The principal concern in this study is to provide a detailed discussion of the pragmatic properties of ‘possible’ modal adverbs, mainly by comparing conceivably with perhaps. First, we identify two factors regarding the occurrence patterns of these modal adverbs: their cooccurrence with modal verbs and their position in the clause, both of which are pragmatic-related characteristics. Two techniques were employed: analysis of manually coded corpus data from the British National Corpus (BNC) and analysis of questionnaire data (from a completion test). The combined results demonstrate that the two adverbs display opposite functional characteristics, and that the factors influencing the use of these adverbs are strongly associated with the contexts of modality and discourse.*

Keywords: modal adverbs, functional analysis, corpus and experimental data, modality, discourse, pragmatics, pragmaticalization

1. Introduction. The investigation of modal structuring in language is a venerable tradition dating back many years, but recent years have also seen its popularity rise through the use of interdisciplinary approaches, mainly sparked by research on discourse markers, grammaticalization, and (inter)subjectification. It has also enjoyed the limelight particularly in cognitive linguistics, corpus linguistics, and functional linguistics. English has various ways of expressing modality, and one of the primary lexical markers of modality is the modal adverb. This adverbial category comprises a wealth of items, classified into ‘certain’, ‘probable’, and ‘possible’ levels of meaning (Lyons 1977:800, Halliday & Matthiessen 2014:179–80). In addition to modal adverbs in general, the ‘possible’ modal adverbs (e.g. maybe, perhaps, possibly) have received a great deal of attention, but only a few previous studies have analyzed the modal adverb conceivably in relation to other ‘possible’ modal adverbs (on ‘possible’ modal adverbs, see Greenbaum 1969, Bellert 1977, Lyons 1977, Watts 1984, Quirk et al. 1985, T. Swan 1988, Hoye 1997, Biber et al. 1999, Ernst 2002, 2009, Huddleston & Pullum 2002, M. Swan 2005; on maybe, Suzuki 2018; on perhaps, Doherty 1987; on possibly, Tucker 2001). In order to undertake a broader description of the ‘possible’ modal adverbs, that is, to capture the diversity of the adverbs, the present study focuses particularly on the modal adverb conceivably through comparison with perhaps, which is the representative adverb in this group (the most frequent in the British National Corpus (BNC)). As illustrated in 1a,b, these modal adverbs carry nearly the same meaning superficially, and in previous studies they have been classified in the same semantic category (see §2).

(1) a. Conceivably they’ll be at the reception this evening, on the other hand, conceivably they won’t. (Hoye 1997:194)

b. And perhaps the soul thrived on its sufferings. (FICT) (Biber et al. 1999:854)

* We wish to express our sincere gratitude to the editors Andries Coetzee, Megan Crowhurst, and Caitlin Light and to two anonymous referees for their insightful comments and suggestions, which helped us improve the original version of our manuscript. We are also grateful to the following people for their helpful advice on our research: Mirjam Fried, Toru Fujita, Atsuhiko Hirotta, Ryuichi Hotta, Yoko Iyeiri, Kenichi Kadooka, Juana Marin Arrese, Satoru Nakai, Fujio Nakamura, Fuminori Nakamura, Yoshiyuki Nakao, Naoki Otani, Hayato Saito, Anne-Marie Simon-Vandenbergen, Kensei Sugayama, Rina Suzuki, Masa-aki Tatsuki, Elizabeth Traugott, and Michiko Yaguchi. This research was supported by the Japan Society for the Promotion of Science Grants-in-Aid for Scientific Research (No. 25·5013). All remaining errors and inconsistencies are of course our own.
Some English modal adverbs have expanded their pragmatic function and, in their current usage, behave as so-called discourse markers (on indeed, see Traugott & Dasher 2002; on no doubt, Simon-Vandenbergen & Aijmer 2007; on of course, Lenker 2010). In fact, Simon-Vandenbergen and Aijmer (2007:298) claim that ‘certainly and surely have gone quite far in the process of pragmatalization, which can also be seen from their development of discourse marker functions’.1

In the same vein, our aim is to provide a detailed description of the functions of conceivably in comparison with perhaps. In the analysis, we also examine to what extent the pragmatic functions of these modal adverbs have emerged with respect to past hypotheses of pragmatalization. We further aim to contribute to the discussion about the relationship between modal adverbs and pragmatics (pragmatalization). Our analysis comprises two steps that reveal clear-cut functional differences between the modal adverbs conceivably and perhaps: (i) investigation of a wide range of corpus data from natural contexts, and (ii) analysis of data elicited in an experimental setup targeting specific factors and testing the influence of their interaction.

2. PREVIOUS DESCRIPTIONS OF THE TARGET ADVERBS. In the broader study of adverbs, many traditional linguistic treatments of modal adverbs place them within a more general category of ‘disjuncts’. In his pioneering study on adverbs, Greenbaum (1969) divides the modal adverbs into two groups, as shown in detail in 2.

