Hinting at the Existence of Chaos: the Role of Semantics in the Complementation and Change of the Verb *Hint* in Recent Centuries

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Tässä tutkielmassa tarkastellaan englannin kielen verbin *hint* komplementaatiota ja muutosta viime vuosisatojen aikana. Tutkielmassa esitellään elektroniseen korpusmateriaaliin pohjautuva, kielen muutosta havainnollistava diakroninen tutkimus, joka kohdistuu britannianenglantiin. Tarkastelun kohteena on kirjoitettu kieli. Englannin verbiä *hint* sekä sen taivutusmuotoja *hints*, *hinting* ja *hinted* tutkitaan neljältä peräkkäiseltä ajanjaksolta, vuodesta 1710 aina vuoteen 1993. Tutkimuksen ensisijaisena tavoitteena on havainnollistaa verbin kehitystä viime vuosisatojen aikana. Konkreettisesti tämä toteutetaan selvittämällä millaisten komplementaatiorakenteiden kanssa verbi esiintyy, sekä tutkimalla ja vertaamalla näissä vuosien varrella tapahtuneita muutoksia.

Tekstit, joihin tutkimus pohjautuu, ovat lähtöisin kahdesta eri korpuksesta. Vuodet 1710 – 1920 käsittävä historiallinen materiaali on peräisin *The Corpus of Late Modern English Texts, version 3.0* (CLMET3.0) -korpuksesta. Nykypäivän käyttöä kuvaavat tekstit on puolestaan ammennettu *The British National Corpus* (*XML Edition*) (BNC) -korpuksesta. Nykymateriaalia edustamaan valittiin BNC*,* sillä vaikka se sisältääkin kaunokirjallista tekstimateriaalia aina vuodesta 1964 alkaen, on valtaosa sen sisällöstä (yli 91%) kuitenkin tuotettu vuosien 1985 – 1993 aikana (Burnard 2007:1.3), tarjoten näin verrattain tuoreen otoksen verbin nykykäytöstä britannianenglannissa.

Tutkielma on jaettu kahteen osaan. Ensimmäisessä osassa avataan komplementaatioon liittyviä keskeisiä käsitteitä, esitellään teoreettinen viitekehys sekä perehdytään tutkimuksessa käytettyihin korpuksiin. Ensimmäisen osan päättää keskustelu verbistä *hint*, jossa käydään läpi eri tietoteosten näkemyksiä niin itse verbin merkityksestä, kuin tälle tyypillisistä syntaktisista ominaisuuksista. Tutkielman toinen osa on korpustutkimuksen esittely- ja analyysiosio, jossa tutkimuksen tulokset käydään läpi kronologisessa järjestyksessä. Tutkielman päättää tulosten vertailu ja näistä keskustelu.

Tutkimus osoittaa, että verbin *hint* käyttö on tutkittavalla ajanjaksolla vähentynyt. Samaan aikaan tavassa, jolla verbiä käytetään, on tapahtunut huomattava muutos. Historiallisessa materiaalissa verbin pääasiallinen käyttötapa on ollut kuvata tiedonvälitystapahtumaa, jossa henkilö A välittää tietosisällön C vastaanottajalle B. Vastaanottaja B yksilöidään tarvittaessa rakenteella *to NP,* ja näkökulma verbin kuvaamaan toimintaan on ulkopuolinen: itse tapa, jolla tietosisältö välitetään, jää lukijalle epäselväksi. Tutkittavalla ajanjaksolla tämän käyttötavan rinnalle on noussut toinen, vahvasti kilpaileva käyttötapa, jossa näkökulma kääntyy tapahtuman sisäpuolelle verbin kuvatessa tiedon vastaanottajan sisäistä kokemusta. Uudessa käyttötavassa aktiivilauseen subjekti A korvautuu aistihavainnon kohteella, joka on jotakin muuta, kuin inhimillinen agentti. Samanaikaisesti entisestä vastaanottajasta B muodostuu tapahtuman uusi, epäsuora toimija – *kokija* (B). Kilpaileva käyttötapa on historiallista seikkaperäisempi. Kokija (B) ilmaistaan epäsuorasti, mutta komplementeilla osoitettavia temaattisia osatekijöitä jää jäljelle yhä kaksi: aistihavainto A, sekä tietosisältö C. Lisäksi historiallisesta käyttötavasta poiketen myös itse tiedonvälitystapa ilmenee: tietosisältö C on kokijan (B) oma johtopäätös havainnosta / kokemuksesta A. Uuden käyttötavan nousu heijastuu näkyvästi verbin komplementaatiossa: sekä vastaanottajaa osoittavan *to NP* -rakenteen käytön kuihtumisena, että eri komplementtivarianttien yleisenä yksipuolistumisena tulkitsijakeskeisen merkityksen itseensä vahvimmin sitouttaneen *at + NP* -rakenteen noustessa verbin *hint* selvästi yleisimmäksi komplementtirakenteeksi nykyisessä britannianenglannissa.

Avainsanat: *hint*, kielen muutos, komplementaatio, korpus, korpuslingvistiikka, semantiikka, verbi

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1 Introduction

Consider the nouns *crap shoot* and *empath*. On March 2014, both were added as new word entries into the *Oxford English Dictionary* (Pearsall et al. 2014). Both entries were also among the new additions that were explained further in the public notes accompanying the update. The late 19th–century American English phrase *crap shoot,* originally referring to a game of dice, is mentioned as being rare in its original sense today, but is also noted as having become very common in figurative use instead: now denoting an undertaking or a situation that is risky, uncertain or unpredictable (Martin 2014). The noun *empath,* on the other hand, is explained as having its roots in the science fiction of the 1950s, where it originally denoted a being with paranormal capabilities in perceiving, as well as sharing, the feelings and emotions of others. In its modern use, *empath* is described as having taken on a meaning well outside the field of the paranormal: a person who can understand and appreciate the feelings of another (ibid.).

The above two *OED* entries for March 2014 demonstrate well one of the only constants with living languages: change. In terms of pure accuracy, people are imperfect mediums of language transfer, as something of the original meaning of words and phrases is often 'lost in translation' from one generation to the next. All users of any given language necessarily carry with them their own unique contexts of culture, personal history and interests (to name but a few), which act as a filter, influencing both the way people use the language, as well as their understanding of it. Building on Payne, it is fair to say that every new generation redefines the language they use, to a degree, in order to adapt it into the framework of the world in which they use it (2011:20-21). Simply put, change over time is inevitable with every living language as the users of the language change.

This thesis studies long-term language change while focusing on complementation as the practical means of investigation into the phenomenon. For the purposes of presenting a concrete example of language change over a longer period of time, this thesis presents a diachronic, corpus-driven study investigating the complementation of the verb *hint* in written British English from the

early seventeen-hundreds to the last decade of the 20th century. In so doing, it also maps some of the semantic changes the use of the verb has undergone. In part, this thesis aims to add to the discussion of the role of semantics in motivating the co-occurrence of certain complement types with particular matrix predicates, as noted in Smith (2009:366).

