

ON THE ANALYSIS OF MODAL MEANINGS
IN SPOKEN GERMAN OF NATIVE
SPEAKERS AND POLISH LEARNERS

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In this report we refer primarily to the aims of the project within which this work was carried out and in some detail to preliminary work such as data collection, transcription, working methods, etc. Within the project work a two-year longitudinal study is being carried out which aims to document the acquisition of German modal means by Polish natives. The data collection, which was begun in summer 1985, probably will be completed in spring/summer 1988. At the end of the study we are planning a comparison between our data/results and those of other studies concerned with the acquisition of German by other than Polish non-native German speakers (for example Italians in the ESF project in Heidelberg).

With respect to the results of analysis in the present study we must concede that instead of a large amount of typed and transcribed data we still have no representative results at our disposal, because nearly all the work before February 1987 had to be done by volunteers. Therefore, what we will present with respect to an analysis of modal meanings in this paper is empirical only to a certain degree. Our analysis will deal primarily with

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semantic and pragmatic aspects of modality. On the one hand we are attempting to describe the degree to which learners express modal meanings by use of discourse rules, contextual knowledge and shared world knowledge. On the other hand we are attempting to describe sequences in the acquisition of modal means, their frequency and their meanings.

We obtained (and still are doing so) data in natural and (as far as the technical equipment of a video laboratory permits) in quasi natural communication situations. Each recording consists of five parts, which we define as discourse types as follows:

- a) free conversation
- b) narratives/reports
- c) instructions
- d) attitudes/opinions
- e) problem solving

From time to time we introduced a discourse type we call

- f) intention and desire (aims)

Our sample consists of 15 Polish learners at the beginning of the period of data collection and of 8 Polish learners at the present time. There are equal numbers of males and females. They are between 20 and 40 years old. Conversations with the learners were tape recorded every month from the beginning up to the present time. The first interview with each informant took place during the first year of his residence in Berlin.

Because we have obtained so much data so far that it would be impossible to analyze them within an entire lifetime if we did not enlist the aid of computer, we are entering all our transcribed data into a computer to facilitate the analysis.

Proposal for Analysis

One of the first important steps in an extensive analysis of modality in spoken language in our opinion seems to be the development of a model for analysis which considers the descriptions in recent empirical studies on modality on the one hand and on the other hand considers modal categories of linguistic theory which have been developed on the basis of formal and modal logic.

A synthesis of both is not completely unproblematic. Empirical studies in general deal with modal means such as modals or modus (e.g. Dittmar 1979; Brünner/Redder 1983). In theoretical approaches in general categories have been developed which may serve excellently for the description of formal

languages but, as far as we can see, cannot simply be applied to spoken natural languages (cf. e.g. Lyons 1977/83; Rescher 1974).

Our aim is not to prove, for example, the truth, necessity or possibility of utterances. We define the use of modal means as marking speakers' attitudes (in a broader sense) as to the content of their utterances or sentences. Therefore what we are investigating are the positions of speakers with regard to their opinions about uttered sentence contents.

The Modal Categories

For the present we assume five modal categories, i.e. modal meanings, which we shall describe in the following to some extent:

Category 1 (Probability to which the content of an utterance is considered to be true).

This category includes at least two types of modality we know from the theoretical literature: alethic and epistemic modality. We believe this combination to be justified, because for the present we assume that it is impossible to differentiate whether a speaker is referring by an utterance to the truth of it (cf. alethic modality in Rescher 1968) or whether he is referring to his knowledge or beliefs.

We are not justifying our assumption that such a differentiation is a problematic one in spoken language simply by claiming that spoken language may be (or is) vague. Rather we assert that speakers who refer to the truth of utterances do not principally refer to it in the logical sense of true or false but even more, as our thesis claims, in the sense of believing it to be true (für wahr halten). Further we may say that an utterance of the kind 'it is true that p' always contains the knowledge about p: 'I know that p' (cf. Eisenberg 1986). For this reason it is a contradiction to say in the same context

1. I know that p
- and
2. it is not true that p.

Even though it is uncertain to what extent truth and knowledge in terms of spoken German may be considered as semantically equal, we come to the conclusion that with regard to the possibilities of gradation in category 1 described above they can be assigned to the same degree of probability.

The degree of probability is regarded as the measure of a speaker's 'taking (the content of an utterance) to be true'. The probability that p true (or rather: is taken to be true) is defined by values between 0 and 1. For the present we assume that only the two extremes (0 and 1) can be measured exactly.