(2) Greenbaum’s (1969:203) classification of modal adverbs

- Those that express conviction: admittedly, assuredly, certainly, decidedly, definitely, incontestably, indeed, indisputably, indubitably, surely, unarguably, undeniably, undoubtedly, unquestionably
- Those that express some degree of doubt: allegedly, arguably, conceivably, doubtless, quite likely, maybe, perhaps, possible, presumably, probably, reputedly, supposedly

Greenbaum categorizes the two target adverbs conceivably and perhaps within ‘those that express some degree of doubt’ (2b). This classification system was subsequently modified and used for the description of the adverbs in Quirk et al. 1985 and Hoye 1997. Hoye (1997:184) places both conceivably and perhaps into the category of ‘content disjuncts expressing doubt’, as follows.2

(3) Hoye’s (1997:184) classification of modal adverbs

- Content disjuncts expressing conviction: admittedly, certainly, definitely, indeed, surely, undoubtedly, clearly, evidently, obviously, of course, plainly
- Content disjuncts expressing doubt: arguably, apparently, conceivably, doubtless, (quite/very) likely (informal), maybe (informal), perhaps, possible, presumably, probably

Another approach to the semantic classification of modal items is Huddleston and Pullum’s (2002:768) categorization of modal verbs and modal adverbs in terms of the strength of the speaker’s commitment. They distinguish three strengths of modal verbs: (i) strong, (ii) medium, and (iii) weak. Must, need, will, and shall are placed into strong, should and ought into medium, and can and may into weak. In a similar vein, they cat-

---

1 On cases of pragmatalization in English, see, for example, Aijmer 1997, Arnovick 1999, and Erman 2001.
2 Regarding the subclasses of disjuncts, we add further that Greenbaum’s ‘attitudinal’ disjuncts are replaced by ‘content’ disjuncts in Quirk et al. 1985:620 and Hoye 1997:182.
Categorize many kinds of modal adverbs into four levels of modality strength: (a) strong,
(b) quasi-strong, (c) medium, and (d) weak, as listed in 4.

(4) Categorizations of modality strength (Huddleston & Pullum 2002:768)
   a. Strong: assuredly, certainly, clearly, definitely, incontestably, indubitably,
      ineluctably, inescapably, manifestly, necessarily, obviously, patently, plainly,
      surely, truly, unarguably, unavoidably, undeniably, undoubtedly, unquestionably
   b. Quasi-strong: apparently, doubtless, evidently, presumably, seemingly
   c. Medium: arguably, likely, probably
   d. Weak: conceivably, maybe, perhaps, possibly

With regard to conceivably and perhaps, Huddleston and Pullum classify both as weak (4d).
In sum, results from these studies suggest that the two target adverbs share nearly the
same meaning in expressing low probability. This similarity leads to the questions
that have occupied linguists interested in modal items: namely, how do they differ from
one another, and how are they used for various purposes?

One interesting aspect of the behavior of modal adverbs is that they are found even in
interrogative clauses. Since modal adverbs basically express the speaker’s mental atti-
dtude toward a proposition, their occurrence in the context of a question should be in-
compatible with their basic meaning. In fact, there are differing opinions on the
occurrence of perhaps in interrogative clauses, as illustrated in 5–7.

(5) a. ?Will he perhaps stay late?
   b. ?Did he perhaps stay late? (Greenbaum 1969:153)
(6) a. Has John perhaps been here before?
   b. Have you perhaps misunderstood the question? (Bellert 1977:344)
   (7) Has Alice perhaps won? (Doherty 1987:53)

The same is certainly true of conceivably. By adopting an experimental method with
native English informants, Greenbaum (1969:111) demonstrates that modal adverbs
such as conceivably, possibly, and probably are more acceptable in questions than other
adverbs. He gives the following examples with possibly.3

(8) a. *Possibly will they leave early? (Greenbaum 1969:111)
   b. ?Will they possibly leave early? (Greenbaum 1969:111)
   c. Can they possibly leave early? (Greenbaum 1969:148)

This usage is echoed by Quirk and colleagues (1985). According to them, the adverbs
that express doubt, including perhaps, possibly, and conceivably, are ‘marginally ac-
ceptable in direct and indirect questions’ (p. 628). An instance of conceivably in an in-
terrogative clause is given in 9.

