of the same
subject.
In addition, the following terms are incompatible: 

AMAI 'sweet'/SUPPAI 'sour', KARAI₁ 'pungent', KARAI₂ 'hot', SHIOKARAI 'salt', PIRITTO 'sharp', SHOPPAI 'salty', NIGAI 'bitter', SHIBUI 'astringent', SAMMI GA ARU 'have a sourness (within a non-sweet taste)' 

AMAZUPPAI 'sweet-sour'/SUPPAI 'sour', KARAI₁ 'pungent', KARAI₂ 'hot', SHIOKARAI 'salt', PIRITTO 'sharp', SHOPPAI 'salty', NIGAI 'bitter', SHIBUI 'astringent' 

AMAKARAI 'sweet-pungent'/KARAI₁ 'pungent', KARAI₂ 'hot', SHIOKARAI 'salt', SHOPPAI 'salty', NIGAI 'bitter', SHIBUI 'astringent'

(b) Syntagmatic sense relationships:

Syntagmatic Implication: PIRITTO 'sharp' syntagmatically implies KARAI₁ 'pungent' in the construction PIRITTO + adjective.
The lexical structure of AJI I can be partially diagrammed as follows:

<table>
<thead>
<tr>
<th>AMAI GA ARU</th>
<th>AMAZUPPAI</th>
<th>SUPPAI</th>
<th>KARAI</th>
<th>SHOPPAI</th>
<th>NIGA GA ARU</th>
<th>HONIGA</th>
<th>SHIBUI</th>
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<tr>
<td></td>
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<td>KARAI</td>
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</table>

\[
\frac{x}{y} : y \text{ is a hyponym of } x \\
\text{and } x + y : x \text{ is a lesser degree of } y \\
x \times y : x \text{ and } y \text{ are incompatible}
\]

Superimposed on the above partial structure is a further set of incompatibilities centered on the three terms AMAI 'sweet', AMAZUPPAI 'sweet-sour' and AMAKARAI 'sweet-pungent'. This can be approximately represented in terms of an additional broken line, as follows:

In general, AMAI, AMAZUPPAI and AMAKARAI are incompatible with terms lying above the line. (There are leaks: AMAKARAI combines with SUPPAI and PIRITTO. Below the line AMAZUPPAI is incompatible with SUIMI GA ARU ~ SAMMI GA ARU.)

The overall lexical structure of AJI I thus takes the form essentially of a set of sets, rather than of a monolithic set typical of colour terms.
7.5 The lexical system AJI II

AJI II contains two terms, AKUPPOI 'harsh' and AKU GA ARU 'have a harshness'.

7.5.1 Extralingual relationships

Focal exemplars for both terms are burdock (GOBOO), aubergine (NASU) and taro (SATOIMO).

7.5.2 Intralingual relationships

The lexical structure of AJI II is simply stated: AKUPPOI 'harsh' and AKU GA ARU 'have a harshness' are synonyms, as defined by bilateral implication. Neither X wa akuppoi kedo aku ga nai 'X is harsh but doesn't have a harshness' nor X wa aku ga aru kedo akuppoku-nai 'X has a harshness but isn't harsh' is an acceptable sentence.

In terms of combination with OISHII 'palatable'/MAZUI 'unpalatable', both items are characterized as -OISHII. 17

7.6 The lexical system AJI III

AJI III contains five terms: KOOBASHII 'fragrant', DOROKUSA! 'muddy-flavoured', AOKUSA! 'grassy-flavoured', KUSAMI GA ARU 'strong-flavoured' and KAORI GA II 'aromatic'.

7.6.1 Extralingual relationships

AJI III terms are listed in the following chart together with lexical items denoting food-substances to which they are typically applied.

17 That the terms are in fact regarded as denoting an inherently unpleasant taste is reflected in the fact that the food-substances concerned are subjected to a process known as AKUDASHI 'removing harshness' (aku 'harshness' + dashi, from the verb DASU 'extract'), involving prolonged soaking, before being cooked.
<table>
<thead>
<tr>
<th>AJI III term</th>
<th>Focal exemplars</th>
<th>Taste norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOOBASHII 'fragrant'</td>
<td></td>
<td>HOOJICHA 'roasted tea' SEMBEI 'rice crackers'</td>
</tr>
<tr>
<td>DOROKUSA1 'muddy-flavoured'</td>
<td>KOI 'carp'</td>
<td></td>
</tr>
<tr>
<td>AOKUSA1 'greasy-flavoured'</td>
<td>(URETE-INAI) TOMATO '(unripe) tomatoes' AYU 'sweetfish'</td>
<td></td>
</tr>
<tr>
<td>KUSAMI GA ARU 'strong-flavoured'</td>
<td>MATON 'mutton' KUSAYA 'dried mackerel' KUJIRA 'whale-meat' SARAIKISOSEEJI 'salami' MUGI GOHAN 'boiled rice mixed with barley'</td>
<td>CHIIZU 'cheese' GAIMAI 'Imported rice'</td>
</tr>
<tr>
<td>KAORI GA II 'aromatic'</td>
<td>KOOHII 'coffee' MITSUBA 'trefoil' Matsuake 'matsutake' (type of mushroom)</td>
<td>BANANA 'bananas' NORI 'laver' INDORINGO 'Indoringo' (type of apple) HOOJICHA 'roasted tea' JASUMINTII 'jasmine tea' GEMMAICHA 'unhulled-rice tea'</td>
</tr>
</tbody>
</table>

Once again, the borderline between focal exemplars and taste norms is in some cases difficult to draw, but in general focal exemplars comprise food-substances whose taste quality is least susceptible to variation.

It will be noted that one item, roasted tea (HOOJICHA), is cited against both KOOBASHII 'fragrant' and KAORI GA II 'aromatic'; this will be accounted for in the course of the Intrallingual analysis. Also noticeable is the fact that, whereas KUSAMI GA ARU 'strong-flavoured' and KAORI GA II 'aromatic' each are associated with a
considerable number of typical substances, the remaining terms are more restricted in this respect. This applies particularly to DOROKUSAI 'muddy-flavoured' and AOKUSAI 'grassy-flavoured', for which the substances given appear to exhaust the practical possibilities.

By contrast with the terms of AJI I, which range in denotation over the extralingual parameters of gustation and the tongue-sensations of pungency and astringency, AJI III terms appear to relate to the olfactory parameter of taste, i.e. the qualities concerned are qualities perceived by the olfactory epithelium rather than by receptors in the tongue and mouth. Morphologically, as we have seen, all the terms incorporate forms which are semantically associated with the field of odour: Thus, dorokusal, aokusai and kusami ga aru relate morphologically to kusai (KUSAI 'smelly'); koobashil can be analyzed as koo 'incense, fragrance' + -bashil and the term commonly occurs as a modifier of the noun NIOI 'smell' (KOOBASHIL NIOI 'a fragrant smell'). KAORI (in KAORI GA II) is a noun meaning '(pleasant) smell, aroma', occurring in collocations such as HANA NO KAORI 'the smell of flowers'.