Two electronic corpora are used as the main sources of written material under analysis. The historical texts, originating from the years 1710 to 1920, are taken from the *Corpus of Late Modern English Texts, version 3.0* (here abbreviated *CLMET3.0*). For the more contemporary material, the *British National Corpus* (*XML Edition*) (hence *BNC*) is used, covering the years 1964 to 1993. Consider the following:

(1) a. I did hint to him your kind thought about Venice, because, as I saw no daylight to it, it could not disappoint him; (Walpole 1735-69, *Letters*)

b. He loved and won her in life--he hints at a right of possession in death; (Various 1841, *Punch, Vol 1.*)

c. They're always hinting that we are rich people, and it's no good my trying to persuade them. (Gissing 1891, *New Grub Street*)

d. The young private threw up on the spot — somehow that unblemished body was more disturbing than one with an obvious cause of death. It hinted at the indiscrimination of death, that it was not just confined to the sick or injured. (The *BNC*, FSR 1191)

The verb *hint* takes a number of different complement patterns, examples of which are shown in (1): *to NP* + *NP* in (1.a), *at* + *NP* in (1.b), a *that*-clause in (1.c) and another *at* + *NP* in (1.d). The examples represent four consecutive time periods, and exhibit gradual change in the use of the verb. The earliest example of *hint* in (1.a) designates both an agent as well as an explicit recipient for the hinted information, the latter being denoted by the *to NP* construction which is the first internal complement. In (1.b-c) the agent can still be found occupying the subject position, but the recipient-indicating complement is gradually phased out, making the recipient either non-specific or context-dependent. Contemporary use of *hint* in (1.d) contrasts with the earlier examples, as it allows for an active construction where the subject position constituent no longer denotes a human agent, but an inanimate entity. In (1.d) the subject pronoun *It* refers to a dead body, which from a semantic

perspective is inherently incapable of being agentive, lacking all capacity for animacy, volition and deliberate action (cf. Fillmore 1968:24; Cowper 1992:48; Carnie 2002:168). As is shown in (1), from a semantic perspective the verb *hint* allows two possible approaches to its use in the sense of conveying information in an indirect manner: one use denotes an act of communication between people, the most prototypical example of which is (1.a), while another denotes a process of observer inference triggered by a stimulus, as in (1.d). This thesis examines the development of both approaches to the use of the verb, with a focus on the complement patterns the verb selects with both uses.

This thesis is structured into two distinct parts. The four initial chapters comprise the first part of the thesis, providing a theoretical framework that functions as a base for the rest of the study. The preliminaries and terminology pertaining to complementation are initially discussed in Chapter 2, while the rest of the chapter is dedicated to presenting theory that is considered to be central for the purposes of this thesis. Chapter 3 discusses corpus linguistics as well as several relevant factors worth bearing in mind when working with corpora, ending with the presentation of the *CLMET3.0* and the *BNC*. The focus of Chapter 4 is entirely on the verb *hint.* The chapter discusses the meaning and syntactic behaviour of the verb based on findings in different grammars and lexicographical works, which are then appended with some observations on the semantics of the verb. Chapter 5 begins the second part of this thesis. The preliminaries and methodology of the corpus analyses are initially presented, which are followed by the chronological review of the analysis results in four consecutive subsections. Chapter 6 consists of an overview of the findings, where the relevant developments are considered and discussed. This thesis concludes with Chapter 7, which presents a general summary of the findings, along with a number of suggestions for further work.

2 On complementation

This chapter presents a number of preliminaries pertaining to complementation. The chapter opens with the definition of the term *complement*, which is followed by the presentation of a framework of theory within the confines of which complements are considered in the subsequent chapters.

2.1 Two types of complement and other preliminaries

A *phrase* can generally be defined as a constituent that contains one or more words, with the most important component of the phrase functioning as its *head*: this is the central word that the others augment and whose lexical category effectively determines the phrasal category of the entire resulting string (Huddleston and Pullum 2002:22-24; Börjars and Burridge 2001:47-48; Haegeman 1991:30). Along the lines of Payne, a *complement* can then be defined as a phrase element that does not function as the head, but which is still required to complete the phrase (2011:168). Börjars and Burridge define complements in slightly looser terms, describing them as dependents that have a strong relationship with the head of a phrase (2001:74). At clause level, Huddleston notes that the ultimate head of the clause is the verb (1988:35), and Huddleston and Pullum accordingly give one definition of complements as the dependents in clause structure that are closely related to the verb (2002:52).

The term *complement* can be seen as lending itself to a number of slightly varying uses; in this thesis, however, the term is used to denote a very specific type of constituent. Consider (2), adapted from Börjars and Burridge (2001:98-99):

(2) a. Zelda is <u>a horse</u>.
b. She named her horse <u>Zelda</u>.
c. She bought <u>a horse</u>.

In (2.a) the underlined element relates to the subject of the sentence, *Zelda,* giving a depiction of Zelda as a horse. Both *Zelda* and *a horse* refer to one and the same entity, making the underlined

element in (2.a) a subject complement (Quirk et al. 1985:55). In (2.b) the indirect object of the verb, *her horse,* denotes the entity being named, and *Zelda* its resulting name. As the underlined element in (2.b) is a piece of information relating to the indirect object of the verb, it is thus an object complement (ibid.). In (2.a-b) the complements are linked with the subject NP and the object NP, respectively, and serve to denote the attributes of the clause elements they relate to (Quirk et al. 1985:728, 740). Predicative complements found in complex-intransitive and complex-transitive clauses such as (2.a-b), however, are not the ones of interest for the purposes of this thesis.

The complement in (2.c) differs from the previous examples. The subject of the clause and the underlined complement necessarily refer to two different entities: the subject NP indicates the human buyer, whereas the complement NP the animal that was purchased. The underlined element is a complement of the verb *buy* in (2.c), where it represents both the sole object of the verb as well as an obligatory element completing the meaning of the verb. The transitive properties of *buy* (cf. Huddleston and Pullum 2002:309) dictate that in order to complete the meaning of the verb, the presence of at least a direct object indicating what is being purchased is required. Attempting to remove the underlined element underpins the strength of the connection the verb shares with its complement: the resulting sentence **She bought* is ungrammatical, as the requirements set by the verb are no longer fulfilled.

In this thesis, *complements* refer to the type exemplified in (2.c): the obligatory and sometimes optional elements which complete the meaning of a head, referring mainly to those of (non-linking) verbs. Furthermore, this thesis acknowledges the view presented by Huddleston and Pullum that the subject is an external complement (2002:216). As the subject, however, is not a part of the verb phrase, it is syntactically different from all the other complements (cf. ibid.:53, 236). While taking an interest in the role of the subject in the scenario of the predicate, in this thesis the term *complement* is used to refer to the VP-internal complements of the verb.

Börjars and Burridge point out that the term *complement* can refer to ”any element that is

selected by a head" (2001:74). Heads effectively select their complements, i.e. impose restrictions on the forms of complement they accept, and this property of the heads is referred to as *subcategorization* (Huddleston and Pullum 2002:219-220; Börjars and Burridge 2001:74; Haegeman 1991:34). In the case of verbs the type of complement that is selected is dependent on the individual verb (cf. Huddleston 1984:178; Huddleston and Pullum 2002:219). Based on the patterns of complementation they take, verbs are divided into different subcategories, or classes; Huddleston and Pullum note that labels such as 'intransitive' and 'monotransitive' are names for these verb subcategories in this sense, but that only a very limited number of the most general ones have established names (2002:219-220). Notions such as the transitivity of a verb are in the Chomskian tradition represented encoded into distributional frames, and frames identifying different subcategories of verbs are called *subcategorization frames* (Haegeman 1991:34-35). A verb is thus said to *subcategorize for* or *select* a particular pattern of complementation (Huang 1997:71; Haegeman 1991:34).