(9) Can he conceivably want to see me? [‘Is it possible to imagine that he wants
…?’] (Quirk et al. 1985:600)

The well-known collocation containing a modal verb and adverb is relevant to the
above discussion; to put it another way, frequent use of the verb-adverb collocation
could contribute to the acceptability of such adverbs in questions. As demonstrated by
10, conceivably, just like possibly, is used to operate on can or could (Greenbaum

(10) They can’t conceivably leave early. (Greenbaum 1969:149)

---

3 Greenbaum (1969:111) and Quirk and colleagues (1985:628) share the idea that these adverbs are unac-
tceptable in initial position of an interrogative clause.
In fact, the combinations of *conceivably* with *can* and *could* in negative and interrogative contexts are considered to be highly idiomatic by Hoye (1997:174–76). The collocation of *conceivably* with *can’t* or *couldn’t* in particular, referred to as ‘idiomatic modal expressions’, is ‘more unitary, and hence idiomatic’ than many other adverb-modal verb collocations (Hoye 1997:235–36). Evidence for this claim is given in 11a,b.

(11) a. But what **could** Galloway **conceivably** know? (AA/302)
    b. They **can’t** **conceivably** be travelling on the early train. (Hoye 1997:92)

In actual use, however, *conceivably* displays variable behavior. The BNC yields many instances of *conceivably* collocating with *may* or *might* in addition to *can* or *could*. The examples in 12 provide evidence for these combinations.

(12) a. **It may** **conceivably** help your future career to have a suitably worded reference. (BNC:B08)
    b. **If** that happened, Ennis **might** **conceivably** be by-passed, or at least overruled. (BNC:CDA)

What is more, in sentence-initial position *conceivably* shows the same behavior as *perhaps*, in actual usage (i.e. in the BNC). T. Swan (1988) and M. Swan (2005) agree that both *perhaps* and *may* prefer sentence-initial position. This point is illustrated in 13a–d.

(13) a. **Conceivably** it contributed to the family’s mystique. (BNC:CM4)
    b. **Conceivably** the entire lake could die within a few years. (BNC:AMS)
    c. **Perhaps** this holds good for makers of motor-cars. (BNC:EDT)
    d. **Perhaps** this would turn out to be one of them. (BNC:ACV)

These facts imply that a fuller picture of the characteristics of the modal adverb *conceivably* requires a descriptive and corpus-based approach. The following sections provide a more detailed exploration of the functions of the target adverb through both a corpus-based analysis and an experimental technique designed to elicit data.

3. **Methodology.**

3.1. **The approach.** This subsection describes how we compare the functions of *conceivably* with those of *perhaps*, with an eye toward the contexts of modality and discourse. The present study takes a dual approach, combining corpus data with elicited data. As Biber and colleagues (1998:24) mention, investigating the use and distribution of synonyms in a corpus enables us to determine their contextual preferences. We therefore first use corpus data to differentiate the two modal adverbs in their actual patterns. Second, in order to explore in greater detail the two variables in question, we employ an experimental method. The use of both corpus and experimental techniques is ‘an indispensable tool to obtain really robust and reliable evidence’ (Gries et al. 2005:666), which enables a more empirically adequate generalization. Gilquin and Gries (2009) describe the benefits of merging these two types of evidence as follows:

> Because the advantages and disadvantages of corpora and experiments are largely complementary, using the two methodologies in conjunction with each other often makes it possible to (i) solve problems that would be encountered if one employed one type of data only and (ii) approach phenomena from a multiplicity of perspectives … . (Gilquin & Gries 2009:9)

Furthermore, experimental techniques have successfully been used in the field of English linguistics; for example, Quirk (1968) discusses the negative preterite forms of *dare*, and Gries and colleagues (2005) analyze the *as*-predicative by means of a questionnaire study.

3.2. **The parameters.** Although we examined a variety of factors, the discussion here is restricted to the particular factors that interact closely with the target adverbs.
Two factors that prove significant in the following analysis are the cooccurrence with modal verbs and the positioning of the modal adverbs. They refer, respectively, to (i) whether the two adverbs cooccur with modal verbs such as can, may, will, and so on; and (ii) in which of three positions (initial, medial, or final) they occur in a clause. These two factors are meant to reveal the adverbs’ usage patterns in the two types of data, and, more importantly, they are indicative of the modal and discursive contexts. Thus, our data were analyzed along these two pragmatic-oriented parameters.

With regard to the first factor, modal verbs carry a modal meaning in the same way that modal adverbs do; indeed, as is widely acknowledged in the literature, they are the primary linguistic devices of modality (e.g. Kratzer 1981, 1991, 2012, Coates 1983, Perkins 1983, Palmer 1990, 2001). What is noteworthy is the fact that modal adverbs are often partnered with modal verbs in the same clause, as illustrated in 14. In this case, the modal adverb has a close affinity with the modal verb (cf. harmonic combination; Halliday 1970, Lyons 1977, Coates 1983, Hoye 1997).