7.6.2 Intralingual relationships

The same approach to the analysis of sense relationships was adopted as for AJI I terms: response patterns to type-(B) questions were observed, and the results checked against the possibilities of combination among the terms.

\textsuperscript{18} KUSAI 'smelly' can be predicated of food-substances (e.g. Ninniku wa kusal 'Garlic is smelly') but, since such a sentence does not constitute an appropriate response to a type-(A) question (Ninniku wa donna ajl ga suru? 'What kind of a taste does garlic have?'), the term is clearly excluded from the field of AJI as defined.
The lexical structure of AJI III proves to be much less complex than that of AJI I. First, as the presence of HOOJICHA 'roasted tea' as a typical example for both terms suggests, KAORI GA II 'aromatic' and KOOBASHII 'fragrant' are related by hyponomy:

\[ \text{(B60) } \text{Hoojicha wa kaori ga II? Un, koobashii ne. ROASTED TEA/theme/AROMA/subject/GOOD, non-past? YES/FRAGRANT, non-past/ tag.}' \] 'Is roasted tea aromatic?' 'Yes, it's fragrant.'

\[ \text{(B61) } \text{Indoringo wa koobashii? Unun, koobashiku-nai. Kaori ga II kedo. INDORINGO/theme/FRAGRANT, non-past? NO/FRAGRANT, neg., non-past/AROMA/subject/GOOD, non-past/BUT.}' \] 'Are indoringo (apples) fragrant?' 'No, they're not. They're aromatic, though.'

The response patterns here indicate that KOOBASHII 'fragrant' functions as a hyponym of KAORI GA II 'aromatic'. According to the Informant, KOOBASHII gives an impression that the substance concerned has been roasted; cf. the substances listed under taste norms, i.e. roasted tea (HOOJICHA) and rice crackers (SEMBEI).

The other three terms, DOROKUSAI 'muddy-flavoured', AOKUSAI 'grassy-flavoured' and KUSAMI GA ARU 'strong-flavoured', are also related in terms of hyponomy:

\[ \text{(B62) } \text{Kol wa kusami ga aru? Kusami ga aru yo. Dorokusai. CARP/theme/SMELLINESS/subject/BE PRESENT, non-past? SMELLINESS/subject/BE PRESENT/emphatic particle/MUDDY-FLAVOURED, non-past. } \] 'Is carp strong-flavoured?' 'Indeed it is. It's muddy-flavoured.'

\[ \text{(B63) } \text{Maton wa dorokusai? Unun, dorokusaku-nai. Chotto kusami ga aru kedo. 'Is mutton muddy-flavoured?' 'No, it isn't. It's somewhat strong-flavoured, though.' } \]
Tomato wa kusami ga aru? 'Are tomatoes strong-flavoured?'
Un, chotto aokusai ne. 'Yes, they're somewhat grassy-flavoured.'

Chilizu wa aokusai? 'Is cheese grassy-flavoured?'
Unun, aokusaku-nal kedo mono ni-yotte kusami ga aru ne. Kaori ga II mono mo aru kedo.
NO/GRASSY-FLAVOURED, neg., non-past/BUT/ARTICLE/ACCORDING TO/SMELLINESS/subject/BE PRESENT/tag/AROMA/subject/GOOD, non-past/ARTICLE/ALSO/EXIST, non-past/BUT.

'No, It's not but some cheese is strong-flavoured. Some cheese is aromatic as well, though.'

where DOROKUSAI 'muddy-flavoured' and AOKUSAII 'grassy-flavoured' function as co-hyponyms of KUSAMI GA ARU 'strong-flavoured'.

For other pairings of terms, bilateral simple negation is found:

Indoringo wa kusami ga aru? 'Are Indoringo (apples) strong-flavoured?'
Unun, indoringo wa kaori ga II.

'No, they're aromatic.'

Saramisoosajj wa kaori ga II? 'Is salami aromatic?'

'No, it isn't. It's strong-flavoured.'

Hoojicha wa kusami ga aru? 'Is roasted tea strong-flavoured?'
Unun, hoojicha wa koobashii.

'No, It's fragrant.'

Kol wa koobashii? 'Is carp fragrant?'
Unun, kol wa koobashiku-nai. Kusami ga aru.

'No, it isn't. It's strong-flavoured.'

Kol wa aokusai? 'Is carp grassy-flavoured?'
Unun, dorokusai.

'Dorokusaku-nai. Ayu wa chotto aokusai.

'Ayu wa dorokusai? 'Is sweetfish muddy-flavoured?'
'Dorokusaku-nai. Ayu wa chotto aokusai.

'No, It isn't Sweetfish is somewhat grassy-flavoured.'
(B72) Indoringo wa aokusai?
'Are Indoringo (apples) grassy-flavoured?'
Unun, aokusaku-nal. Tottamokoari ga II.
'No, they're not. They're very aromatic.'

(B73) Tomato wa kaori ga II?
'Are tomatoes aromatic?'
'No, they're not. They're somewhat grassy-flavoured.'

Examples for the other pairings (DOROKUSA1 and KAORI GA II, DOROKUSA1 and KOOSHII, AOKUSA1 and KOOSHII) were in fact not elicited, the tendency being to answer at the more general level of the superordinate term concerned. However, on the basis of the data presented, it is clear that the structure of AJI III is as follows:

<table>
<thead>
<tr>
<th>KUSAMI GA ARU</th>
<th>KAORI GA II</th>
</tr>
</thead>
<tbody>
<tr>
<td>'strong-flavoured'</td>
<td>'aromatic'</td>
</tr>
<tr>
<td>DOROKUSA1</td>
<td>KOOSHII</td>
</tr>
<tr>
<td>'muddy-flavoured'</td>
<td>'fragrant'</td>
</tr>
<tr>
<td>AOKUSA1</td>
<td></td>
</tr>
<tr>
<td>'grassy-flavoured'</td>
<td></td>
</tr>
</tbody>
</table>

with horizontal layering representing hyponymy (hyponyms below superordinates). Terms in different boxes stand in bilateral simple negation, as do the two co-hyponyms of KUSAMI GA ARU.

Further light is thrown on the lexical structure of the system when the possibilities of combination among the terms are considered. In the familiar matrix form, these can be represented as follows:
(Occurring combinations are written in, in abbreviated form; a cross indicates that the combination does not occur.) The possibilities of combination among AJI III terms are thus highly restricted: only DOROKUSAI and AOKUSAI, the co-hyponyms of KUSAMI GA ARU, are permitted to combine. (Such a combination is in fact unlikely to find application in the real world.) The absence of the combinations KUSAMI GA ARU + DOROKUSAI, KUSAMI GA ARU + AOKUSAI, and KAORI GA II + KOOBASHII is to be expected from our analysis so far, since the terms of each pair are related in terms of hyponymy. However, the absence of combination between the group consisting of KUSAMI GA ARU and its hyponyms, on the one hand, and the group consisting of KAORI GA II and its hyponym, on the other, cannot be explained in such terms: these terms are simply incompatible, and the diagram of the structure of AJI III can be re-drawn, as follows:
AJI III terms thus constitute a single set, related in terms of
hyponymy (horizontal layering) and incompatibility (double vertical
line).