Huddleston and Pullum state that most verbs allow for more than a single pattern of complementation (2002:296), and Quirk et al. go on to note that many verbs are in fact versatile enough to accept different combinations of complements (1985:41, 1168). Individual verbs can thus differ with regard to the syntactic types of complements they select, as well as in the number of complements they take, i.e. in their transitive properties. Bowen notes that "[i]t is generally recognised that the type of complement a head word takes has something to do with meaning" (2005:19), while Haegeman points out that neither are the transitive properties of verbs a matter of chance, but also follow from verb meaning (1991:34-35). The role that semantic factors bear in complement selection is prominent in the case of verbs, as verb meaning can affect the acceptability of certain complements that would otherwise adhere to the restrictions of syntactic type and number set by the governing verb. Consider (3):

(3) a. She bought a horse
b. * She gave a horse
c. * She breathed a horse

All of the verbs in (3) accept NP complements. As previously discussed, *buy* requires at least a direct object and (3.a) is perfectly grammatical as it stands. *Buy* also allows ditransitive use, making e.g. *She bought Sarah a horse* a valid sentence, albeit with a slight difference in meaning: the person ultimately receiving the animal is then specified as *Sarah*. Changing the verb into *give* in (3.b) also sees a change in the restrictions that are imposed on its complements, as evidenced by the resulting, unacceptable sentence. In (3.b), the presence of the recipient-indicating NP is no longer optional like it is in (3.a), but obligatory, as the meaning of *give* inherently involves a recipient (cf. Huddleston and Pullum 2002:216). As Carnie notes, *give* is a ditransitive verb, and in addition to the giver (as the agentive subject), it requires two participants in order to complete its meaning: the thing that is being given and its recipient, as "[a]ny variation from this results in ungrammaticality" (2002:170).

In (3.c), on the other hand, the meaning of the verb not only affects the number of required complements, but also sets clear semantic boundaries dictating which complements are acceptable. The verb *breathe* allows intransitive use (*She is breathing*) and a complement NP such as *a horse* in (3.c) renders the resulting sentence unacceptable. The verb does, however, accept NP complements, as semantically unobtrusive ones produce valid results: *She breathed oxygen / She breathed a whiff of fresh air.* As Huddleston and Pullum note, "semantic predicates commonly impose selection restrictions on their arguments" (2002:227), and these are exemplified in (3.c). While the NP *a horse* does not represent something that the human lungs can ingest through the act of breathing, NPs denoting gaseous, breathable bodies produce valid results. In effect, the prototypical act that the verb *breathe* is seen to denote sets boundaries for its complements, prohibiting the use of ones that are semantically incompatible with the meaning of the verb.

In this thesis, *meaning* is used in the sense Duffley describes as 'potential meaning' (1995:3):

> First of all, [meaning] exists as something potential, permanently stored in the speaker's unconscious outside of any particular use (…) even when the speaker is not engaged in an act of speech, being rather what determines whether a given form is suitable for expressing a given experience or not.

A general theorem to be tested in this thesis is that just as the meaning of a verb can affect the acceptability of its complements, any evolution in the perceived meaning of the verb is likely to be reflected as developments in its complement selection. Even those native speakers of English who are unaware of the formal rules of the language are likely to abstain from seemingly irrational choices in complementation, such as (3.c). Consequently, any future evolution in the complement selection of a given verb is (at least in part) likely to be based on the underlying act that verb is seen to denote, restricting or expanding the range of acceptable complement patterns to ones compatible with the perceived meaning of the verb.

2.2 On the complement-adjunct distinction

When considering the complements of a verb, certain lines need to be drawn in order to distinguish the clause elements that are specifically selected by the verb from the ones that are not, i.e. complements from adjuncts.

Adapting Somers, complements are the elements that are closely associated with the predicate, as they can be expected to accompany a particular verb in order to complete its meaning (1984:508). Adjuncts, on the other hand, are the essentially optional elements that are peripheral to the predication: they are not tied into the predicate directly, but instead contribute to the meaning of the clause as a whole (ibid.:508, 521). Consider (4):

(4) a. The owners destroyed the remaining paintings *after the auction*.
b. We laughed at the idea *a couple of years ago*.

The italicized sections in (4) are both typical adjuncts. They reside outside the complement positions of the verbs, as they are not part of the predicate meaning: they do not denote the thing

destroyed in (4.a), nor the thing laughed at in (4.b). Instead, both serve to modify their respective clauses as a whole, tying the action denoted by the predicate to a certain position in time. Adjuncts present information that is independent from the verb, as the occurrence of an adjunct is not restricted to coincide with that of a particular verb (Huang 1997:75; Huddleston and Pullum 2002:219), and neither is the form of adjuncts determined by the governing verb (Herbst et al. 2004:xxiv). Following Bowen, adjuncts are "allowed in any phrase with any head" (2005:16), which can be tested in (4), where the two italicized sections can be exchanged with one another without impairing the grammaticality of either resulting sentence. It is also worth noting that in (4.a) where the defining time frame provided by the adjunct is tied into a certain event (*the auction*), that event is embedded within the adjunct and carried over if the adjuncts are exchanged (*We laughed at the idea* after the auction). As Huddleston and Pullum note, the meanings carried by adjuncts are "determined by their own content" (2002:227), and this relative independence contrasts sharply with the nature of complements (ibid.).

Adjuncts enjoy a much greater level of mobility than complements do when it comes to clause position (Somers 1984:526-527; Huddleston and Pullum 2002:225; Bowen 2005:26), and the adjuncts in (4) can alternatively appear in front of their respective sentences. Börjars and Burridge note that adjuncts are essentially typical adverbials, representing one subtype of adverbial (2001:103ff.), the prototypical qualities of which thus also apply to adjuncts. Just as adverbials can be 'stacked' after one another with no theoretical limit as to how many can occur recursively (ibid.:102), there are no *grammatical* limitations on how many adjuncts a given sentence can contain (Huddleston 1984:179). Quirk et al. further point out that adverbials are usually optional[1] elements that are peripheral to the structure of the clause (1985:440), while Huddleston and Pullum state on adjuncts that they are always optional elements (2002:221).