(14) Perhaps he might have built it. (Halliday 1970:331)

The second factor, for its part, concerns the positional flexibility of the modal adverbs. It is well known that they can occupy various positions in a clause, and so, in addition to expressing modality, they also substantially contribute to the discourse structure. In fact, the long history of analyses of adverbs since the 1960s attests that the positioning of an adverb is closely associated with a difference of meaning (cf. Greenbaum 1969, Jackendoff 1972, McConnell-Ginet 1982, Quirk et al. 1985, Cinque 1999, Ernst 2002), and the wealth of literature on the topic is evidence of the significance of the modal adverbs’ positioning from a functional perspective (cf. Halliday 1970, Perkins 1983, Hoye 1997, Halliday & Matthiessen 2014).

3.3. Practical procedure.

The corpus investigation. The corpus data in this study are extracted from the BNC (XML edition), which constitutes a 100-million-word corpus that includes both written (90%) and spoken (10%) British English. The BNC data set provides sufficient evidence about the usage of the modal adverbs over a wide range of genres. The data collection proceeded as follows. First, we extracted all occurrences of the target adverbs from the corpus, obtaining 266 instances of conceivably and 33,521 of perhaps. We then examined each occurrence to identify those in which one of the two modal adverbs

4 We limited ourselves in the present study to nine modal verbs—can, could, may, might, shall, should, will/’ll, would/’d, must—which Quirk and colleagues (1985:137) and Biber and colleagues (1999:73) classify as ‘central modal auxiliaries’ (Lakoff 1972, Larkin 1976, Lyons 1977, Coates 1983, Perkins 1983, Palmer 1990, 2001, Leech 2004).

5 The positions the modal adverbs can occupy are discussed by Quirk and colleagues (1985:490–91) and Hoye (1997). Hoye (1997:148) presents the distribution of these adverbs as follows.

(i) a. I (initial): Possibly they may have been sent to London.
   b. iM (initial-medial): They possibly may have been sent to London.
   c. M (medial): They may possibly have been sent to London.
   d. mM (medial-medial): They may have possibly been sent to London.
   e. eM (end-medial): They may have been possibly sent to London.
   f. iE (initial-end): They may have been sent possibly to London.
   g. E (end): They may have been sent to London possibly.

Biber and colleagues (1999:872), in contrast, identify three positions—initial, medial, and final—in their investigation of stance adverbials, including modal adverbs. In their corpus analysis, they identify a tendency for stance adverbials to be positioned medially in clauses. Following Biber and colleagues, we focus mainly on the three major categories; that is to say, I in the examples above corresponds to initial position; iM, M, mM, and eM are reduced to medial position; and iE and E are restricted to final position.
occurred in a clause.\footnote{We confined our focus to their role as so-called sentence adverbs. For this reason, we excluded all examples of one-word expressions such as 
Perhaps. Also excluded were examples that did not form a complete clause, such as ‘… (or conceivably against) … ’ (BNC:AMT). In addition, we excluded examples in which the modal adverb modified not a clause but a phrase in which a comma intensified the expressed meaning, as in (i), and in which it occurred in an embedded clause, as in (ii).} We found 236 such instances of conceivably and 22,189 of perhaps. Furthermore, we coded all of the instances along the two parameters seen in the previous subsection. These processes were completed manually. Finally, we determined the number of cases in which the adverbs occurred with modal verbs and the number of cases in which they occurred in each position, in order to calculate frequencies of occurrence. To illuminate the cooccurrence patterns in more detail, we also examined the overall rate at which these adverbs combine with modal verbs in the BNC.

**THE EXPERIMENTAL METHOD.** In order to observe the two factors in unison rather than individually, a more controlled experimental method is required. In this analysis, we generated four experimental conditions by manipulating two factors, combination with modal verbs and position in the clause (a $2 \times 2$ design), as represented in Table 1.\footnote{Because of the experimental design, which was restricted to two conditions, we investigated with regard to the position factor whether the modal adverbs occurred initially or medially in the clause, which together account for most of the occurrences of the target adverbs.} ‘Modal’ and ‘Nonmodal’ stand for whether or not the target adverb cooccurs with a modal verb (e.g. epistemic may or might) in the sentence. ‘Initial’ and ‘Medial’, in turn, indicate whether the adverb occurs in initial or medial position in the sentence, respectively.

<table>
<thead>
<tr>
<th>COMBINATION (WITH MODAL VERBS)</th>
<th>POSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Nonmodal</td>
<td>Initial</td>
</tr>
<tr>
<td>b. Nonmodal</td>
<td>Medial</td>
</tr>
<tr>
<td>c. Modal</td>
<td>Initial</td>
</tr>
<tr>
<td>d. Modal</td>
<td>Medial</td>
</tr>
</tbody>
</table>

Table 1. Experimental design.

