

THE PRODUCTION AND INTERPRETATION OF
AD HOC NOMINAL COMPOUNDS IN GERMAN:
A REALISTIC APPROACH

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In 1977 on the occasion of the International Congress of Linguists in Vienna I proposed making an investigation of the conditions underlying the production, use and interpretation of *ad hoc* nominal compounds in German. In the meantime I and my colleagues have been able to carry out a large amount of research in this area. The results have been pre-published on microfiche (approx. 2,500 pages, including working papers, experiments and corpora of data, about 3,000 *ad hoc*¹ nominal compounds found in written texts and about 400 from spoken texts).

One of the major premises of our approach was that a strict differentiation can and should be made between lexicalized and *ad hoc* nominal compounds; the former are assumed to be taken directly from the lexicon, the latter to be formed *ad hoc*, and in this respect to be comparable to sentences. This means, of course, that the task of the lexicon within a realistic grammatical model is a twofold one: to supply the lexical input for sentence formation directly from the list of morphologically simple and complex items and to generate morphologically complex structures on the basis of primary lexical material. The insertion of newly formed words in a sentence or a text depends on further rules and cannot in all cases be considered a strictly local process. The sheer wealth of data collected during the last six years indicates that in contemporary German — spoken and written — the formation of *ad hoc* nominal compounds is a highly creative and productive process. The majority of *ad hoc* nominal compounds are *not* formed in order to enrich the lexicon but are produced in order to secure the communicative flow of verbal exchange (depending on syntactic and semantic parameters to be specified). They thus have a rather ephemeral status comparable to that of sentences.

I cannot here go into details of the empirical side of our work (data-collecting, testing the *ad hoc*-ness of material, elicitation procedures for

¹ Published on microfiche as Brekle (1985a)

evaluative judgments in the semantic domain of nominal compounds and so on). Instead, I shall present some of our results.²

1. The structure of nominal compounds in German

Nominal compounds are complex words whose second member is a noun. According to the nature of the second member, or head, 5 possible types of *ad hoc* nominal compounds can be distinguished:

1. compounds with a synchronically non-derived head (e.g. *Pflanzentisch* 'plant table');
2. a lexicalised nominal compound as head (e.g. *Universitätswartezimmer* 'university waitingroom') or a denominal substantive (e.g. *Nachbar-Feindschaft* 'neighbour enmity');
3. compounds with a relational noun as head, that is, a non-derived noun with an argument-structure (e.g. *Auto-Bruder* 'car-brother');
4. compounds with deverbal heads (e.g. *Baumentscheidung* 'tree decision');
5. compounds with proper nouns as head (e.g. *Fenster-Schmidt* 'window Smith').

The first element of a compound can in principle contain words of any lexical category as well as (in the marked case) syntactic phrases such as NP, VP, Adv P, PP and S.³ Coordinated structures of all types can also appear as the first member. Compounds, and in the present context especially *ad hoc* compounds, can be recursively embedded to give more complex, multiply *ad hoc* compounds. In the system of compounding we have taken as the basis for our study, all elements of the fixed lexical inventory (words and bound morphemes) carry information about their grammatical category as well as about the categories for which they subcategorize (if any). In addition, they contain information about their argument-structure, i.e., the syntactic category and semantic roles of the arguments they take. In the generative part of the lexicon, elements from this inventory are combined to form complex words, including compounds. The features and categories of these compounds are determined according to certain principles of the grammar, among which the

² The following sections of this paper are based on the final report ("Endbericht") of the project described in the opening paragraphs, namely Boase-Beier et al. (1985). Unless otherwise indicated, examples are taken from this report.

³ Thus the restriction sometimes formulated to the effect that word-formation can involve no entities of a higher level than the word-level, cf. Selkirk (1982, 9), must be expressed in a weaker form: word-formations of this type constitute the marked case.

following is of central importance: the category and features of the right-hand member of a compound are assigned to the compound as a whole. This principle is based on the concept of "head" and the assumption (or Righthand Head Rule, cf. Williams (1981, 248), Selkirk (1982, 20)) that the head of a complex word in Germanic languages is the rightmost member. This restriction is to be seen as an extension of assumptions made in the Xbar-theory of syntax to the area of word-formation.⁴ We regard formation-rules for words as being formally similar to phrase-structure rules of the syntax, though as being situated in the generative component of the lexicon.⁵