Consideration of combinations of AJI III terms with the terms
OISHII 'palatable'/MAZUI 'unpalatable', using question-frame (C),
shows a clear correlation between incompatibility and OISHII-polarity.
In terms of the symbolization introduced in 7.4.2.5, AJI III terms can
be characterized as follows:

\[
\begin{align*}
\text{KUSAMI GA ARU} & \quad \text{DOROKUSAI} & \quad -OISHII \\
\text{} & \quad \text{AOKUSAI} & \\
\text{KAORI GA II} & \quad \text{KOOBASHII} & \quad +OISHII
\end{align*}
\]

AJI III differs from AJI I, then, in two ways: (a) All terms of
AJI III are either +OISHII or -OISHII; that is to say, the affective
characterization is clearly polarized, with no 'Intermediate' cases
of (-)OISHII. (b) There is a perfect correlation between OISHII-
characterization and incompatibility, unlike the case of AJI I, where
OISHII-characterization only correlated with incompatibility in the
case of certain terms (i.e. group A) and, even there, in an imperfect
manner. Unlike AJI I, AJI III thus consists of a single set of
terms split into two incompatible sets, the division correlating with
a clear opposition of affective value.
The sense relationships established for AJI III terms can be summarized as follows:

**Hyponymy:**
- DOROKUSAI 'muddy-flavoured' ⇒ KUSAMI GA ARU 'strong-flavoured'
- AOKUSAI 'grassy-flavoured' ⇒ KUSAMI GA ARU 'strong-flavoured'
- KOOBASHII 'fragrant' ⇒ KAORI GA II 'aromatic'

**Incompatibility:** KUSAMI GA ARU 'strong-flavoured'/KAORI GA II 'aromatic'

The remaining cases of incompatibility follow from these relationships.

7.7 AJI: The overall field

Having discussed the lexical structure of the systems AJI I, AJI II and AJI III, we return at this point to the overall field and consider briefly how the systems inter-relate within it.

Clearly, the term AJI 'taste' functions as a head term for the whole field insofar as the members of AJI I, II and III occur as appropriate responses to the initial question-frame X wa donne ajj ga suru? 'What kind of a taste has X?'. It is precisely in view of this fact that we have referred to the whole field as the lexical field of AJI. However, there is evidence that the term AJI also functions, in certain contexts, in a more specific sense in which it relates to AJI I and AJI II but excludes AJI III.

Firstly, AJI 'taste' and KAORI 'aroma' are explicitly contrasted in an (attested) example such as the following:

`Kono ringo wa ajj mo ii shi kaorl mo II ne.`

'These apples have both a good taste (AJI) and a good aroma (KAORI), haven't they?'
where the inference from \textit{aji (ga) II} 'the taste is good' is that the apples exhibit the expected degree of sweetness or sourness (i.e. \textit{AJI I}) for the type of apple concerned. Similarly, the most likely inference from:

\textit{Kono gureepufuruutsu wa aji ga waru!}

\textit{THIS/GRAPeFRUIT/theme/TASTE/subject/BAD}, non-past.

'This grapefruit has a bad taste (AJI).'

Is that the grapefruit has a bitterness (i.e. \textit{nigami ga aru}, again an \textit{AJI I} term). In the expressions \textit{AJI GA II} 'the taste is good' and \textit{AJI GA WARUI} 'the taste is bad' (typically used in specific sentences such as those exemplified), the term \textit{AJI} thus appears to stand opposed to \textit{KAORI} and, consequently, to relate to the systems \textit{AJI I} and \textit{II} to the exclusion of \textit{AJI III}. In the following utterance, also produced by the informant, the same contrast is made explicit:

\textit{HinJIn o ninjin-tarashimeru no wa ninjin no kaori
shika nal ne -- shita ni kuru aji tte nal.}

\textit{CARROT/object/CAUSE TO BE A CARROT}, non-past/nominalizer/
theme/CARROT/OF/AROMA/EXCEPT FOR/EXIST, negative, non-past/
tag/TONGUE/TO/COME, non-past/TASTE/theme/EXIST, neg., non-past.

'What makes a carrot a carrot is just its aroma, isn't it?
-- carrots have no taste that strikes the tongue.'

Here the contrast is made between \textit{KAORI} 'aroma' and \textit{SHITA NI KURU AJI}
'a taste (AJI) which strikes the tongue'. \textit{AJI}, then, in contexts
where it excludes \textit{KAORI}, can be glossed as 'tongue-taste', covering
the parameters of gustation, pungency, astringency and harshness, but
excluding olfaction.

Another such context is found with expressions used in connection
with the seasoning and flavouring of food. The expressions are
\textit{AJI O TSUKERU} 'add taste (AJI), season' and \textit{KAORI O TSUKERU} 'add aroma
(KAORI)', and their use with particular substances relates clearly to the system to which the taste quality concerned belongs. Thus, with substances such as soy sauce (SHOOYU) and mirin (MIRIN: a sweet kind of sake), whose associated taste qualities, pungent (KARAI) and sweet (AMAI), fall within the range of AJI I, AJI O TSUKERU is used: SHOOYU DE AJI O TSUKERU 'season with soy sauce', MIRIN DE AJI O TSUKERU 'season with mirin'. On the other hand, with herbs such as MITSUBA 'trefoil', which is characterized as KAORI GA II 'aromatic' (AJI III), we find MITSUBA DE KAORI O TSUKERU 'flavour with trefoil'.

This evidence thus suggests an organization of the following kind, with the term AJI functioning at different levels of generality in different contexts: 19

<table>
<thead>
<tr>
<th>AJI 'flavour'</th>
</tr>
</thead>
<tbody>
<tr>
<td>(cf. X wa donna ajl ga suru?)</td>
</tr>
<tr>
<td>AJI 'tongue-taste'</td>
</tr>
<tr>
<td>(cf. ajl ga II/warui, ajl o tsukeru)</td>
</tr>
<tr>
<td>KAORI 'aroma'</td>
</tr>
</tbody>
</table>

AJI I, AJI II

AJI III

7.8 Extended meanings

In this section we consider extended meanings of AJI terms, that is to say usages of AJI terms in which semantic relationships present in the basic systems undergo change. The basic meanings of AJI terms as discussed up to this point may be summarized as follows:

1) They collocate with lexical items denoting food-substances;

19 In this respect, AJI can be compared to English TASTE, with its broader (everyday) and narrower (scientific) usages, and also to English COLOUR, which in some contexts is taken to exclude BLACK and WHITE.
They fall into three systems, the terms of each system exhibiting the extralingual and intralingual semantic relationships established in the analysis; (3) They possess an effective value in that they combine in different ways with the evaluatory taste terms OISHII 'palatable' and MAZUI 'unpalatable'. Cases of extended meaning can be considered in terms of how the semantic relationships which obtain there differ from this basic pattern.