We conducted a cloze test with sixteen critical discourse fragments, each of which included a slot into which one of the alternatives we provided could be embedded; samples are shown in Table 2. The discourse fragments excluded the following linguistic factors: negation, interrogatives, (cooccurrence with) conjunctions, adverbial modification, and so on. With such a controlled method, we can concentrate on the two factors at issue. In other words, we can thoroughly study collocation with modal verbs and sentential placement. The use of a choice task required four expressions (i.e. modal adverbs) rather than two or three, so we added possibly and imaginably to yield the following choices: 1: conceivably,\footnote{Conceivably is defined as ‘in a conceivable manner: as may be imagined or supposed; imaginably, possibly’ (Oxford English Dictionary, 1989). According to Roget’s 21st century thesaurus (2009), imaginably, in addition to perhaps, is a synonym for conceivably.} 2: imaginably, 3: perhaps, and 4: possibly.\footnote{We excluded the ‘possible’ modal adverb maybe from the test items in the present study since we had difficulty examining the important factor of its cooccurrence with modal verbs. It is odd for maybe to be partnered with the modal verb may (may maybe).}
In this paper-based experiment, each of the four experimental conditions was represented by four discourse fragments (for a total of sixteen target fragments), all of which were extracted from the BNC. In the same vein, we generated an additional forty-eight filler items using various synonym groups from other parts of speech in order to distract attention from the modal adverbs and these conditions. Furthermore, the target fragments were interspersed with the fillers in the questionnaire in such a way that all of the critical items were separated by filler items.

The sixty-four-item questionnaire was distributed to a total of thirty subjects, all native English speakers, seventeen females and thirteen males. The participants, aged twenty to fifty years old, were asked to complete each discourse by choosing the most natural of the four expressions to fill in the slot. A total of 480 discourse completion responses (16 fragments × 30 participants) were acquired, and we conducted further quantitative analysis on these responses in terms of frequency.

4. Results and discussion. This section first presents the results of the corpus analysis and then those of the questionnaire study. We mainly compare the pattern of conceivably with that of perhaps. We then proceed to discuss the functions of the target adverbs, based on the results of our investigation.

4.1. Corpus-based analysis. The results of the corpus investigation show a clear pattern. Table 3 gives the frequency and percentage with which each adverb cooccurred with a modal verb in the BNC. As is obvious from the table, conceivably shows quite a high frequency of use with modal verbs as compared with perhaps. Some examples illustrating the usages are given in 15.

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonmodal/Initial</td>
<td>Productivity on the whole range of plant, old and new, may be improved as experience in operating it breeds better methods of organization. ( ) such gains were tailing off by the late sixties.</td>
</tr>
<tr>
<td>Nonmodal/Medial</td>
<td>He was of medium height and was wearing a baggy and very creased cotton suit the colour of oatmeal. The outer pockets of the jacket were filled and sagging. A not very clean handkerchief trailed from the top pocket. The man was ( ) in his mid-fifties.</td>
</tr>
<tr>
<td>Modal/Initial</td>
<td>Among the rationales for route choice, the rationale of traffic safety may cause bicyclists to choose somewhat longer routes than the shortest one. ( ) this might push a given destination beyond the acceptable biking distance.</td>
</tr>
<tr>
<td>Modal/Medial</td>
<td>It seemed likely that his desire to get into space was a personal one, rather than a blind urge to serve his motherland. He might ( ) be indoctrinated with an obsolete religious belief, and he shunned company, including that of girls.</td>
</tr>
</tbody>
</table>

Table 2. Sample of experimental conditions and examples.

Table 3. Overall frequencies and proportions of cooccurrence with modal verbs (BNC).

<table>
<thead>
<tr>
<th>MODAL ADVERB</th>
<th>TOTAL</th>
<th>FREQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>conceivably</td>
<td>236</td>
<td>205</td>
<td>86.9</td>
</tr>
<tr>
<td>perhaps</td>
<td>22,189</td>
<td>6,552</td>
<td>29.5</td>
</tr>
</tbody>
</table>

10 Each set of four fragments included one in which conceivably, imaginably, perhaps, or possibly was originally used in the slot (4 × 4 = 16 fragments), and the breakdown of the four fragments corresponds to the four experimental conditions described above.