2. Processes in the interpretation of nominal compounds

The interpretation of nominal compounds involves among other things the assignment to the compound of the semantic relation whose arguments are the constituents of the compound. We should like to make a distinction between two types of interpretation processes; this distinction is to be viewed in terms of a theory of markedness.⁶

We assume that a construction is either locally interpretable, that is, interpretable with reference only to material it contains, or it is non-locally interpretable, that is, it can only be interpreted with the help of external material. Because we assume that the central core of the grammar is characterized by a tendency towards as little deviation as possible from the local interpretation, we would wish to correlate the two types of interpretation with corresponding values in a theory of markedness, whereby the local interpretation is seen as unmarked, and the non-local as marked.

The interpretation of a nominal compound AB consists in constructing a level at which AB is represented as F(A) (or F(B)) or as F(A, B). That is, if there is no relation present in the compound AB, one has to be "found" and assigned to the compound such that A and B; the constituents of the context-dependent compound, are arguments of this relation. This is the non-local interpretation. If, however, A or B is a relational element, it is necessary to decide in what relationship the other element stands to this relation. If the non-relational element is an argument of the relational one, the compound can be interpreted locally. The means used to construct the semantic representation vary according to the type of knowledge required. These types of knowledge in turn correspond to the types of information associated with the lexical entries for the two constituents of the compound.

⁴ See Toman (1983).

⁵ In this we follow Selkirk (1982).

⁶ See Boase-Beier & Toman (1985).

Compounds can be divided into 4 classes according to the type of information associated with their constituents (and thus according to the means used to interpret them), namely: relational compounds, stereotype compounds, compounds with a basic relation and context-dependent compounds.

2.1. Relational compounds. These compounds contain a relational element (i.e. a verb or verbal derivation, a relational noun (such as *Bruder* 'brother'), a preposition or an adjective) as either the first or second member. In the lexicon, information is associated with this relational element about the arguments (i.e. their syntactic type and semantic roles) which it can take. In general, relational compounds are so interpreted that the non-relational element is an argument of the relational one, e.g. *Hausvermietung* 'renting of houses', or an adverbial modifier, e.g. *Wintervermietung* 'renting in winter', and are thus locally interpretable. Their interpretation requires only grammatical knowledge.

2.2. Stereotype compounds. Though these compounds do not contain an explicitly relational element, one of their members is implicitly relational in that a relation is associated with it in the lexicon. For example, in the case of a compound such as *Milchwagen* 'milk van', we assume that the relation 'transport' is given in the lexicon as a stereotype of the word *Wagen*. Other relations associated with words, such as "produce" in the case of *Fabrik* 'factory' are listed in the lexicon as part of the meaning of the word in question, rather than as a stereotype of it. Both types of relations inherently associated with nominal elements in compounds are here subsumed under the heading of "stereotype relations".⁷ Compounds with one of whose members such a relation is associated may thus be interpreted in a way similar to that appropriate to relational compounds although their interpretation requires more than purely grammatical knowledge, because knowledge of stereotypic relations involves lexical-semantic information and also semantic-pragmatic knowledge of the world.

2.3. Compounds with a basic relation. These compounds are not locally interpretable; they can only be interpreted with recourse to information not contained in their constituents. The relation underlying a compound of this type is one of a small set of basic relations containing the relations "is the location for" (as in *Waldhaus* 'forest house'), and the relation of coordination (as in *Hausboot* 'house-boat'), and possibly the relation "is similar to" (as in *Butterblume* ('butter-flower') 'buttercup'). Such relations cannot be obtained from the compound itself. The type of knowledge required to interpret these

⁷ See Boase-Beier (1985a), Fanselow (1981).

compounds is very complex in nature, involving knowledge of the basic relations themselves in addition to grammatical knowledge about their argument structures and semantic knowledge about the stereotypic and other qualities associated with the constituents of the compounds.