If a proposition in our eyes is claimed to be absolutely probably true (= absolutely true) we show this by

* probable that p true
 (* wahrscheinlich, daß p wahr).

If we find that a speaker claims that there is absolutely no probability that p true we show this by

– probable that p true
 (– wahrscheinlich, daß p wahr)

Further we define a middle value (o probable that p true) that marks that a speaker neither claims the content of an utterance to be true nor to be untrue. At least we assume to have evidence that there are two values with high frequency in spoken language which are near the extremes but are not identical with them. The one who claims to be next to '* probable that p true' we show by '+ probable that p true'. The one next to '– probable that p true' is shown by '/ probable that p true'.

We suspect that the various degrees of probability in German may be expressed by the following means

*	probable that p true	ich bin sicher, daß p (I am sure that (of) p) ich weiß, daß p (I know that p) es ist wahr, daß p (it is true that p)
+	probable that p true	ich glaube, daß p (I believe that p) wahrscheinlich p (probably p) ich vermute, daß p (I suppose that p)
o	probable that p true	es ist möglich, daß p (it is possible that p) ich weiß nicht, ob p (I don't know whether p) vielleicht p (perhaps p) ich glaube nicht, daß p (I don't believe that p)

/	probable that p true	ich vermute nicht, daß p (I don't expect that p) unwahrscheinlich p (improbable p)
–	probable that p true ²	es ist unmöglich, daß p (it is impossible that p)

Finally we do not exclude the possibility that category 1 is relevant either explicitly or implicitly for all utterances. That means that in an utterance without explicit means from category 1 the assumption of its 'being true' is implicated. In imperatives possibly the validity of a mand (order, instruction, ...) being true is implicated. Questions may have as one of their functions, the function of referring to a certain indecision of the speaker with regard to his 'taking to be true' of an utterance's content (similar to: 'I do not know whether p' (cf. Doherty 1985).

With the exception of category 4 which we still wish to describe with examples of some speakers' utterances, we shall describe the other categories only in an abridged version:

Category 1a

In this category we also find occurrences of the 'taking to be true' of the utterance's content. But these are not identical with those performed by a speaker at the time of speaking. In category 1a the speaker refers to utterances of third persons or to his own estimation at a point different from the time of speaking.

Category 2 (capability of action/Fähigkeit zu Handlungen)

It refers to a speaker's estimation about the ability of an agent to do certain action. It is differentiated by the following indications of degree:

A + capable of doing y (A + fähig, y tun)
 A o capable of doing y
 A – capable of doing y

Category 3 (desire and intention/Wunsch und Absicht)

² Note the importance of negation. By negation of 'p' at the degree of '* probable' this degree is not further related to 'p' but to '–p'. That means that we deal with a new state of affairs; or more precisely: the probability '– probable' is assigned to the existence of 'p'. The probability which a speaker attributes to a certain state of affairs (called 'p') changes with regard to the same state of affairs into another degree if p is marked by neg: A state of affairs which would be '* probable' without neg becomes '– probable' with the negation. A state of affairs which would be '+ probable' without neg becomes '/ probable'. Only at the degree 'o probable' there is no important change of the probability if we compare 'p' to '–p'.

Here we are concerned with the representation of desires and intentions or — more general — the representation of the intensity by which some person A strives for a goal.

A + to strive for G

A o to strive for G

A — to strive for G

Category 4 (necessity of actions and states)

It refers to the degree of necessity a speaker attaches to the carrying out of a certain action (normally by a certain actor). We differentiate between three areas of gradation:

- + necessary to do y (S states necessity for A to do y)
- o necessary to do y (S states no necessity for A to do y)
- necessary to do y (S states prohibition for A to do y)

This type of modality is similar to some representations of the deontic modality where there is described

- + necessary as “necessary” or “obligatory” (geboden)
- o necessary as “possible” or “permitted” (erlaubt)
- necessary as “impossible” or “prohibited” (verboten)

(cf. e.g. Lyons (1983); v. Wright (1951)). But we do not restrict this modality to the necessity of actions (Notwendigkeit von Handlungen) under the aspect of social expectations. Further we include the necessity of certain states of affairs.

Actions and states of affairs are necessary, possible or impossible with regard to the achievement or avoidance of certain aims (e.g.: Du mußt groß sein, um über die Mauer schauen zu können).

In our data base we have two discourse types we call ‘instruction’ and ‘problem solving’. In the first the informants have to give instructions to another person. The instructions are supposed to lead to the achievement of a certain goal. In the second case the informants have to look for some solution that leads in a fictitious situation to the achievement or avoidance of a certain result. In both cases we may find necessary (obligatory), possible (permitted), and impossible (prohibited) actions or states in the sense that they are necessary, possible or impossible conditions for the achievement of the goal in view of the chosen solution.