Despite the way the above discussion contrasts complements and adjuncts, the distinction

1 A contrasting use of the term *adjunct* can be found in Quirk et al., who label certain elements *obligatory adjuncts* (1985:505ff.). The view taken in this thesis follows that of Huddleston and Pullum, that such elements are in fact complements (2002:222) and that adjuncts are always optional elements (ibid.:221).

between obligatory and optional clause elements is not always as clear-cut as presented above. In addition to the grammatical necessity of obligatory complements, Herbst et al. distinguish *communicative necessity,* noting that an element can be obligatory in a particular context where its omission would result in a sentence that ”would no longer appear to make sense” (2004:xxx). Similarly on optionality, Herbst et al. point out that there are different types of optionality, and that some complements can be *contextually optional* (ibid.:xxxi-xxxii), although only if their referents can be inferred from the context. The view advocated by Herbst et al. is that obligatory complements, contextually optional complements, optional complements and adjuncts form a type of continuum whose individual members should not be seen as representing clearly-defined separate categories, but prototypes, ”indicating a stronger or looser relationship with the governing word” (ibid.:xxxiii).

2.3 Licensing, obligatoriness and argumenthood

Huddleston and Pullum list a total of seven properties that distinguish complements from adjuncts (2002:219ff.). Three of these properties, namely *licensing, obligatoriness* and *argumenthood,* are in this thesis taken as central criteria for considering any syntactic element a complement of the verb. Consider the earlier examples of (4), for convenience presented without the optional adjuncts in (5):

(5) a. The owners destroyed the remaining paintings.
b. We laughed at the idea.

In (5.a), the complement pattern the verb subcategorizes for is *NP*, and in (5.b) it is *at + NP,* but neither of the verbs accepts the pattern the other one takes: **The owners destroyed at the idea* / **We laughed the remaining paintings*. Huddleston and Pullum state that ”the most important property of complements in clause structure is that they require the presence of an appropriate verb that licenses them” (2002:219), while *licensing* is defined as a matter of allowing a certain type of complement (ibid.:221). A further example of licensing can be found in (5.b), where the verb *laugh* does not accept the NP *the idea* directly as complement, but instead requires a preposition to precede it. The

verb specifically licenses the preposition *at* for its PP complement in (5.b), but does not accept other ones that are semantically related to *at* (cf. Schibsbye 1970:324ff.): *We laughed *for / *in / *on / *to / <u>at the idea</u>.* Huddleston and Pullum point out that the presence of a prepositional phrase as complement is no less dependent on the occurrence of an appropriate verb that licenses it, and that the preposition is often specified by the verb: it can not be replaced without an unexpected change in meaning or loss of grammaticality (2002:220). Somers additionally notes that if the preposition of the PP element can not be exchanged with one of similar meaning, or be easily assigned an independent meaning, that is a strong indicator that the preposition is governed by the verb and that the PP element is a complement (1984:514-516). A negative result in the above test, however, is not enough evidence to imply adjunct status (ibid.). As the verb licenses the preposition functioning as the head of the prepositional phrase, this in turn makes the entire PP string a complement according to the licensing criterion (Huddleston and Pullum 2002:220). Phrase elements that follow the licensed preposition, such as *the idea* in (5.b), are considered to be indirectly related to the verb and are referred to as *obliques* (Payne 2011:304; Huddleston and Pullum 2002:1207).

In addition to their differences in syntactic form, the underlined complements in (5) differ in that in (5.a) the complement is obligatory, whereas in (5.b) it is optional. Omitting the complement in (5.a) results in **The owners destroyed*, which is unacceptable as an independent declarative. This contrasts with (5.b), where the sentence remains grammatical even when the complement is removed: *We laughed*. In addition to the *at + NP* pattern, the verb *laugh* subcategorizes for zero complementation, or intransitive use, while *destroy* does not. The meaning of *destroy* is left fundamentally lacking if the object of destruction is absent from the representation of the act, whereas with *laugh* the prototypical scenario the verb denotes remains the same even if the object of ridicule is left unexpressed. Along the lines of Somers, some complements are effectively obligatory as the sentence is ungrammatical without them, while other complements, despite being strongly associated with the verb, are optional in this regard (1984:508). Huddleston and Pullum

consider obligatoriness to be a stronger criterion for complement status than that of licensing, as licensing is a matter of allowing particular types of complement, whereas obligatoriness deals with the verb requiring that the complement(s) be present (2002:221).

From a semantic perspective, the central criterion for complement status in this thesis is argumenthood. Both predicates in (5) involve two participants: these are the *owners* and the *paintings* in (5.a), and the *idea* and the people denoted by *We* in (5.b). Clauses carry propositional meanings, and Huddleston and Pullum state that in the simplest cases this meaning can be described in terms of a semantic predicate and one or more *arguments* (2002:226). Haegeman describes arguments as "the participants minimally involved in the activity or state expressed by the predicate" (1991:36). Following Huddleston and Pullum, arguments thus prototypically correspond to complements (2002:226), although the external nature of the grammatical subject again needs to be taken into consideration. Adapting Haegeman, if a verb involves two participants, it is also expected to take two arguments, and if the subject of the sentence realizes one argument, it follows that the verb in question will only select one internal complement (1991:36).

2.4 Valency theory

Valency theory is a language model that centers on the verb: it assumes that the verb holds a central position in the sentence, as it is the verb that decides how many other elements are required in order to produce a grammatical sentence (Herbst et al. 2004:xxiv). The verb is considered to be the governing element in the sentence hierarchy, on which complements are dependent (ibid.). The *valence* of a verb is consequently the number of complements it governs (Somers 1984:508). Payne notes that although valency is "closely connected with the traditional idea of transitivity" (2011:305), it is more general in that it considers not just the elements that are expressed as objects of the verb, but all the involved participants (ibid.). Herbst et al. give a slightly stricter definition, stating that the valence of a verb is generally described as the number of obligatory and optional

complements the verb takes (2004:xxxii). They also note that ”valency is a property of particular senses (…) in that every sense has its own valency structures (…)” (ibid.:xxxv).

Similarly to Somers, Huddleston and Pullum define valency as the number of complements a verb takes (2002:297), but in their discussion note that the term is found used in various different ways. For some it is said to cover the individual kinds of complement as well as their overall number, while others are said to use the term to denote the amount of semantic arguments instead of syntactic complements (ibid.:219n). The applicability of the notion of valence is then dependent on the way it is used, but for the purposes of this thesis two separate uses of the term are of interest: *semantic valence* and *grammatical valence.* These are described by Payne as follows (2011:325):

> Valence in linguistics is always a number from one to three, and can be characterized in terms of meaning or form. Semantic valence (meaning) refers to the number of central participants in a discourse world scene. Grammatical valence (form) refers to the number of core arguments in linguistic expressions of those scenes.

Verbs can be seen as having a number of valency slots (cf. Faulhaber 2011:11); from a semantic perspective each slot represents a participant in the scenario the verb denotes (ibid.), while the overall number of these slots corresponds to the semantic valence of the verb. Grammatical valence, on the other hand, is the concrete or syntactic filling of these positions (ibid.). In this thesis, both terms are adopted: *semantic valence* for the number of participants involved in the scenario of the predicate, and *grammatical valence* for the number of syntactically expressed complements.

Although the focus of this thesis is on VP-internal complements, in the case of valency this thesis follows Quirk et al. (1985:1169n) in taking into account the subject argument as contributing to the valence of the verb.