2.4. Context-dependent compounds. Compounds which are not locally interpretable and are not assigned a basic relation are context-dependent; they can only be understood using information taken from the context in which they occur. Their interpretation presupposes knowledge about rules of text-construction which, together with the information the context contains, enable the listener to identify the correct relation in the context. In this group are three main types of compounds:

1. Non-relational nominal compounds without a stereotype-relation, e.g. the compound *Schlangenmann* 'snake man' which, as it has no inherent relationality, cannot be assigned any interpretation without recourse to context information;

2. relational nominal compounds which have a context-dependent reading, e.g. the compound *Autoverkäufer* 'car seller' meaning not a seller of cars but a seller (of something else) who comes to work by car;

3. stereotype compounds which have a context-dependent reading, i.e. *Bücherregal* 'book shelf' meaning not a shelf for books but a shelf (for something else) which is constructed of books;

In cases 2 and 3 the compounds cannot be interpreted on the basis of the argument-structure of their inherent relation, thus they, like 1, are context-dependent.

2.5. Empirical evidence. It is to be expected that these theoretical differences concerning the type of information connected with a compound will be manifested in various interpretation-strategies during the actual interpretation of *ad hoc* nominal compounds. Results of experiments which we have carried out show that compounds in these different groups are in fact understood at different speeds. The experiments appear to substantiate the view that compounds for which grammatical knowledge alone forms a sufficient basis for their interpretation are understood more clearly (and in terms of reaction-times, more quickly) than those whose interpretation requires additional semantic or pragmatic knowledge. A compound of the latter type will be understood more easily (and quickly) than one which can only be interpreted using additional context and text-grammatical knowledge.

3. Pragmatic aspects of nominal compounding

It is to be assumed that a complete and empirically adequate theory of nominal compounding must also contain reflections on its pragmatic aspects.⁸ Taking pragmatics to be the study of the appropriateness of a particular utterance in a particular context, it is clear that the choice of a nominal compound in a particular context is influenced above all by considerations which can be summarized under the following two pragmatic aspects:

1. When is a nominal compound *suitable* to a particular context?
2. When is a nominal compound *understandable* in a particular context?

The first question concerns the production of *ad hoc* nominal compounds, the second their interpretation. The relation between interpretation and production can be given as follows: only interpretable compounds are produced. This is of course not to be seen as a statement specific to nominal compounding, but as a general principle for the use of linguistic structures. Thus all factors which allow nominal compounds to be interpreted are also directly relevant for their production, though the opposite clearly does not apply: factors which make the production of a nominal compound in a particular context likely need not necessarily contribute directly to its interpretation.

In what follows we shall briefly discuss pragmatic factors from both these aspects, i.e. in connection with both the production and the interpretation of *ad hoc* nominal compounds.

3.1. The production of nominal compounds. Apart from the question of individual style, there are a number of factors whose presence renders the production of nominal compounds appropriate. These factors are of varying status: some are context-features, some are special effects associated with *ad hoc* nominal compounds, some are specific aims which can be realized using nominal compounds. We shall consider some of these in the sections which follow.

3.1.1. Lexical gaps. There are two main reasons for the existence of a lexical gap: either there is objectively a gap in the lexicon of the language, or the speaker himself does not have access (either in general, or as the result of a momentary weakness in performance) to the required word.⁹

In general, every use of an *ad hoc* compound (or of any other new word formation) presupposes a lexical gap of some sort, in the sense that the for-

⁸ Cf. Brekle (1978, 76) and also Herbermann (1979), Mabrey (1980).

⁹ Cf. the "Semantic Gap Hypothesis" put forward by Carroll and Tanenhaus (1975, 51).

mation of a new word is only possible if no word already exists in the lexicon with exactly the same meaning.¹⁰ Thus the formation of *ad hoc* compounds which at first sight appear to be synonymous with lexicalized words can be seen as the consequence of a "stylistic gap". Nominal compounds may thus serve the potential extension of the lexicon in the sense that a phenomenon which had not existed or not been apprehended before is given a name. Examples of this are the compounds *Holocaust-Film* 'holocaust-film', *Tschernobyl-Wolke* 'Chernobyl-cloud' and *Makrobioten-Restaurant* 'macrobiotic restaurant'. But gaps also exist in the system of a language; some lexicalized expressions, for example, only occur in the plural. The formation of a new compound can then render it possible to use the expression in the singular form. An example is the expression *die Flammen der Hölle* 'the flames of hell', corresponding to which the *ad hoc* compound (eine) *Höllensflamme* 'a hell flame' can be formed.