Some remarks on the expression in category 4

Before we begun the preliminary data analysis with regard to type 4, we presumed that in elementary learner varieties the necessity of performing actions is seldom made explicit and only by a few means. We assumed that

the learners would use pragmatic means, contextual knowledge, common world knowledge and discourse rules extensively. We presumed that advanced learners would use modal means in a very explicit way, although perhaps with a restricted variety of means. We expected the German informants to be the most explicit with regard to the necessity of actions in view of certain goals (by means such as the ‘imperative’ and the German modals (‘müssen’, ‘sollen’, ‘können’ und ‘dürfen’). As far as we can see from a small data base which until now had been viewed we must formulate the following hypothesis: — Learners of elementary varieties very often use pragmatic means like contextual knowledge (the goal to attain is known and the roles are allocated). In elementary varieties we often find in the beginning of a single instruction “bitte” (please), which possibly signals that in the following utterance we are concerned with a (de)mand to some action that is necessary to achieve the goal.

— As expected the advanced learners often used modal means to express the necessity of actions.

— German speakers, however, used to an unexpected extent discourse rules or contextual knowledge. And they used them more often than any advanced learner did.

From this we presume that in instructions in natural languages there exists some basic rule which demands that normally the aim has to be mentioned and the roles of the participants have to be regulated in such a way that they know who is giving instructions which necessarily have to be carried out and who is the one who carries them out. After this it is unnecessary (and even seems to be unusual) to mark each action as necessary for the achievement of the aim. That means naming the action may be sufficient to understand its necessity of performance in the context. From this we derive that instructions generally have a structure that contains the naming of a certain goal, the arrangement of role allocation and single instructions (possibly the naming of subordinated aims as well).

The structure of a complex instruction may be described by trees where the goal ‘G’ is in the top line to which all necessary actions are related from lower lines. The actions themselves may be complex ones or even subordinated aims to which there are related less complex or single actions (in some cases may be ‘states of affairs’) as well.³

In table 1 we attempted to describe the tree structure of the complex instructions of two informants (one German and one Pole) who advised another German speaker to prepare a package to be sent to Poland. As we see, the Polish speaker hardly mentions necessary instructions which are unrelated to another complex one or to subordinated aims different from ‘G’,

³ See table 1.

while most of the German informant's instructions refer to single actions which lead directly to 'G'. We cannot offer any explanation for these differences in the structure of the two instructions. It is possible that the differences are caused by some inherent language use phenomena, which means that, for example, we cannot exclude the possibility that for the non-native informant the instruction seems to be simpler if he divides one complex structure into different less complex ones. But we also cannot exclude the possibility that the different structures are caused by individual differences between the informants. We have to take into account that the informants are different in age, sex, and sociocultural background.⁴ Unquestionably we cannot presume that an analysis of these two informants' modal means expressing the necessity of actions to be carried out is representative in some way. But with regard to the hypothesis mentioned above we can find some support for the assumptions about the use of this means in advanced learners' and in native speakers' varieties.

With regard to the modal means used by both informants we might say that the advanced learner is performing only four instructions without the explicit use of these means. And we cannot exclude the possibility that one of these cases is just an attempt to perform some expression of the kind 'und so weiter': "so und noch weiter alles". In 15 of a total of 25 mands the learner uses the modal 'müssen', four times he uses the modal 'können' and two times the imperative. — In 46 mands the German informant uses the modal 'müssen' only four times, 'können' two times, 'sollen' one time, and the imperative five times. Most of the mands have the form 'inflected verb + pers. pronoun'. Nine of these occurrences are combined with the temporal adverb 'jetzt'. In 12 sentences the inflected verb is related to a pronoun of former sentences. Two times we find the structure 'pers. pron. + verb', one time an infinitive construction, and one passive phrase. That means that in 46 sentences which are related to necessary actions or states of affairs with regard to the achievement of the goal, only 12 contain one of the expected modal means. These results are what we claim to be support for our hypothesis mentioned above.

Prospects

In the last chapter we tried to show how an analysis of natives' and learners' utterances may look when being related to meanings as described in 'category 4'. Even though such an analysis may lead to some valuable results we have to stress that an extensive analysis in one modal category cannot

⁴ The Polish speaker is about 35 years old, male and skilled manual worker. The German informant is about 30 years old, female and has a teacher's degree.

be exhaustive if others (especially 'category 1') are not included, because in the whole modal meaning of sentences or utterances we nearly always find some interrelationships.