2.5 Argument structure and theta theory

The propositional meanings that clauses carry involve a number of participants. In clause structure these participants are represented by referring expressions which single out the denoted entities,

while the predicate signifies some relation between the referring expressions (Haegeman 1991:35). These internal relations form the semantic structure at the foundation of each proposition, known as the *predicate-argument structure* (Cook 1998:5). Argument structure derives from verb meaning (Haegeman 1991:37-40) and predicts the number of obligatory constituents that need to appear in conjunction with a particular predicate, although not necessarily their syntactic types (ibid.:36).

Differences in argument structure are associated with differences in meaning (Haegeman 1991:37-40), and one potential basis for the classification of semantic predicates is the number of arguments they take (Huddleston 1984:182; Haegeman 1991:35). Predicates can also involve implicit participants, in which cases arguments may be left unexpressed (Haegeman 1991:38-39). One example of the latter is the verb *buy*: the scenario of the predicate always involves someone whose possession the purchased entity becomes, even if that participant is left unexpressed (ibid.).

In addition to carrying information concerning the number of involved arguments, predicates typically tend to have a thematic structure (Haegeman 1991:41) that defines the *roles* of the arguments in the scenario of the predicate. Verbs theta-mark their arguments (ibid.), i.e. assign their arguments with action-appropriate *thematic roles* or *theta-roles* (Huang 1997:66; Haegeman 1991:41), dependent on the meaning of the verb. Adapting Carnie, the referring expressions that represent arguments in a clausal environment can have multiple thematic relations, whereas theta-roles are "bundles of thematic relations that cluster on one argument" (2002:169): linguistic constructs that "map one-to-one with arguments" (ibid.). As described by Haegeman, theta-roles refer to the "more specific semantic relationships between verbs and their arguments" (1991:41). Consequently, while an argument can have multiple different thematic relations, it can only have one theta-role; this is the well-formedness condition (Levin 1985:3) known as the *Theta Criterion*: "Each argument is assigned one and only one theta role. Each theta role is assigned to one and only one argument" (Haegeman 1991:46). Consider (6) (theta-role labels according to Haegeman 1991:41-43; Huddleston and Pullum 2002:231):

(6) a. He burned the house. (intention: AGENT – PATIENT)
b. He abhorred the house. (emotion: EXPERIENCER – STIMULUS)

In (6) both *burn* and *abhor* involve the same number of arguments and select the same type of VP-internal complement, but the verbs differ with respect to the theta-roles they assign. In (6.a), *He* denotes the intentional initiator of an action, marking the argument with the theta-role of agent and *the house* as that of the affected party, or patient. Conversely in (6.b), the argument represented by *He* is theta-marked as the experiencer of an emotion, the cause of which is *the house.* In broad terms, the roles denoting the affecter and affectee are in opposite relation to one another in (6.a-b).

The component of the grammar regulating the assignment of theta-roles is called *theta theory* (Haegeman 1991:41), and Haegeman points out that theory on the subject is sketchy: there is no agreement as to how many specific theta-roles exist or what their labels are (ibid.). Verbs that denote cognitive processes, such as *abhor* in (6.b), can be seen as a case in point. In (6.b), the verb theta-marks *the house* as the stimulus behind an emotion, but it can be questioned whether the direct stimulus in fact resides with the memories the experiencer has accumulated of said house, instead of the inanimate building itself. What then, if any, is the correct label for the house? Similarly in (6.a), the assigned roles of *agent* and *patient* are the correct ones when describing an intentional act, but quickly become less clear if an accident caused the house to burn down (?INSTRUMENT / THEME). As Cowper notes, "[t]here seems to be something fundamentally wrong with trying to pack the entire meaning of a verb into the thematic roles it assigns" (1992:53). In the same vein, Faulhaber notes that attempts to create more meaning-specific theta-roles in order to fit the needs of individual verbs have been criticized, as this obscures the similarities between predicates, removes the possibility for generalization and calls into question whether the arguments of different predicates actually have any shared properties (2011:13). Although some of the roles verbs assign such as *agent* and *patient* are near-prototypical in that they correspond to the theta-roles that are "quite generally distinguished" (Haegeman 1991:41), there is a fairly general consensus that theta-role labels are

simply abbreviations (Cowper 1992:53), and that the specific content of an individual theta-role "must be derived from an appropriate analysis of the meaning of the lexical item assigning that role" (ibid.).

2.6 Raising and control

In the presence of non-finite complement clauses, matrix predicates that are similar on the surface can differ in their relation to the matrix clause subject, as matrix verbs can be marked for either *raising* or *control* (Davies and Dubinsky 2004:3-4). Consider (7) (matrix verbs in (7) and (8) according to Postal 1974:292, 305-308, quoted in Davies and Dubinsky 2004:11-12):

(7)	a.	Tim happened to leave early.	RAISING-TO-SUBJECT
	b.	Tim intended to leave early.	SUBJECT CONTROL

In (7.a-b) the subject of the matrix clause, *Tim*, is also the agent of the embedded clause. The difference between the intransitive raising predicate *happen* and the subject control predicate *intend* lies within their thematic structures, as the a-variant is a raising predicate, while the b-variant is a control predicate (Davies and Dubinsky 2004:5). In (7.a) the subject of the matrix clause is semantically linked only to the subordinate predicate, whereas in (7.b) the matrix subject is linked to the matrix predicate, as well as to the predicate of the embedded clause (ibid.:3-4).

In (7.a) the subject-to-subject raising predicate *happen* assigns a single theta-role to its proposition, but no external role for the matrix subject (Carnie 2002:269). This is evidenced in the matrix predicate being able to take as subject a semantically empty expletive (cf. Somers 1984:518; Carnie 2002:256) that can not be assigned a thematic role (Davies and Dubinsky 2004:7): *It happened to be raining / There happened to be a party*. The embedded predicate *leave*, however, does assign a theta-role to its subject, which is then raised into the thematically vacant subject position of the matrix clause.

In (7.b) *intend* requires the presence of an agent capable of intention. The matrix predicate

thus assigns a thematic role to its subject, and is unable to accept an expletive in the subject position: **It intended to be raining* / **There intended to be a party*. As the matrix predicate has already assigned a theta-role to *Tim* in (7.b), the subordinate predicate *leave* assigns one to a null pronoun, PRO (Carnie 2002:255ff.): *Tim$_i$ intended [PRO]$_i$ to leave early.* The meaning of the null pronoun comes from the coreferential NP *Tim,* and PRO is accordingly said to be *controlled* (ibid.:270), as the subject of the matrix clause 'controls' the subject reference within the subordinate clause (Davies and Dubinsky 2004:3).