In this connection the phenomenon of reification should also be mentioned. The reifying effect of *ad hoc* nominal compounds is used in scientific terminology, and also frequently in the service of ideologies.¹¹ An example of the reifying effect of such compounds can be seen in the case of the compound *Batterie-WAA (Wiederaufarbeitungsanlage)* 'battery reprocessing plant', which was formed in the context of a talk on atomic energy reprocessing plants and environmental protection. There exist no battery reprocessing plants, but the idea is put forward as worthy of consideration. The use of the compound serves to reify the concept of such an enterprise.

The results of an experiment carried out by us indicate the relevance of the concepts of the lexical gap for the formation of *ad hoc*-compounds. The results further showed that the formation of compounds, given the existence of lexical gaps, is influenced by two factors — the familiarity and the complexity of the object to be named. Unfamiliar and complex objects led to the formation of more compounds than did familiar and non-complex objects.

3.1.2. Reference. Under this heading can be subsumed both the quasi-pronominal use of nominal compounds and the "deictic" use.¹² The quasi-pronominal use is considered by various linguists to be the main function of word-formation.¹³ Compounds often occur in a text when the use of a pronoun would not suffice to establish referential identity between two expressions. The following example illustrates this:

¹⁰ Cf. also the principle of Pre-emption, as put forward by Clark and Clark (1979).

¹¹ See Brekle (1985b).

¹² Cf. Downing (1977, 339).

¹³ Cf., for example, Brekle (1985b, 18f.).

- (1) *die Wahlkampfmannschaft von Strauß . . .*
*. . . die Strauß - Mannschaft*¹⁴
 'Strauß's election-campaign team . . .'

By "deictic" reference is meant the use of an *ad hoc* compound which makes it possible for the speaker to refer to something in a way which is clear and comprehensible. This use, described in detail by Downing (1977) was tested by us in an experiment and it was found that in the referential use the proportion of *ad hoc* nominal compounds was very high.

3.1.3. Contrast. Contrast in the context of an *ad hoc* nominal compound plays an important role in its interpretability, and is thus also a significant factor in the production of such compounds. As the latter aspect will be considered later, we shall here only mention the former. A nominal compound can be formed in contrast to a lexicalized compound or phrase, or to an expression which precedes it in the context. For example, in contrast to the lexicalized compound 'family allowance', the compound *Elterngeld* 'parents' allowance' can be formed. In the following example, a compound is formed in contrast to one formed earlier in the text:

- (2) *Im Münchner Zoo lebt ein Adler, der nur Rosen frisst. Der Rosenadler ist jedoch unter den Besuchern nicht so beliebt wie ein südafrikanischer Tulpenadler.*

'In the Munich Zoo there is an eagle which only eats roses. However, the rose eagle is not so popular among visitors as a South African tulip eagle.'

Both these compounds are *ad hoc*. The first is explained in context and the second is understood as a contrast to the first. Even compounds which would normally not be considered acceptable tend to be accepted when there is a clear contrast present in the context.

3.1.4. The Minimax Principle. A further condition for the use of *ad hoc* nominal compounds can be seen in the so-called Minimax Principle,¹⁵ which says that a speaker will always try to form utterances such that minimum surface complexity is combined with maximum information content. Compounds are suitable means of fulfilling this general communication principle. If we use, for example, instead of *das Problem des Straßenbaus* 'the problem of building streets', the compound *Straßenproblem* 'street-(building) problem',

¹⁴ Example taken from Wildgen (1985).

¹⁵ Compare Carroll and Tanenhaus (1975, 51).

we are acting according to this principle. The results of an experiment, in which argument structures present in a text were to be used again later in the same text showed that the structures most commonly used were compounds, suggesting that the Minimax Principle influences the choice of construction-type.

3.1.5. Foregrounding. This is a term originally used by the Prague School Linguists¹⁶ and we mean by it the directing of the attention of the listener or, more often, the reader, to the form of an utterance, rather than to its content. All *ad hoc* words, by virtue of being innovative in nature, have this effect to some extent. The effect is used above all in poetic language, in advertising, and in journalism, particularly in headlines. It is important for the production of *ad hoc* nominal compounds in so far as the aim of drawing attention to a linguistic form often results in the use of *ad hoc* compounds.

3.1.6. Ambiguity. All *ad hoc* compounds without an explicitly expressed relation are ambiguous, because in their semantic representation in principle any relation could be assigned to them. Thus a compound *Blatt-Schmetterling* 'leaf-butterfly' could mean 'a butterfly which looks like a leaf', 'a butterfly which lives on leaves' and so on. Normally such a compound is disambiguated in context. However, the inherent ambiguity of such forms can be used for particular effects and thus the intention of achieving ambiguity is a condition which makes the use of a compound more likely. This potential ambiguity is used particularly in political contexts but also in poetic language.