11 Of the thirty participants, fifteen were native speakers of American English and the other fifteen were native speakers of British English. We also explored regional differences in the use of the modal adverbs, but these did not reach standard levels of significance.
(15) a. A stubbornly reactionary tsar might conceivably have delayed the measure, … (BNC:EA6)
b. It could conceivably trigger recession in other countries. (BNC:EC3)
c. It might perhaps be worth considering who controls your supply of coolie labor now. (BNC:FU8)
d. Eric would perhaps have been killed or wounded and the suspicious position of the car might well have been noticed by somebody. (BNC:G3B)

We also looked at the use of the modal adverbs in combination with different types of modal verbs. Table 4 shows that the distribution of conceivably and perhaps varies across the types of modal verb categories with which they combine.\footnote{In Table 4, each adverb’s raw frequency of cooccurrence with a modal verb is given, followed by the normalized figure of the number of occurrences per 1,000 instances.} In accordance with modal concord, modal adverbs are paired with modal verbs of (near-)equal likelihood (cf. the ‘certain’, ‘probable’, and ‘possible’ levels, seen in §1). While perhaps cooccurs more frequently with will/would, conceivably combines much more often with can/could and may/might.\footnote{Regarding the pairings with will and would, we wish to thank the referee who drew our attention to the problem of the distinction between future and epistemic meanings of the modal verbs. It is ‘difficult, and sometimes impossible, to distinguish epistemic WILL from the WILL of futurity’ (Palmer 1990:57). However, the BNC yields some examples of will and would that explicitly indicate epistemic meaning, as in (i); in some examples, both epistemic and future meanings can be interpreted at the sentence level, as in (ii).}

We need a more detailed analysis in order to present diagnostics able to distinguish the two kinds of meaning and explore further the relation of the future or epistemic meaning of modal verbs to modal adverbs in future research.

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<table>
<thead>
<tr>
<th>MODAL VERB</th>
<th>conceivably (236 instances)</th>
<th>perhaps (22,189 instances)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>freq per 1,000</td>
<td>freq per 1,000</td>
</tr>
<tr>
<td>must</td>
<td>0.0</td>
<td>39.1</td>
</tr>
<tr>
<td>will/would</td>
<td>9.0</td>
<td>2732</td>
</tr>
<tr>
<td>shall/should</td>
<td>0.0</td>
<td>113.0</td>
</tr>
<tr>
<td>can/could</td>
<td>119.0</td>
<td>504.2</td>
</tr>
<tr>
<td>may/might</td>
<td>77.0</td>
<td>326.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>205.0</td>
<td>6552.0</td>
</tr>
</tbody>
</table>

Table 4. Frequencies and proportions of cooccurrences with particular modal verb types (BNC).

Figure 1 illustrates for each of the two modal adverbs the proportions of the total occurrences in which it is positioned initially, medially, and finally. The breakdown by position is illustrated in 16a–h. Our findings show that use of perhaps in initial position is markedly high, whereas conceivably is, in turn, predominantly used in medial position.

(16) Initial
a. Conceivably such gains were tailing off by the late sixties. (BNC:K8U)
b. Conceivably I might be misreporting the whole situation. (BNC:FTV)
c. Perhaps Lehmann’s confidence in his work acted as a spur. (BNC:F9U)
d. Perhaps there might be a small bonus in the shape of occasional military news. (BNC:B20)
MEDIAL

e. The move was conceivably intended to thwart peace negotiations conducted by the archbishop of Canterbury. (BNC:GTC)
f. If the West Bank could absorb them, these refugees might conceivably settle and call it home. (BNC:APD)
g. John was perhaps fortunate in that his was a small family: mother, father, two children. (BNC:F9H)
h. It may perhaps be premature to jettison continuous wind interactions completely. (BNC:FBP)

In sum, the findings from the corpus analysis indicate that the patterns of conceivably and perhaps stand out for being exact opposites of each other with regard to the two variables: combination with modal verbs, and the position in which each occurs in the clause.

4.2. Experimental analysis. The results of the experiment fully support the corpus-based findings. The frequencies of the analyzable occurrences produced in this experiment are presented in Table 5, which shows that, similar to the findings of the corpus analysis, perhaps displays a tendency toward high frequency, and conceivably is runner-up to it.

In Figure 1, the percentage of initial, medial, and final positioning of the two adverbs (BNC) is shown.

![Figure 1. Percentage of initial, medial, and final positioning of the two adverbs (BNC).](image)

<table>
<thead>
<tr>
<th>MODAL ADVERB</th>
<th>FREQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>conceivably</td>
<td>138</td>
<td>28.75</td>
</tr>
<tr>
<td>imaginably</td>
<td>19</td>
<td>3.96</td>
</tr>
<tr>
<td>perhaps</td>
<td>205</td>
<td>42.71</td>
</tr>
<tr>
<td>possibly</td>
<td>118</td>
<td>24.58</td>
</tr>
<tr>
<td>TOTAL</td>
<td>480</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 5. Overall frequencies of the four modal adverbs in this experiment.

Tables 6 and 7 show the frequencies of conceivably and perhaps in the Initial vs. Medial and Modal vs. Nonmodal conditions, respectively. It is significantly obvious from the tables that completions with perhaps occurred more frequently in the Initial conditions (the total of Nonmodal/Initial and Modal/Initial), while participants gave more conceivably completions in the Modal conditions (the total of Modal/Initial and Modal/Medial).