Naturally, the greater the degree to which basic semantic relationships are recognizably preserved, the more justification there is for treating cases as instances of extended meaning, rather than as instances of semantically unrelated homonymy. Perhaps the clearest case of extended meaning arises where the paradigmatic sense relationships established within the basic systems are preserved more or less intact in extended spheres of application. Lehrer discusses English temperature adjectives from this viewpoint (1974: 110-2), and such cases reflect the linguistic reality of the basic system in a particularly clear way.

In comparison with such clear cases, the pattern found with AJI terms is sporadic. Rather than whole systems being transferred wholesale to an extended area, we find that certain pairs of terms, as well as certain single terms, may be said to have extended meanings in that some of the basic relationships are maintained, but that many usages of isolated terms can only be considered as semantically unrelated.

Perhaps the clearest case of extension is provided by the pair AMAI 'sweet' and KARAI 'pungent', which have been shown to function as incompatible terms within AJI I. The semantic opposition between AMAI and KARAI is maintained in several usages outside the
field of AJI as such; in some cases the relationship involved is simple incompatibility, in others antonymy.

Incompatibility obtains in two pairs of commonly-occurring derived nouns. The first pair, AMAKUCHI (ama- 'sweet' + kuchi 'mouth'), and KARAKUCHI (kara- 'pungent' + kuchi 'mouth'), are typically applied to types of sake or wine and correspond to English 'sweet' and 'dry', respectively. Denotationally, the distinction here is between sweetness (AMAKUCHI) and non-sweetness (KARAKUCHI), rather than between sweetness and pungency as in the basic field. Indeed, in terms of taste quality at a general level, dry wine (KARAKUCHI NO BUDOOSHU) will often be characterized as astringent (SHIBUI) rather than as pungent (KARAI). The second pair, AMATOO (ama- 'sweet' + too 'group') and KARATOQ (kara- 'pungent' + too 'group'), may be glossed as 'a person who prefers sweet things' and 'a person who enjoys alcohol', respectively, these being regarded as exclusive categories into which individuals can be grouped by virtue of their dietary preferences. Once again, the extralingual opposition appears to be one of sweetness vs. non-sweetness, rather than of sweetness vs. pungency.

In cases where AMAI and KARAI function as antonyms, AMAI is suitably glossed as 'mild', the gloss for KARAI varying according to the precise context. The following are illustrative examples:

(1) Kono karee wa sono karee yori karai.
   THIS/CURRY/theme/THAT/CURRY/THAN/HOT, non-past.
   'This curry is hotter than that.'

(2) Sono karee wa kono karee yori amai.
   'That curry is milder than this.'

(3) Kono karee wa ryoochootomo karai kedo kochi no hoo ga mada
   amai.
   THIS/CURRY/theme/BOTH/HOT, non-past/BUT/THIS/OF/
   ALTERNATIVE/subject/STILL/MILD, non-past.
   'Both these curries are hot, but, of the two, this is still
   milder.'
(1) and (2) each imply the other, and (3) is an acceptable sentence, indicating that AMAI and KARAI here function as 'true' antonyms, being inherently graded with respect to a relative norm. (Cf. the discussion in 6.4) Here the English equivalent for KARAI is 'hot', which is also one of its glosses in the basic system. However, the distinction is clear: whereas in the basic system the incompatible terms AMAI 'sweet' and KARAI 'pungent, hot' denote general taste qualities, here the antonymous pair AMAI 'mild' and KARAI 'hot' serve to place a given substance relative to the dimension of hotness.

Thus, the appropriate question here is *Sono karee wa dono gurai karai?* 'How hot is that curry?' (with KARAI as the unmarked term serving to indicate the dimension), not *Karea wa donna aji ga suru?* 'What kind of a taste does curry have?'. Clearly, all curry is KARAI 'pungent, hot' as far as taste quality is concerned, but a given curry may still be specified as AMAI 'mild' relative to the mild-hot dimension.

AMAI and KARAI also function as antonyms in collocation with food-substances on the dimension mild-salty. (KARAI 'pungent', of course, ranges over saltiness as a taste quality by virtue of its hyponymy with SHIOKARAI 'salt' in the basic system.) In this case the expression SHIO GA AMAI (SALT/subject/MILD, non-past) tends to replace AMAI alone, as in the following example:

(4) *Kono suupu wa shio ga amai.*

'This soup is (too) lightly salted.'

The derived noun AMAJIO (ama- 'mild' + shio 'salt') occurs in expressions such as AMAJIO NO SHAKE ('lightly salted salmon', a popular Japanese dish).

The antonymy of AMAI and KARAI extends to contexts other than that of food-substances, notably in the following usages:
(5) Ano sensel wa kono sensel yori ten ga karai.

THAT/TEACHER/theme/THIS/TEACHER/THAN/MARK/subject/SEVERE, non-past.

'That teacher marks more strictly than this teacher.'

(6) Kono sensel wa ano sensel yori ten ga amai.

'This teacher marks more leniently than that teacher.'

(7) Kono sensel wa futaritomo ten ga karai kedo kotchi no hoo ga make amai.

'Both these teachers mark strictly, but, of the two, this teacher still marks more leniently.'

Here the normal expressions are TEN GA AMAI 'marks are mild, lenient' and TEN GA KARAI 'marks are severe, strict', although AMAI and KARAI may occur along where the context is clear. TEN is a noun, 'mark', and the expressions are typically applied to teachers, judging panels, etc.

The antonymous uses of AMAI and KARAI can be summarized as follows:

<table>
<thead>
<tr>
<th>Sphere of application</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food-substances</td>
<td>Hotness (AMAI/KARAI)</td>
</tr>
<tr>
<td></td>
<td>Saltness (SHIO GA AMAI/KARAI)</td>
</tr>
<tr>
<td>Persons (as markers)</td>
<td>Strictness (TEN GA AMAI/TEN GA KARAI)</td>
</tr>
</tbody>
</table>

In all cases AMAI is located at the 'mild' end of the dimension. With the dimensions of hotness and saltiness, there is clearly a denotational similarity with the basic system in the case of KARAI, since the dimensions relate to taste qualities subsumed by the term AJI; this is equally clearly not the case with AMAI, which
indicates the non-KARAI end of the dimensions rather than any presence of sweetness.