3.1.7. Analogy. The importance of analogy in the formation of new words has been observed by many linguists.¹⁷ A lexicalized compound serves as a pattern for a further compound or series of compounds. Thus, for example, parallel to *Augenarzt* 'optician', *Zahnarzt* 'dentist', we can form the compound *Beinarzt* 'leg-doctor' for a doctor who treats the leg of his patient. Not only lexicalized compounds, but also *ad hoc* compounds can serve as the basis for analogical new forms within the same text.

The role of analogy in the production of *ad hoc* nominal compounds has been empirically tested and it was found that the presence of a lexicalized or new compound in a text resulted in a greatly increased production of analogous *ad hoc* compounds.¹⁸

3.2. The interpretation of nominal compounds. The production of *ad hoc* nominal compounds is influenced by all the above factors, which often appear

¹⁶ See for example, Mukařovský (1932 [1964]).

¹⁷ See, for example, Paul (1896), Motsch (1977), Fleischer (1969).

¹⁸ See Stöhr (1985).

in combination with another. But the interpretability of *ad hoc* compounds must also be ensured.

For the interpretation of locally non-interpretable structures such as non-relational compounds, we can formulate the following Principle of Interpretation:¹⁹

- (3) Given a locally non-interpretable construction, attempt to apply the interpretational mechanisms provided by the grammar such that a semantic representation can be assigned to the construction.

Corresponding to this, a Pragmatic Principle could also be formulated with the form: "form only such constructions as are interpretable".

As mentioned above, the interpretation of every compound which is not locally interpretable involves finding a relation which can be assigned to the compound AB to give a semantic representation R(A, B). In order for this relation to be found in the context, there must be present two elements, A' and B', which correspond to A and B, and which are connected by a relation. The relation obtaining between A' and B' in the context is then the relation to be assigned to AB at the semantic level. A principle such as (3), ensuring that the relation R is assigned to the compound, would of course interact with a number of other principles which ensure that the correct relation can be assigned. In this connection, Grice's conversational maxims are relevant²⁰ Grice mentions four main maxims, namely the maxims of Quantity ("say as much as is necessary"), Quality ("speak the truth"), Relation ("be relevant") and Manner ("be clear"). For the interpretation of an *ad hoc* nominal compound in context, these maxims mean respectively, among other things:

- a) the relation to be assigned to the compound must be present in the context;
- b) the relation to be assigned to the compound must be identifiable in the context;
- c) the compound must be relevant in the context;
- d) the compound must be applicable (we cannot speak of truth in connection with a lexical item).

3.2.1. The Presence of the Relation. If a compound *Grammatik-Kleid* 'grammar dress' is to be interpretable, both the relation and two arguments which correspond to the elements of the compound must be present in the context:

¹⁹ See Boase-Beier and Toman (1985), here translated.

²⁰ See Grice (1975).

- (4) *Alle Mädchen des Wolfgangs-Gymnasiums besitzen die englische Grammatik mit dem leuchtend grünen Einband. Als die Englisch-, Lehrerin ein auffallendes Seidenkleid in einem ähnliche Farbton trug, sagten die Mädchen, sie hätte sich ein Grammatik-Kleid gekauft.*

'All the girls of the Wolfgang Grammar School own the English Grammar with the bright green cover. When the English teacher wore a similar colour, the girls said she had bought a grammar dress.'

In this example, as much information as is required to interpret the compound, in the form of the two corresponding elements A' (*Grammatik*) and B' (*Kleid*), as well as the relation "like" (i.e. *in einem ähnlichen Farbton*) is present in the context. If this information is not present, the compound is not interpretable:

- (5) *Frau Schmidt trug ein Grammatik-Kleid.*
'Mrs Smith wore a grammar dress.'

Here there are no elements A', B' corresponding to the elements of the compound and thus no relation can be assigned.

3.2.2. Identifiability In the above example (4), the relation is identifiable because it clearly appears in the context in the argument structure "like (dress, grammar)". If the relation is not identifiable, the compound cannot be interpreted; compare the following example:

- (6) *Am Montag, an dem Tag, an dem in unserem Laden immer sehr viel verkauft wird, sprach ich mit der Kartenfrau.*
'On Monday, the day on which a great deal is always sold in our shop, I spoke to the card woman.'