The raising and control of the subordinate clause subject can also affect the object position within the matrix clause. Consider (8):

(8)	a.	I believe Tim to be honest.	RAISING-TO-OBJECT
	b.	I told Tim to be honest.	OBJECT CONTROL

In (8.a), the transitive raising predicate *believe* assigns two thematic roles: one for the experiencer, *I,* and one for the proposition '*Tim is honest'* (cf. Carnie 2002:269). The matrix predicate assigns a thematic role to the entire proposition containing the subordinate subject *Tim*, but not specifically to *Tim* alone. In (8.a), *Tim* is semantically linked only to the embedded predicate, and raised to the thematically vacant object position of the matrix clause. The subject-to-object raising predicate *believe* can thus accept an expletive within the matrix object position, assuming it does not violate the selection restrictions of the embedded predicate (Davies and Dubinsky 2004:7): *I believe it to be raining / I believe there to be a party.*

The matrix predicate *tell* in (8.b) assigns a total of three thematic roles: an agent, an internal theme and a proposition (Carnie 2002:269). In (8.b), *Tim* is specifically assigned the role of internal theme by the matrix predicate, while the subordinate predicate assigns its thematic role to the null pronoun PRO that is here controlled by the matrix object: *I told Tim$_i$ [PRO]$_i$ to be honest*. Due to *tell* being marked for control, it can not take an expletive as object: **I told it to be raining / *I told there to be a party.*

In their discussion of raising and control constructions, both Carnie (2002:268) as well as Davies and Dubinsky (2004:9) additionally note that some predicates do not seem to be limited to one or the other, but instead can occur in more than one type of construction.

2.7 On the form and meaning of complements

In the terms of Payne, *meanings* license complements (2010:1): the heads of certain phrasal categories require, or license, the presence of other elements, as the syntactic head alone is not always able to express a complete meaning (ibid.). Consequently, complements by definition carry some part of the predicate meaning. Where multiple different patterns of complementation are possible, they can be seen as presenting grammatical alternatives, which Rohdenburg notes "tend to evolve subtle, if only latent, semantic distinctions" (1996:152).

Bolinger (1968) has argued that in cases where several complementizer options are possible, the choice is semantically motivated. Examining the differences between the use of *for-to* and *-ing* complementizers and presenting example pairs such as *Can you remember to do that?* / *Can you remember doing that?* (1968:123), Bolinger demonstrated that the *to*-infinitive is found accompanying verbs that "apply to unrealized possibilities" (ibid.:127), whereas the *-ing* form is found complementing verbs applying to "actualities or to possibilities conceived as actualities" (ibid.). These aspects of potentiality and reification were found to be a semantic contrast between the complementizer forms themselves (ibid.:124), giving rise to the principle that "a difference in syntactic form always spells a difference in meaning" (ibid.:127).

2.8 The Great Complement Shift

In his discussion of the semantic differences found in the use of *for-to* and *-ing* complementizers, Bolinger noted that "one of the two forms--probably the *-ing*--is advancing at the expense of the other" (1968:125). As Rohdenburg states (2006:143):

> Over the past few centuries, English has experienced a massive restructuring of its system of sentential complementation, which may be referred to as the Great Complement Shift.

The Great Complement Shift encompasses a number of notable changes affecting the sentential complementation of English predicates, ”especially the spread of *to -ing* forms at the expense of *to* infinitives” (Rudanko 2012:222). Some of the other developments denoted by the GCS involve changes in the choice of infinitival marking, as well as ”simplification in the control potential of infinitival complements” (Rohdenburg 2006:144-145). Among other types of affected sentential complements are dependent interrogatives, which have gained linking prepositions – a feature traditionally associated with nominal complements (ibid.). Rohdenburg goes on to state that ”these changes have virtually reached completion by now” (ibid.:144), although the process is delayed by a number of functional constraints (ibid.:147ff.). Two of these constraints, namely *cognitive complexity* and *horror aequi*, merit their own discussion.

2.9 Cognitive complexity

Not all syntactic environments are uniform, and different syntactic structures can present the reader with differing levels of linguistic complexity. *Cognitive complexity* refers to the effect these more complex syntactic environments have on the reader, as they constitute a heightened “processing load” (Rohdenburg 1998:101), i.e. are cognitively more demanding to process. Rohdenburg notes that this affects how the structures themselves are used, as “an increased processing load tends to favour greater structural explicitness” (ibid.). This is known as the *Complexity principle* (Rohdenburg 1996:151):

> In the case of more or less explicit grammatical options the more explicit one(s) will tend to be favored in cognitively more complex environments.

These complex environments usually present some marked deviation from canonical structures,

examples of which include passives (ibid.:162, 173) and extractions out of complement clauses (Rohdenburg 2006:151ff.).

Another environment constituting a complexity factor is one involving insertions. Examining the choice of the overt *that* complementizer in correlation with cognitively complex environments, Rohdenburg has noted that any intervening elements ”placed immediately after the verb (plus object) are more or less likely to trigger off an additional *that*” (1996:161), i.e. the more explicit structural choice. There is also an increased need to make the sentential status of a subordinate clause explicit if the subordinate clause is less directly linked to the matrix clause, as well as in cases where the dependent clause itself is highly complex (Rohdenburg 1995:368). In the case of intervening personal objects that precede object clauses, Rohdenburg notes that the longer the personal object becomes, the more likely it is that the object clause requires an explicit marker of subordination (1996:161-162). Reflecting on his findings, Rohdenburg states that they appear to point towards the assumption that ”the presence of any object, even a pronominal one, will constitute a complexity factor” (ibid.).

2.10 Horror aequi

Rudanko has argued that the past three centuries have seen major changes in the factors affecting the complement selection of English predicates (2000:141ff.). The current system where the matrix verb selects its complements contrasts with that of eighteenth-century English, where both the grammatical and morphological environment of the complement was able to influence the form of the complement (ibid.). Although the environment of the complement is less influential in the present-day system (ibid.), the principle of “repetition avoidance” (Rohdenburg 1996:175n) remains relevant. This is known as the *horror aequi* principle (Rohdenburg 2003:235):

> The *horror aequi* principle involves the widespread (and presumably universal) tendency to avoid the repetition of identical and adjacent grammatical elements or structures.

The principle can be used to predict that an environment such as a predicate of to-infinitival form will tend to avoid incorporating verb-adjacent complements of the same form. Schlüter has suggested that this tendency to avoid repetitive elements in favour of alternating ones might be attributed to the neural processes within the human brain (2005:293). The alternation preference of *horror aequi* mirrors the way the human brain works as it accommodates for the time-lapse between the activation and recovery stages of particular nodes within the neural networks of the brain that 'store' linguistic elements of differing levels of elaborateness (ibid.:271-272).

3 On corpora

This chapter presents corpora and corpus linguistics, as well as some discussion on the practical issues of corpus-related work. The chapter ends with an overview of the *CLMET3.0* and the *BNC*.

3.1 Corpora and corpus linguistics

In the field of linguistics the Latin word for 'body', *corpus*, is used to denote an extensive collection of language material – written or spoken – providing linguists with a sizeable sample of languages as they are actually used in real life (Sampson and McCarthy 2004:1). While the term *corpus* in itself does not entail any specific format for its material, the advances in information technology since the early 1960s (cf. Svartvik 1992:7) have largely narrowed the contemporary interpretation of the term to an "electronically searchable text database" (Bauer 2002:97). *Corpus linguistics* refers to the type of language research focusing on the use of corpora for analyzing patterns of language use (Biber 2010:159). As corpus work employs authentic data as its starting point, it can be seen as an empirical approach to the study of language (Tognini-Bonelli 2001:2; Conrad 2000:548).

As noted in Svartvik (1992:8ff.), corpora introduce several benefits to the field of language research. Having access to standard corpora allows researchers to share a common basis for analysing related and similar phenomena (ibid.). Corpora also provide the means for verifying results, as well as for the "total accountability of linguistic features" (ibid.), allowing more objective statements to be made than through introspective observation alone (ibid.). Finally, corpora make far-reaching diachronic studies possible, even in cases where relevant sample groups of language users are no longer alive (ibid.).