<table>
<thead>
<tr>
<th>MODAL ADVERB</th>
<th>INITIAL</th>
<th>MEDIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>conceivably</td>
<td>59</td>
<td>79</td>
</tr>
<tr>
<td>perhaps</td>
<td>141</td>
<td>64</td>
</tr>
</tbody>
</table>

Table 6. Frequencies of conceivably and perhaps in the Initial and Medial conditions ($\chi^2(1) = 21.925, p < 0.001$).
Figure 2 shows the frequencies with which each adverb occurred in analyzable completions when presented with or without a modal verb and with the adverb in initial or medial position in the clause. The uneven frequencies of scored responses illustrate that the preference for each modal adverb varies across the four conditions, and that two variables have a considerable effect on the usage of the target adverbs. The most noteworthy result that is evident in Fig. 2 is that perhaps was especially strong in the Nonmodal/Initial position, while conceivably was most preferred in the Modal/Medial condition. Conceivably occurs more than twice as frequently in the Modal/Medial condition as in the Nonmodal/Initial one (41.7% versus 18.3%).

The results observed in this experiment have two significant implications. First, both factors—the modal adverbs’ cooccurrence with modal verbs and the adverbs’ positioning in the sentence—have an obvious effect on the usage of conceivably and perhaps. Second, the two factors reinforce one another in various ways.

4.3. Discussion. The corpus and experimental analyses clearly show that conceivably and perhaps pattern in opposite ways. The notable tendencies of their uses are summarized in Table 8. For perhaps, the preference for appearing on its own and in initial position is fairly strong; for conceivably, by contrast, the preference for cooccurrence with a modal verb and in medial position is firmly established.

We interpret these results here in terms of language function. First of all, modal adverbs, similarly to modal verbs, are used as descriptors of modality. The collocation...
with modal verbs implies that the use of modal adverbs is a means of reinforcing the expression of modality. In 17, for instance, the combination of the modal adverb and the modal verb highlights the notion of possibility (harmonic combination; Halliday 1970, Lyons 1977, Coates 1983, Hoye 1997).

(17) Perhaps he might have built it. \[[= 14]\] (Halliday 1970:331)

As indicated in Table 8, in actual use conceivably exhibits a preference for cooccurrence with a modal verb. This suggests that, in contrast to perhaps, conceivably is strongly associated with the function of enhancing the expression of modality.

Next, the present study illustrates the close relationship between position and function with regard to English modal adverbs. Consider the following examples, which are comparable in meaning.

(18) a. It may have been Wren.
    b. Possibly it was Wren. (Halliday 1970:335)

We can see that may in 18a and possibly in 18b convey the same meaning of possibility, but that possibly occurs in clause-initial position in 18b. As Halliday (1970:335), Perkins (1983:102–4), Hoye (1997:148–52), and Halliday and Matthiessen (2014:105–11) maintain, a modal adverb occurring initially expresses the topic or theme. It serves the pragmatic function of topic marking; in other words, the speaker (writer) provides his or her hearer (reader) with the material that will help him/her (re)construct the flow of discourse. Thus, possibly in 18b fulfills the discourse function of expressing the topic or theme of modality in addition to just expressing modality. We have shown here that perhaps occurs in initial position much more commonly than conceivably. It follows that perhaps is strongly attracted to the discourse function of topic encoding.

Medial position is also relevant for the modal adverbs due to its semantic nature. Modal adverbs are used in this position by what is called ‘interpolation’ (Perkins 1983: 102–4, Hoye 1997:196–99), and ‘modal environments tend to favour the interpolation of adverbs which express dubitative meanings’ (Hoye 1997:197).\[14\] In fact, this position preferentially supports the use of such modal adverbs as certainly, possibly, and probably (Quirk et al. 1985:627–28, M. Swan 2005:22).\[15\] Frequent use in medial position therefore implies the status of the expression of modality. As seen in Table 6, conceivably shows a strong tendency to be positioned medially. Hence, conceivably takes on an air of modality, and it is restricted to the specification of modality, not of discourse.

\[14\] As discussed in Halliday 1970, the use of modality itself, including even must and certainly (expressing certainty: high probability), is dubitative. If the speaker or writer has no dubitative perspective on a proposition, s/he will not use the expression of modality. Halliday and Matthiessen (2014:177) remark that ‘even a high value modal (“certainly”) is less determinate than a polar form: that’s certainly John is less certain than that’s John’. By contrast, as one of the referees points out, modal adverbs—particularly ‘certain’ modal adverbs (e.g. certainly, definitely, indeed, surely)—are widely used and thus serve other functions, including as emphasized (cf. Hoye 1997, Simon-Vandenbergen & Aijmer 2007). This is illustrated by the following example (we wish to thank the referee for providing this example).