Suppose that the compound *Kartenfrau* 'card woman' is to receive the reading 'woman who sells cards'; the relation *verkaufen* 'sell' appears in the context but there is no way of identifying it as the relation between *Karten* and *Frau*. Assuming that the finding of the correct relation in the context involves not only the presence of the corresponding argument structure in the context, but also the means to identify it, we can observe a number of restrictions on the relation between the corresponding elements A' B' in the text and the elements of the compound themselves. These restrictions are discussed in detail in Boase-Beier and Toman (1985), and will just be mentioned briefly here: they are the "No-Mixing Principle" and the "Specific-General Order Prin-

ciple'. The former says that the elements of the compound must be arguments of one and the same relation, e.g. a compound *Rosenwald* 'rose forest' may not be interpreted as 'forest in which there lives a magician who eats roses'. The unacceptability of compounds with such readings was substantiated in empirical tests. The Specific-General Order Principle states that, for the interpretation of *ad hoc* nominal compounds, a compound with quasi-pronominal reference can only be understood if the order "specific-general" is observed, i.e. if the elements of the preceding text which correspond to the elements of the compound are more specific than the elements of the compound themselves.

3.2.3. Relevance A compound which is not relevant in context cannot be interpreted. An *ad hoc* compound *Glasmuseum* 'glass museum' is locally interpretable as 'museum in which glass is displayed'. But in the following text, the compound appears not to be relevant:

- (7) *Als Hans neue Zimmerpflanzen kaufen wollte, besuchte er zuerst das Glasmuseum und fuhr dann in die Stadt zu einer Gärtnerei.*
 'When Hans wanted to buy new plants for his room, he first visited the glass museum and then went to town to a garden centre.'

The listener assumes the speaker will say what is relevant. Thus he will assume the normal reading of *Glasmuseum* does not apply here and will try to interpret it so that it has something to do with plants.

In empirical tests it was found that compounds were in general interpreted as relevant to their contexts. The same compound, even if locally (i.e. context-independently) interpretable, was interpreted differently in different contexts, so that it was in each case relevant to its context.²¹

3.2.4. Applicability. In the following example, the compound is relevant in the context, which contains sufficient information to interpret it. However the compound appears not to be applicable.

- (8) *Ein Laden, in dem Pflanzen verkauft werden, heißt Fischladen.*
 'A shop in which plants are sold is called a fish shop.'

In a context like this, the compound remains uninterpretable.

3.2.5. Pre-emption. The principle of Pre-emption, as formulated by Clark and Clark (1979), says that a new lexeme can only be formed when there is no lexeme with the same meaning already present in the lexicon. Thus in general

²¹ See Beier (1985).

a new compound *Grasmäher* 'grass mower' will not be formed to denote that which is normally called *Rasenmäher* 'lawn mower'. From the point of view of interpretation this means that, when a new compound is formed it will be interpreted to mean something different from the already existing word, unless the listener in an actual conversation assumes the speaker is suffering from a subjective lexical gap where objectively there is none. If, however, he has reason to assume that this is not the case, he will interpret the compound as having a new meaning; that is, either as denoting a new object — in the case above perhaps a special mower for high grass — or as having a different stylistic or connotative value from that of the lexicalized compound.

3.2.6. Analogy. We have spoken above about the role of analogy in the production of compounds. It is of course also of importance in their interpretation. Especially for compounds which are not locally interpretable, such as compounds whose underlying relation belongs to the set of basic relations, analogy plays an important role. For example, the compound *Blutpflaume* 'blood plum' could be interpreted as a plum with reddish flesh in analogy to the lexicalized compound *Blutorange* 'blood orange'. As the above mentioned experiment on the role of analogy in the production of *ad hoc* nominal compounds showed, analogy to a lexicalised compound was the strongest single factor influencing the interpretation of an *ad hoc* compound.²²

From the above discussion it will be clear that a thorough study of the production and interpretation of *ad hoc* nominal compounds involves the investigation of a large number of factors, syntactic, semantic and pragmatic. It is to be hoped that this paper has served to provide some insight into the type of questions involved.

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²² See Stöhr (1985).

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