Corpus linguistic research involves two main approaches: a *corpus-based* and a *corpus-driven* one (cf. Biber 2010). Along the lines of Lindquist, these are the two polar approaches between which there is a spectrum among corpus linguists (2009:10). Corpus-based linguistics can be seen as the more traditional of the two approaches (cf. Biber 2010:162), as it employs corpora to

test hypotheses that are based on pre-existing language theories (Lindquist 2009:10). Research that takes the corpus-driven approach, on the other hand, begins with little or no assumptions as to the validity of existing theory (Biber 2010:162). As Lindquist notes, this view advocates that data should be approached with as few preconceptions as possible, and the analysis results should be arrived at inductively, based on corpus evidence (2009:10). As Tognini-Bonelli states, in corpus-driven linguistics "the commitment of the linguist is to the integrity of the data as a whole, and descriptions aim to be comprehensive with respect to corpus evidence" (2001:84).

3.2 Representativeness, precision and comparability

In order to gain meaningful results from the analysis of any corpus, the corpus itself must first meet certain criteria. As Ball points out, "the results of the analysis hold true for the corpus, and can only be generalized to the extent that the corpus is a representative sample" (1994:295). Following Biber, the crucial design considerations for corpora are their size and composition (2010:162). Only a large enough corpus can accurately represent a language in its distribution of linguistic features, while representative analysis results entail that the material forming the corpus is "deliberately sampled to represent the registers in the target domain of use" (ibid.).

Contemporary corpus linguistics relies heavily on computer-assisted techniques (Conrad 2000:548). The use of computers makes it easy to obtain frequency data from exceedingly large collections of texts – something that would be near-impossible to achieve manually – while further advantages are the speed and accuracy with which searches of the corpus material can be conducted (Lindquist 2009:8, 25). The automation of the search process can nevertheless give rise to certain problems concerning the relevance and accuracy of the returned results, i.e. *recall* and *precision* (Ball 1994:295).

Recall is a measure of retrieval effectiveness used to denote the proportion of all relevant material within the corpus that is retrieved by an automated search (ibid.). *Precision*, on the other

hand, denotes the proportion of the returned results that represents the type of material the search was intended to find (ibid.). In an automated search of a text database such as a corpus, a string of preset values – the search query – is compared against the database; instances matching the query string that are found within the material or the embedded metadata (*tagging*) are then returned as results. Corpus searches targeting words and similar surface strings can be expected to result in near-perfect recall, as misspelled tokens along with the rare corpus error are the only instances likely to be missed by an automated search. Precision, on the other hand, can be relatively poor in cases where word-form ambiguity is involved. Ball notes that with poor precision, the analyst is still able to judge the accuracy of the search by going through the results manually, and any invalid tokens can then be removed by hand (ibid.:295-296). Overconfidence in the accuracy of automated procedures (such as the tagging of large corpora), however, can lead to poor recall, which presents a much more significant dilemma, characterized by Ball as the "recall problem" (ibid.:295): without going through the entire corpus manually, the analyst has no way of knowing how many relevant tokens were missed by the search (ibid.). As Svartvik notes on the use of corpora, "careful manual analysis cannot be dispensed with" (1992:10), as competent use of information technology requires the analyst to combine "hard corpus data with soft human intuition" (ibid.:11-12). This notion echoes that of Rissanen, who states that in "the analysis, synthesis and conclusions, the machine does not replace the human brain" (1989:16).

Corpora exist in considerably different sizes. As a result, raw token frequencies are not comparable across different-sized corpora unless the frequency counts are first *normalized* (cf. Biber et al. 1998:263). Normalized frequencies (hence *NF*) are raw frequency counts that have been adjusted to reflect the relative number of tokens in relation to a figure chosen as the normalization basis. Depending on the intended use, frequencies can be normalized to an average text length (ibid.), or a relative number (cf. Ball 1994:297). In this thesis, frequency counts are normalized to the basis of one million words. Raw token counts are first divided by the size of the corpus, and

then multiplied by one million, indicating the relative number of tokens per one million words.

3.3 The *Corpus of Late Modern English Texts, version 3.0*

The source for the historical material analysed in this thesis is the *Corpus of Late Modern English Texts, version 3.0*. A collaboration between Hendrik De Smet, Hans-Jürgen Diller and Jukka Tyrkkö (De Smet 2015a), The *CLMET3.0* is the latest iteration of the *CLMET* originally released in 2005 (De Smet 2005:69ff.). The corpus features some 34 million words of running text drawn from online archiving projects for texts in the public domain (De Smet 2015a). The material in the *CLMET3.0* covers the 210-year period from 1710 to 1920, which is further divided between three individual subcorpora, each representing their own 70-year periods (ibid.) as illustrated in Figure 1:

The *CLMET3.0*	Time period:	Authors:	Texts:	Number of words:
Part 1:	1710 – 1780	51	88	10 480 431
Part 2:	1780 – 1850	70	99	11 285 587
Part 3:	1850 – 1920	91	146	12 620 207
Total:		212	333	34 386 225

Figure 1: The CLMET3.0 *in numbers (data from De Smet 2015a).*

The *CLMET3.0* has been "compiled following roughly the same principles" (De Smet 2015a) as the previous iterations of the corpus. The material represents British English use, as all featured authors are British, native speakers of English, thus placing "some (moderate) restriction on dialectal variation" (De Smet 2005:71). The influence of idiosyncratic language use has been kept to a minimum by allowing no more than three texts by any individual author to be present in the corpus (De Smet 2015a, 2005:71). In order to ensure that no single author is represented in more than one subsection of the corpus, the texts within each subcorpus have been written by authors born within a correspondingly restricted sub-period (De Smet 2005:70). This is illustrated in Figure 2:

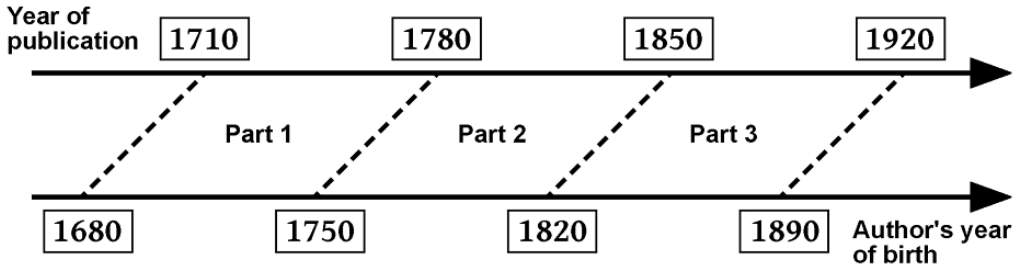

Figure 2: The CLMET3.0 *text admission restrictions (figure duplicated from De Smet 2005:71).*

Texts admissible to a *CLMET3.0* subcorpus need to have been published during the 70-year period the subcorpus represents (upper timeline), while the author of the text needs to have been born during a period predating the time-frame of that subcorpus by 30 years (lower timeline) (ibid). De Smet notes that although the work of some authors is lost to the corpus due to the restrictions, they serve to increase uniformity within each subsection, and to decrease it between the subcorpora (2005:70). Consequently, historical trends "should […] appear somewhat more clearly" (ibid.).