(i) [Context: Two conversational participants are waiting for John. They see a figure from afar, coming in their direction.]

That’s John … [two seconds later] That’s certainly John.

It is true that certainly here seems to signal no dubitative meaning. The expressions called ‘modal adverbs’, however, carry the speaker’s mental attitude toward the probability (i.e. one kind of modality) as a core meaning, and, it is assumed, a function such as in (i) is considered to be derived from the adverb’s ‘inherent modal meaning’ (Hoye 1997:157). Focalizing the expression of the speaker’s mental attitude, we can observe the close relationship of such an extended function with the original (i.e. dubitative) meaning.

\[15\] This characteristic seems to be closely associated with the adjacency of the adverbs to the modal verbs (e.g. must, may, will).
The results of this two-variable approach are compatible, since both variables are interpreted from the viewpoint of modality or discourse. This functional analysis makes it clear that *perhaps* diverges from specifying modality and assumes a more discourse-based function. In contrast, *conceivably* is engaged in the modal environment and strengthens the expression of modal meaning. Such usage of the two adverbs is widely attested in corpus examples. The difference between *conceivably* and *perhaps* is illustrated in 19a–d.

(19) a. Unfortunately it may *conceivably* cause liver disease if taken over a long period, and this is to be tested by administering it to pigs. (BNC:K8Y)
    b. It seems to me possible that here in this room we might between us just *conceivably* be able to make a first … (BNC:J17)
    c. *Perhaps*, it’s the nature of the violence that puts people off. (BNC:A9T)
    d. *Perhaps*, we see the hits, rather than the misses of each other’s work. (BNC:CC0)

As shown in 19c,d, the initial use of *perhaps*, detached from the target clause by a pause, serves as a marker indicating what the clause is going to pertain to. Examples 19a,b, by contrast, show that *conceivably* can be used as a device for expressing modality in the presence of other modal expressions.

In connection with pragmatics and pragmaticalization, the use of *perhaps* extends beyond the realm of modality and in a direction parallel with that of *surely*, whereas *conceivably* contributes to the modal environment by enhancing the expression of modality. These two adverbs are therefore quite different at the pragmatic level. The reason why *perhaps* can function as a topic marker in initial position is, arguably, that it is closely associated with the speaker’s point of view. The initial positioning of modal adverbs results from the speaker’s choice of word order. This implies that it signals the speaker’s standpoint concerning the flow of discourse; more precisely, the adverbs ‘serve the procedural purposes of expressing speaker’s attitude to the text under production (topicalizers, discourse markers)’ (Traugott 2010:31). In this sense, *perhaps* may be preferred to convey the viewpoint of the speaker. *Conceivably*, by contrast, exhibits the speaker’s point of view less clearly, since it can be glossed as ‘as may be conceived by anyone’ (see the definition in the *Oxford English Dictionary*, 1989). Hence, *conceivably*’s tendency to occur in medial position derives from a lower degree of specification regarding the speaker’s point of view.

5. Conclusion. Although the existing literature offers various patterns for modal adverbs, how the two parameters of combination and position influence the usage of *conceivably* and *perhaps* has been unclear. By combining two methodologies (corpus investigation and a questionnaire study), the present analysis has shown the way these pragmatic-related factors have decisive effects on the use of the target adverbs. The following points summarize the descriptive conclusions and theoretical implications of the present study.

- The modal adverb *conceivably* cooccurs frequently with the modal verbs *may/might* and *can/could* in actual use, and their combination highlights the expression of modality.

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16 Throughout this discussion, ‘speaker’ should be read as standing in for ‘speaker or writer’.
17 In addition to their modal meaning, Traugott and Dasher (2002), Brinton (2007), Traugott (2012), and Beeching and Detges (2014) propose that adverbs in this position, including modal adverbs, convey subjectivity.
• While *perhaps* shows a close relationship with initial position, *conceivably* is closely associated with the factors regarding the combination with modal verbs; in particular, the combined effect of the Modal and Medial conditions is of great significance to the use of *conceivably*.
• The near-synonymous group (i.e. the ‘possible’ modal adverbs) comprises the discourse-oriented adverb *perhaps* and the modal-oriented *conceivably*. These adverbs, which at first sight appear to be nearly interchangeable, actually function in opposite ways.
• From a functional perspective, the factors influencing the use of these adverbs are profoundly concerned with the contexts of modality and discourse.

Finally, it should be added that the use of these different methodologies—corpus and experimental techniques—enables more empirically solid generalizations. This dual approach, which provides sufficient evidence, is valid in studies on modality and adverbs, such as this one.

**APPENDIX: DATA FOR FIGURES**

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Table A1. Data for Fig. 1 in the main text.

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Table A2. Data for Fig. 2 in the main text.

**REFERENCES**


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