In addition to cases such as the above where semantic opposition with an AJI term, namely KARAI, is preserved, AMAI itself occurs in a variety of other usages, the majority of which involve a high degree of collocational restriction. Although semantic extension is difficult to demonstrate insofar as all association with other AJI terms is lost, many of these usages can be seen as relating extralingually to the use of AMAI in TEN GA AMAI, where the dimension involved is that of strictness.

Firstly, AMAI is used in the sense of 'lenient' predicated of such nouns as SHITSUKE 'discipline, upbringing' and of nouns denoting persons who are the source of such discipline such as OYA 'parent', SENSEI 'teacher'. In this general sense (as opposed to the more specific 'lenient in marking'), the antonym of AMAI is not KARAI but KIBISHII 'strict'. Though the opposition with KARAI no longer holds, there is clearly an extralingual similarity between the use of AMAI here and its use in TEN GA AMAI in relation to strictness of marking. KIBISHII is also a possible antonym of AMAI in the expression KEIBI GA AMAI (GUARDING/subject/LAX, non-past) 'lightly guarded or protected', applied to buildings and the like, although KATAI 'hard (vs. soft), tight (vs. loose)' is also commonly used here. KATAI is also the antonym of AMAI in the expression SEN GA AMAI (CORK/subject/LOOSE, non-past) 'the cork (of a bottle, etc.) is loose', so that we find a chain of antonyms as follows:

With the noun SENSEI 'teacher', the following collocations are thus possible: (TEN GA) AMAI SENSEI 'a teacher who marks leniently', (TEN GA) KARAI SENSEI 'a teacher who marks strictly', AMAI SENSEI 'a lenient teacher (in general)', KIBISHII SENSEI 'a strict teacher (in general)'. Since TEN GA may be omitted where the context is clear, AMAI SENSEI on its own is strictly ambiguous.
<table>
<thead>
<tr>
<th>Expressions</th>
<th>Dimension</th>
<th>Antonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEN GA AMAI</td>
<td>Strictness of marking</td>
<td>KARAI</td>
</tr>
<tr>
<td>SHITSUKE OYA GA AMAI</td>
<td>Strictness of discipline</td>
<td>KIBISHII</td>
</tr>
<tr>
<td>KEIBI GA AMAI</td>
<td>Strictness of discipline</td>
<td>KIBISHII/KATAI</td>
</tr>
<tr>
<td>SEN GA AMAI</td>
<td>Tightness of closure</td>
<td>KATAI</td>
</tr>
</tbody>
</table>

Other usages of AMAI outside the basic field are even less obviously related and appear to be best regarded as cases of homonymy. These include the expression HA GA AMAI (BLADE/subject/BLUNT, non-past) 'the blade (of a knife, etc.) is blunt', as in Kono nifu wa ha ga ama (THIS/KNIFE/theme/BLADE/subject/BLUNT, non-past) 'This knife is blunt', where common alternatives are Kono nifu wa yoku kirenai 'This knife doesn't cut well' and Kono nifu wa nibul 'This knife is blunt'. Another collocation is with the nouns KANGAE 'thinking' or KANGAEKATA 'way of thinking': KANGAE GA AMAI, applied to persons, can be glossed 'have an overly-optimistic view, be insufficiently realistic in one's thinking', and AMAI here contrasts with such terms as SHINCHOO 'prudent, circumspect'. To accuse someone of being KANGAE GA AMAI is to criticize him, so that this usage of AMAI contrasts clearly with its status as a 'pleasant' taste term in the basic field. Indeed, from the viewpoint of English, it is noticeable that in all the extended usages of AMAI there are no clearly favourable examples comparable to English SWEET CHILD, SWEET TEMPERAMENT, etc.

NIGAI 'bitter' has been noted as denoting what is commonly regarded as the unpleasant taste par excellence, and this aspect of
Its basic meaning is clearly preserved in other usages. Thus, NIGAI KEIKEN (BITTER, non-past/EXPERIENCE) compares with the corresponding English 'bitter experience'; close to NIGAI in this usage is the adjective TSURAI 'trying, painful', which has a much wider range of application. NIGAI, of course, has been shown to collocate with MAZUI 'unpalatable' in response to type-(C) questions (hence its -OISHII characterization), and there are interesting parallels between the two terms in extended usages. Firstly, there is a derived nominal adjective NIGATE (niga- + te 'hand'), which may be glossed 'unskilful'. As noted in 6.5, UMAI 'palatable' and MAZUI 'unpalatable' also function as antonyms outside the field of taste with the meanings 'skilful' and 'unskilful', respectively, and there is an implicational link between sentences of the following kind:

(8) Boku wa aigo ga nigate da.
I/theme/ENGLISH LANGUAGE/subject/UNSKILFUL/copula, non-past.
'I am poor at English.'

and

(9) Boku no elgo wa mazui.
I/OF/ENGLISH LANGUAGE/theme/UNSKILFUL, non-past.
'My English is poor.'

Secondly, both MAZUI and NIGAI collocate with the noun KAO 'face' in the expressions MAZUI KAO O SURU (UNPALATABLE, non-past/FACE/object/MAKE, non-past) 'make a disapproving face' and NIGAI KAO O SURU 'make a displeased face'. There is also a similar expression with SHIBUI 'astringent' (another -OISHII term): SHIBUI KAO O SURU. All three are used to indicate a reaction to something that is experienced as unpleasant. HORONIGAI 'pleasantly bitter' also occurs outside the basic field in collocations such as HORONIGAI JINSEI (PLEASANTLY BITTER, non-past/LIFE), which dictionaries gloss as 'a bitter, but
pleasant life': It may be compared here to the English term BITTER-SWEET, whose use now seems to be restricted to 'extended' contexts of this kind. The basic affective difference between HORONIGAI (+OISHII) and NIGAI (-OISHII) is clearly preserved in such usages.

Like NIGAI 'bitter', SHIBUI 'astringent' denotes a basically unpleasant taste quality. Apart from the expression SHIBUI KAO O SURU, mentioned above, however, its usages outside the field of taste are as a term with generally favourable overtones. Since this is so, and since no semantic relationships with other AJI terms obtain in such cases, it seems clear that semantically unrelated homonymy is involved. First and foremost, SHIBUI is used as a term of aesthetic approval, where it may be suitably glossed as 'tasteful'. In this sense it is a key term in Japanese aesthetics, contrasting with terms such as HADE 'gaudy, loud' and denoting a restrained but robust quality that is typical of much of Japanese artistic tradition. Its collocational range in this usage is wide: typical examples would be nouns such as IRO 'colour', GARA 'pattern', BUNSHOO 'writing, written style', KOE 'voice', and the noun KONOMI 'taste (aesthetic, etc.)' itself. In such usages, SHIBUI is regarded by Japanese as being a highly culture-bound term. (Cf. Kawakita, 1960-1, for an interesting discussion of the term written in English by a non-linguist.)