Our present approach is to describe the semantic structure of modality in learners' utterances (and to some extent in natives') during the acquisition process. Further we want to receive some knowledge about the relations between the (semantic) modal structure and the syntactic structure of sentences.

We are trying at the present to relate the utterance, its syntactic (phrase-) structure and its modal structure in columns as follows:⁵

utterance ⁶	phrase structure	modal structure
1. Öffne doch bitte mal die Plastiktüte	VP (V _{Imper} + Part ₁ + Part ₂ + Part ₃ + NP (Art + N))	1*~ > 4 + Imper > p
2. Jetzt müßte da noch ein Einschnitt sein	Adv ₁ + MV _{Konj.} + Adv ₂ + Part. + Art + N + V _{Infinit.}	1/ _{Konj.} > 4 + müssen > p
3. Die beiden Laschen die müssen in die Kerben	NP ₁ (Art + Num + N) + Pron + VP (MV + Prp + NP ₂ (Art + N))	1*~ > 4 + müssen > p
4. Zuerst dieses Teile von dir muß bei mir kommen, ich glaube	Adv + NP ₁ (Dem. Pron. + N) + VP ₁ (Prp + Pers. Pron + MV + Prp + Pers. Pron + V _{Infinit.}) + NP ₂ (N) + VP ₂ (V)	1 + glaube > 4 + müssen > p

After having analyzed larger segments of the data in this way, computer programmes like Romuald Skiba's "Text-Wolf" may help us to find in which frequencies certain kinds of modal structures occur, whether they are related

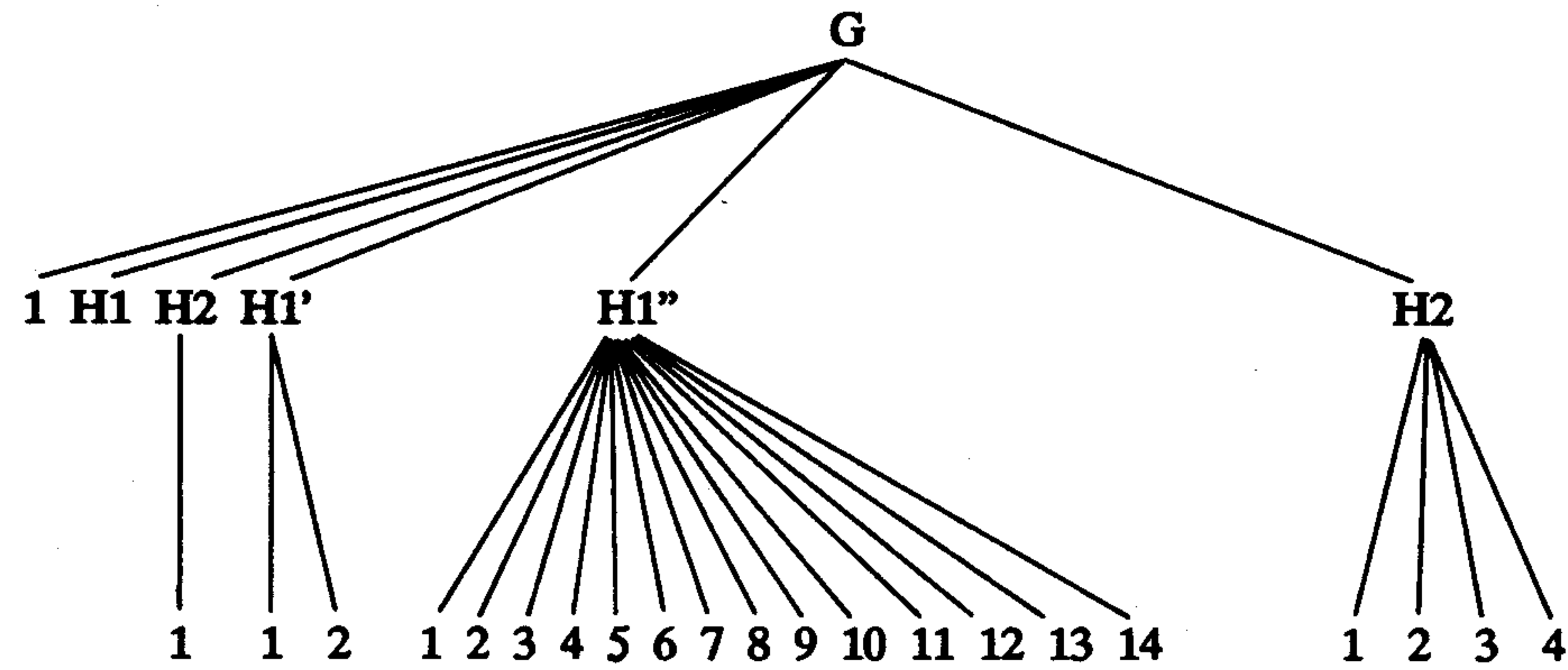
⁵ The classifications in the columns are not final. Similar to the way we accept an implicit occurrence of category 1 we can always do this with category 2 (and maybe with 3) if we find some occurrence of category 4 which is related to a mand. This is because the person giving the mand always assumes the hearer's ability to carry it out.