Of AJI I terms, the items considered above appear to be the only ones that are commonly extended outside the basic field of taste; as we have seen, some usages amongst them are perhaps best regarded as semantically unrelated. The list is thus: AMAI 'sweet', KARAI 'pungent', NIGAI 'bitter', HORONIGAI 'pleasantly bitter', and SHIBUI 'astringent'. Interestingly, SUPPAI, unlike its English counterpart 'sour', is not used outside the basic field.
The AJI II terms, AKUPOPO 'harsh' and AKU GA ARU 'have a harshness', are not used in extended meanings. Neither are AJI III terms, with the exception of KUSAMI GA ARU 'strong-flavoured'. This term is applied to persons in collocations such as KUSAMI GA ARU HITO (SMELLINESS/subject/BE PRESENT, non-past/PERSON) 'an affected person', where its pejorative force is preserved; in this sense its opposite is not KAORI GA II 'aromatic', as in the basic field, but simply the negative KUSAMI GA NAI (SMELLINESS/subject/BE PRESENT, negative, non-past).

What of the term AJI 'taste' itself? Unlike TASTE in English, AJI is not used in the sense of a person's aesthetic preferences (recall that 'tasteful' was a gloss for SHIBUI as an aesthetic term), where Japanese employs a different term, KONOMI. It is used in extended meanings, however, where there is often an interesting parallel between it and English terms such as FLAVOUR or SPICE. Some typical examples are: AJI GA ARU HANASHI (TASTE/subject/BE PRESENT, non-past/TALK) 'a story with spice, or interest', AJI GA NAI E (TASTE/subject/BE PRESENT, negative, non-past/PICTURE) 'an insipid, or lifeless painting', NIHON NO ONGAKU NO AJI (JAPAN/OF/MUSIC/OF/TASTE) 'the spirit, or flavour, of Japanese music'.
CHAPTER 8

TASTE TERMS AND COLOUR TERMS IN JAPANESE: A GRAMMATICAL DISTINCTION

It has been noted by several linguists that certain lexemes (mainly adjectives) in Japanese can be viewed as having a dual semantic function, the first to denote objective attributes of an entity, the second to denote the subjective emotions of an experiencer towards that entity. Kuno (1973: 93) gives as an example the following:

(1) Kono inu wa kowai

THIS/DOG/theme/FRIGHTENING, non-past.

He notes that this sentence is ambiguous in that it can be interpreted as 'This dog is frightening', with the adjective describing an objective attribute of the dog, or as 'I am afraid of this dog', with the adjective describing the subjective feeling of the speaker (understood) toward the dog.

An alternative interpretation might be to say that certain lexemes of the language (of which KOWAI 'frightening' is one) are inherently experiencer-dependent: they denote attributes which are inherently bound up with the subjective reactions of an experiencer, normally human. Seen from this viewpoint, the 'ambiguity' of (1) might be said to reside in the distinction between an utterance of the sentence intended as a general statement (i.e. 'People find this dog frightening'), and an utterance of it as a direct expression of the speaker's personal reaction to the dog (i.e. 'I find this dog frightening'). According to this view, the 'ambiguity' is thus a

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1 Kuno actually has 'fearful', not 'frightening', here. This is clearly a lapse, since 'This dog is fearful' requires Kono inu wa kowagatte-iru in Japanese. Cf. our ensuing discussion.
matter of who is represented as the experiencer in a given utterance, and does not reside in the lexical item KOWAI itself, which remains an experiencer-dependent expression throughout and is reasonably glossed as '(someone) finds frightening'.

Further examples of experiencer-dependent lexemes can be seen in the following:

(2a) Hokkaido wa samul.

HOKKAIDO/theme/COLD, non-past.

'Hokkaido is cold.'

(2b) Samui. Atatskal mono o nomoo.

COLD, non-past/WARM, non-past/THING/object/DRINK, cohortative.

'I'm cold. Let's have something warm to drink.'

(3a) Kakubutsurigaku wa muzukashii.

NUCLEAR PHYSICS/theme/DIFFICULT, non-past.

'Nuclear physics is difficult.'

(3b) Gakusai,Idai ammarl benkyoo-shinakatta kara ima demo elgo wa muzukashii.

STUDENT DAYS/(NOT) MUCH/STUDY, neg., past/BECAUSE/NOW/ENGLISH LANGUAGE/theme/DIFFICULT, non-past.

'Because I didn't study much in my student days, I still find English difficult.'

(2a) and (3a) can be viewed as making general statements: 'People find Hokkaido cold' and 'People find nuclear physics difficult'.

(2b) and (3b) are intended as statements of the personal reactions of the speaker. Like KOWAI 'frightening', then, SAMUI 'cold' (as a bodily sensation) and MUZUKASHII 'difficult' are experiencer-dependent lexemes in Japanese.
Expercer-dependent lexemes in Japanese have several grammatical characteristics. In general, such expressions cannot be used as they stand with a definite third-person expercer:

(4a) (Boku wa) samui.

I/theme/COLD, non-past.
'I feel cold.'

(4b) (Anata wa) samui?

YOU/theme/COLD, non-past?
'Do you feel cold?'

(4c) *Ano hito wa samui.

THAT/PERSON/theme/COLD, non-past.
'He feels cold.'

Although he feels cold is acceptable in English (uttered as a report of an utterance I am cold, for example), (4c) is unacceptable in Japanese. In its place, recourse must be had to reported speech (e.g. Ano hito wa samui to yutte-iru 'He says he feels cold'), to evidential constructions, of which Japanese has an abundance, (e.g. Ano hito wa samui mital da 'It seems he's cold'; Ano hito wa samusoo da 'He looks cold'; Ano hito wa samul rashil 'Apparently he's cold') or to a construction involving a verb morphologically derived from the adjective SAMUI (Ano hito wa samugatte-iru 'He is showing signs of being cold'). This last-mentioned derivational pattern is a particularly clear marker of the class, and can be represented by the following rule:

Adjective stem + -I - Adjective stem + -garu

(e.g. samul + samugaru)

Nominal adjective + Nominal adjective + -garu

(e.g. fushigl + fushiglgaru)
-GARU verbs can be glossed as 'show signs of feeling or finding ... (by words, actions, etc.).' Thus SAMUGARU is 'show signs of finding it cold, show signs of feeling cold'. According to Kuno (1973: 84) 'it (-garu) changes verbals of internal feeling into those of outward manifestation of internal feeling'. Thus we cannot say (4c), but we can say:

(4d) Ano hito wa samugatte-lru.

THAT/PERSON/theme/SHOW SIGNS OF FEELING COLD, continuous, non-past.

'(He is showing signs that) he feels cold.'

The justification for this restriction is clear enough: The lexeme SAMU 'cold' is experiencer-dependent; now it is logically possible to make statements expressing our own subjective experiences (4a), and to question a person concerning his (4b), but in the case of a third-person experiencer we can only report on the external manifestations or evidence of such experiences. Unlike English, where we can say He feels cold as a report of an utterance I feel cold, Japanese requires a formal distinction here. Hence there is a clear contrast between:

(1) Kono Inu wa kowai.

'This dog is frightening.' (Lit. 'As for this dog, (someone) finds it frightening.')</p>

which cannot be referring to the subjective feelings of the dog, and:

(5) Kono Inu wa kowagatte-lru.

'This dog is frightened.' (Lit. 'As for this dog, it is showing signs that it finds (something) frightening.')</p>

which refers to the external manifestations of those feelings (cf. note 1 above).
Below we set out a list of typical Japanese expressions which have -garu correlates. All are ordinary adjectives except those marked n.a., which are nominal adjectives.

HOSHII 'find desirable, want'

All desiderative adjectives derived from verbs: e.g. IKITAI 'want to go' from IKU 'go'

URAYAMASHII 'find enviable'

KUYASHII 'find vexing'

OSHII 'find regrettable'

ZANNEN (n.a.) 'find regrettable'

IYA (n.a.) 'find unpleasant'

KANASHII 'find sad'

MOTTAINAI 'find wasteful'

URESII 'find pleasing'

ARIGATAI 'find welcome', 'feel grateful'

HARADATASHII 'find irritating'

TAIHEN (n.a.) 'find alarming'

MENDOOKUSAI 'find troublesome'

MUZUKASHII 'find difficult'

URUSAI 'find Importunate'

KOWAI 'find frightening'

OSOROSHII 'find horrifying'

KAWAII 'find appealing'

SABISHII 'find lonely'

NATSUKASHII 'find nostalgic'

HAZUKASHII 'find embarrassing'

WARUI 'feel indebted'

MEIWAKU (n.a.) 'find inconvenient'
OKASHII 'find amusing', 'find strange'
OMOSHIROI 'find amusing', 'find diverting'
TSUMARANAI 'find boring'
MEZURASHII 'find unusual'
FUSHIGI (n.a.) 'find mysterious'
MABUSHII 'find dazzling'
NEMUTAI 'feel sleepy'
ITAI 'find painful', 'feel pain'
KUSUGUTTAI 'find ticklish'
SAMUI 'feel cold'
ATSUI 'feel hot'

It will be clear that most of these lexemes denote emotional states and reactions; some perception terms (e.g. relating to temperature, pain) are included in the class.

Thus far, then, we have seen that certain Japanese lexemes can be viewed as inherently experiencer-dependent, in that they denote the reactions of an experiencer toward some entity; precisely because of this fact, they cannot be used as they stand when a third-person is the experiencer, but derived verbs ending in -garu ('show signs of finding ...') can be used in such cases, as can reported speech or evidential constructions.

How do colour and taste terms stand in respect of this distinction? Intuitively, colour terms are objective expressions par excellence: something is either red or is not, irrespective of the identity of the experiencer involved. Not surprisingly, colour terms in Japanese indeed show none of the characteristics of experiencer-dependent expressions. To a sentence like Ano hana wa akai 'That flower is red', for example, there is no possibility of
adding an experiencer (*Boku wa ano hana ga akai 'I find that flower red'), and there is no derived verb akagaru 'show signs of finding red'.

Taste, as we have seen, is generally recognized to be a less objective matter than colour. In everyday life, we are not surprised to find cases where, for example, something that would be intolerably sickly to one individual tastes pleasantly sweet to another, and we are even more prepared for differences in opinion on the general palatability of food (cf. 2.4). This subjectivity of the taste experience is reflected linguistically in Japanese: unlike colour terms, taste terms in general show the characteristics of experiencer-dependent lexemes.

With descriptive taste terms, we find examples like the following:

(6) Kono mikan wa suppaku-nai? Watashi wa amei kedo.
    THIS/TANGERINE/theme/SOUR, I/theme/SWEET, non-past/ neg., non-past? BUT.
    'Isn't this tangerine sour?' 'I find it sweet.'

where the answer expresses a subjective reaction and amei requires the gloss 'find sweet'. Derived verbs in -garu are seen in the following:

(7) Karee o tabesaseta kedo zulbun karagatte-ita.
    CURRY/object/EAT, causative, past/BUT/CONSIDERABLY/SHOW SIGNS OF FINDING HOT, continuous, past.
    'I gave him some curry to eat but he found it pretty hot!'

(8) Galjin wa umeboshi o suppagaru.
    FOREIGNER/theme/PICKLED PLUM/object/SHOW SIGNS OF FINDING SOUR, non-past.
    'Foreigners find pickled plums sour.'
KARAGARU (from KARAI) and SUPPAGARU (from SUPPAI) occur quite regularly. Other verbs, such as AMAGARU (from AMAI ‘sweet’), NIGAGARU (from NIGAI ‘bitter’), SHIBUGARU (from SHIBUI ‘astringent’), SHOPPAGARU (from SHOPPAI ‘salty’), etc., are accepted by the informant as possible, though rarely occurring.²

With evaluatory taste terms (OISHII, UMAI ‘palatable’; MAZUI ‘unpalatable’), examples are readily forthcoming:

(9) Kono karee wa mazu ne. Soo? Boku wa umai kedo ne.
    THIS/CURRY/theme/UNPALATABLE, OH?/I/theme/PALATABLE, non-
    non-past/tag.
    'This curry tastes bad, 'Oh? I find it okay."
    doesn't it?'

(Cf. example (6) above.) OISHIGARU/UMAGARU ‘show signs of finding palatable’ and MAZUGARU ‘show signs of finding unpalatable’ also occur commonly.

A common collocation is illustrated in (10).

(10) Gohan wa yoku murasu to oishiku taberaru.
    BOILED RICE/theme/GOOD, adv./STEAM, non-past/IF/PALATABLE,
    adv./EAT, potential, non-past.
    'Boiled rice tastes good if you let it stand a while.'
    (Lit. 'You can eat rice in a finding-palatable manner if ....'.)

Here oishiku, the adverbial form of OISHII ‘palatable’, modifies taberaru ‘(you/we) can eat’; the experiencer-dependent nature of

² As is often the case with derivational formations, judgements of acceptability vary with different examples. Apart from the case of terms that are themselves verbal in form (e.g. -MI GA ARU terms) and the complex expression KAORI GA II ‘aromatic’, however, it seems that -garu derivations should be recognized as potentially generally available.
OISHII is clear here, in that the gloss for oishiku must be 'in a finding-palatable manner', not 'palatably'. Finally, a common way for a Japanese to ask a foreign visitor if he likes Japanese food is:

(11) Nihonryoori wa oishii-desu ka.

JAPANESE FOOD/theme/PALATABLE, formal, non-past/question?

'Is Japanese food palatable (i.e. to you)'

If OISHII simply denoted an objective attribute of an entity, then there would be little point in the question.