⁶ 1-3 are from the German informant, 4 from the Pole. Modal meanings are indicated by the figure of the category and the symbol of degree. E.g. '1*' means '*probable' in the category 1. '~' means that it is an implicit meaning. '>' is a symbol to mark hierarchy: all occurrences at the left of '>' are relevant for all occurrences at the right of '>'.

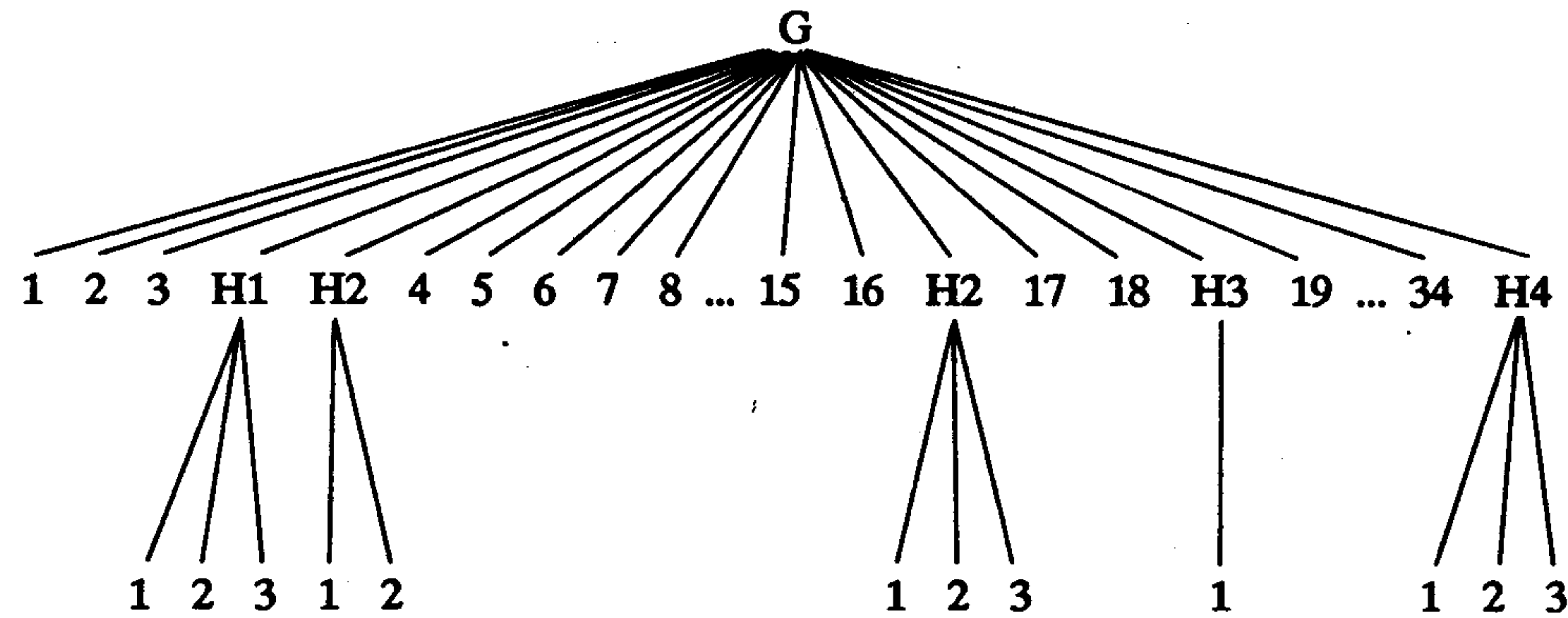
to certain kinds of discourse or test and whether certain kinds of modal structure always (or possibly never) cooccur with a certain kind of syntactic structure.

Table 1

Pol. informant



Germ. informant



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