In Japanese, then, both descriptive and evaluatory taste adjectives behave linguistically as experiencer-dependent lexemes. The difference in subjectivity between taste and colour perception is thus clearly reflected in the language.3

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3 It seems likely that a similar distinction exists in English, though not reflected morphologically: note, for example, the naturalness of sentences like I found it sweet (cf. *I found it frightening but *I found it red).
CHAPTER 9

CONCLUSION

The major aim of this study has been to establish the lexical structure of taste terms in modern Japanese. In this conclusion we discuss the findings of the study considered from two viewpoints, namely, as an exercise in descriptive semantics in general, and as a work on the semantics of taste terms in particular. Finally, we indicate directions in which the work of the study might be extended.

As a work of descriptive semantics, the study has drawn primarily on two recent directions of linguistic investigation, namely, Lyons' development of the theory of the lexical field and the question-and-answer methodology employed in the literature of ethnoscience. As developed in this study, this methodology has been found to provide a fruitful tool in handling the problems of delimitation and initial sub-division of a lexical field. In basic terms, the position taken has been that mere inspection of a lexical item in isolation is not a reliable method of establishing what it means (in particular, what lexical field it belongs to), but that consideration of what question it answers offers a testable criterion for membership. The lexical field is thus seen as a set of lexical items grouped together by virtue of their common occurrence in appropriate responses to a given basic question. Such a methodology, besides having the virtue of replicability by different investigators, would appear to have wide application to different areas of the vocabulary.

From the results of the initial questioning to establish membership, further questions can be derived as a criterion for sub-division, where this is relevant (as in the field AJI), and as a guide to the analysis of semantic relationships themselves. In the letter area,
differences in the response patterns that emerge serve as a useful guide in suggesting hypotheses for further testing. This is a complex area, however: as was found in Chapter 7, not all differences in response patterns turn out to be relevant to sense relationships, and, at the same time, some response patterns suggest sense relationships (such as scalarity) whose precise logical characteristics remain to be defined. Clearly, much work remains to be done on the grammatical realization of sense relationships in different languages.

At a more theoretical level, the study has suggested that, even in an area of 'etic' confusion such as taste, questions of extralingual meaning can be usefully approached in terms of a model which sees extralingual foci as being encoded linguistically in the form of unspoken but unchallenged axioms such as Sugar is sweet. It seems undeniable that such axioms are important for an understanding of how speakers come to apply lexical items appropriately to aspects of the real world.

As a study of the semantics of taste terms, the work has attempted for the first time systematically to investigate the major aspects of this area of the vocabulary in any language. The findings can usefully be discussed in relation to the issues of scientific vs. folk categories and taste vs. colour terminologies raised in Chapter 2.

With regard to the first of these issues, the findings of the study can be said to some extent to vindicate those investigators who have protested that the four scientific taste qualities constitute an unduly narrow framework when seen against the background of everyday usage. It has been shown that the single field of AJI ranges over the parameters of gustation, pungency, astringency, harshness (which is taken to be a sensation, like pungency and
astringency, which is perceived in the mouth but which lies outside
gustation), and olfaction. While linguistic sub-divisions are found
within this range (harshness (AJI II) vs. olfaction (AJI III) vs. the
rest (AJI I)), in no sense do the four scientific qualities constitute
a linguistically separate domain, but fall together under AJI I with
pungency and astringency: If a division can be established, it is
rather between 'tongue-tastes' (AJI I and AJI II, in the narrower
sense of AJI) and olfactory qualities (AJI III) (cf. 7.7). At the
same time, however, it is to be noted that other dimensions such as
texture, consistency, shape and temperature, fall clearly outside AJI
in Japanese.

In Chapter 2 possible difference between taste and colour
terminologies were discussed under the following headings: relative
complexity, affectivity, relative poverty of vocabulary, relative
subjectivity, and cultural boundedness (cf. 2.4). Here we briefly
review the findings in relation to each of these areas in turn.

The complexity of the sense of taste in terms of the variety of
receptors and parameters involved seems to be clearly reflected
linguistically in the structure of the field of AJI. In place of
the monolithic hierarchal structure normally assumed for colour
terms, we find a basic field divided into three separate systems
ranging over different extralingual dimensions. Moreover, the
structure of the main system itself, AJI I, shows considerable
complexity: It consists basically of a set of sets, the terms within
each set being related in terms of incompatibility, hyponymy or
scalarity, with a further layer of inter-set incompatibilities super-
imposed upon this basic structure.
The affective aspect of taste is also reflected linguistically in AJI terms, in the different patterns of combination they exhibit with the evaluatory taste terms: these differences were found to correlate with the relationships of incompatibility, perfectly in the case of AJI III, and on a more restricted scale in AJI I.

The common claim that the vocabulary of the proximate senses is 'poorer' than that of the distal senses is a difficult one to assess. It is certainly the case that, unlike colour terms, the terms of AJI do not constitute a lexical continuum, so that there are taste qualities (such as the taste of carrots) which can only be described in terms of particular substances. If 'poverty' is taken in this sense, then the evidence from Japanese supports the claim. It is not clear, however, whether this reflects an inherent unanalyzability in proximate sense perception, or simply the contingent fact that in general human beings have not felt the need to go beyond a certain degree of precision in their everyday linguistic encoding in these areas. That a high degree of precision is possible where the need is felt is shown, for instance, in the highly developed terminology used by wine-tasters in English and other languages.

As far as subjectivity is concerned, it is clearly uncontroversial to say that taste is an area of greater subjectivity than colour in that intersubjective differences in taste perception are recognized by psychologists. Linguistically, this is a matter of differences in the application of taste terms to given substances. It is interesting to note, however, that, linguistically experiential-dependent lexemes (cf. Chapter 8), taste terms in Japanese fall together with terms denoting emotional states and reactions as well as with the (proximate) sense terms of temperature and pain, all of
which relate to areas of experience commonly regarded as subjective.

Finally, the cultural content of taste is perhaps reflected most vividly in the (from the point of view of English) exotic nature of many of the substances associated with the various terms. At a more general level, all vocabulary can be seen as reflecting the interests of the culture in which it is used: without linguistic studies of taste terms in other languages to serve as a basis of comparison it is difficult to draw conclusions here, but one has the impression that the field of AjI is more richly organized than its English counterpart, both in the number of lexemes available and in the details of their internal structuring.

In conclusion, we note two immediate directions in which the work of this study of taste terms might be extended. Firstly, the method of study might usefully be applied to cover other areas of taste (in a wider sense) in Japanese, using, for example, collocation with the evaluatory terms UMAI/0ISHII/MAZUI as a criterion for delimitation as outlined in 6.3. Secondly, studies of the taste terms of other languages might be conducted along similar lines, so as to provide data for cross-cultural comparison in this neglected area. As we have seen, such studies attracted interest at the beginning of the century, but suffered from a lack of sophistication of linguistic method. With better techniques now available, the prospects for useful research in this area appear bright.
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