As described by De Smet, the texts forming the earlier iterations of the corpus were mainly written by "men who belonged to the better-off layers of 18th and 19th century English society" (2005:71, see also 2015b). This resulted in the corpus being somewhat biased in gender, register and genre (De Smet 2005:78), while the corpus material had an "inevitable emphasis on formal prose" (De Smet 2015b). To counteract this, non-literary texts, texts from lower registers and texts written by female authors were deliberately favoured in the corpus make-up where possible (De Smet 2005:71-72). De Smet notes that the latest version of the corpus is, however, "approximately genre-balanced" (2015a) and covers a total of five major genres (ibid.). This is illustrated in Figure 3:

Genre:	**1710 – 1780**	**1780 – 1850**	**1850 – 1920**	**% of the corpus**
Narrative fiction	4 642 670	4 830 718	6 311 301	45,90%
Drama	407 885	347 493	607 401	3,96%
Narrative non-fiction	1 863 855	1 940 245	958 410	3,96%
Letters	1 016 745	714 343	479 724	6,43%
Treatise	1 114 521	1 692 992	1 782 124	13,35%
Other	1 434 755	1 759 796	2 481 247	16,51%
Total:	10 480 431	11 285 587	12 620 207	100,00%

Figure 3: The CLMET3.0 *genre division per corpus subsection (data from De Smet 2015a).*

Non-fictional texts along with unspecified material under *Other* (on grey) encompass a near-even 50,14% of the *CLMET3.0*, the remaining 49,86% consisting of *Narrative fiction* and *Drama*.

Considering the limitations of the corpus, De Smet points out that as internet sources for public domain texts rarely include full editorial information or details on the version of text that has been used as the basis for the electronic version, the corpus is ill-suited for the study of phenomena which might attract editorial attention, such as spelling or punctuation (2005:79). On the other hand, De Smet notes that editorial intervention is unlikely to have "any bearing on the timing of semantic developments within specific words or constructions" (ibid.).

3.4 The *British National Corpus*

The British National Corpus is a synchronic, 100-million-word corpus representing British English use (Burnard 2007:1.2-3). In its composition the *BNC* is a mixed, general corpus: it includes samples of both written and spoken language use from the period of 1960 to 1993, while the samples themselves are not limited to "any particular subject field, register or genre" (ibid.)
The written component of the *BNC* represents roughly 90 per cent of all the material in the corpus, and it is composed of text samples "no longer than 45,000 words" (ibid.:1.3). The corpus material encompasses both imaginary prose texts published from the 1960s onwards, and informative texts starting from the year 1975 (ibid.). The latest year of publication for any text in the corpus is 1993 (ibid.). Although the corpus includes imaginary prose texts starting from the 1960s, over 91% of all the written material in the corpus has been published during the period of 1985 – 1993 (ibid.:1.3).

The *XML-Edition* of the *BNC* is used in this thesis. Access to the corpus was provided by the University of Tampere via the *CQP-Edition* of the *BNCweb*. For the purposes of representativeness and comparability with the *CLMET3.0*, this thesis makes use of a specific *BNC* subcorpus of some 20 million words. The *BNC* subcorpus used in this thesis comprises all written material available under the *BNC* domains of *Imaginary prose, Letters:professional, Letters:personal* and *Biographies.*

4 On the verb *hint*

This chapter examines the verb *hint* in detail based on the views of a number of lexicographical works and grammars. The chapter ends with discussion focusing on the semantics of the verb.

4.1 The *Oxford English Dictionary*

In this thesis, *The Oxford English Dictionary* is seen as the authoritative source for lexicographical information. The June 2012 *OED* Online version defines the verb *hint* as follows:

The *OED*: ***hint, v.***		Example *OED* quotations (1700 →)		Complements		Notes
1. *trans.* To give a hint of; to suggest or indicate slightly, so that one's meaning may be caught by the intelligent.	**a.1**	The Doctor hinted it to me. 1725 D. Defoe *New Voy. round World* II. 64	**a.1**	NP + to NP		
	a.2	Nothing is yet said or hinted concerning the place. 1790 W. Paley *Horæ Paulinæ* Rom. i. 10	**a.2**	NP		*passive*
	a.3	Oates..had hinted a suspicion that the Jesuits were at the bottom of the scheme. 1849 T.B. Macaulay *Hist. Eng.* I. iii. 387	**a.3**	NP		
a. with simple obj.						
b. with obj. clause.	**b.1**	You hinted to me that you had many calls for Money. 1743 Johnson *Let.* (1992) I. 35	**b.1**	to NP + THAT-CL		
	b.2	It was hinted to the elderly Frenchman that their nocturnal departure boded no good. 1832 G. Downes *Lett. from Continental Countries* I. 174	**b.2**	to NP + THAT-CL		*it-passive*
c. with direct speech as obj.	**c.1**	'I'm sure he is very rich, Fred,' hinted Scrooge's niece. 1843 Dickens *Christmas Carol* iii. 107	**c.1**	Direct Speech		
	c.2	'I have been a stranger to the neighborhood,' returned the other, 'for years.' 'Many years?' hinted Mr. Brinnilow. 1891 C. Graves *Field of Tares* 41	**c.2**	Direct Speech		
2.a. *intr.* ***hint at***: to make a slight, but intelligible suggestion of; = 1a.	**a.1**	I never heard such a justification in an action for a libel even hinted at. 1735 Ld. Hardwicke in W. Selwyn *Abridgem. Law Nisi Prius* (1817) II. 986	**a.1**	at + NP		*passive*
	a.2	The spectator's imagination completes what the artist merely hints at. 1885 N. Hawthorne *Fr. & Ital. Jrnls.* II. 218	**a.2**	at + NP		*WH-fronted NP*
b. with other constructions; also *absol.*	**b.1**	If I wos allowed to 'int, Ladies, I shud say, Torse Hup! 1865 *Punch* 21 Jan. 32	**b.1**	Ø		
	b.2	Her husband's tutor was found to hint very strongly against such a step. 1891 T. Hardy *Group of Noble Dames* 77	**b.2**	AdvP		
† c. To give a hint to (a person). *Obs. rare.*	**b.3**	The night above was dark, but 'star~dials hinted of morn'. 1894 G. Du Maurier *Trilby* III. VII. 178	**b.3**	of + NP		*Non-Sentient Subject*
	c.1	We were hinted by the occasion, not catched the opportunity to write of old things, or intrude upon the Antiquary. 1658 Sir T. Browne *Hydriotaphia* Ep. Ded. to T. Le Gros sig. A3				
3. quasi-*trans.* (*nonce-uses.*) To send *off*, do *away*, by a hint.		I was therefore 'hinted off'. 1829 F. Marryat *Naval Officer* I. ii. 52 He hints away every merit poor old Sherry could claim. 1830 *Fraser's Mag.* **2** 182				

Figure 4: The OED *definition of* hint, *v. with complements and notes drawn from the example quotations.*

The definition of the verb *hint* considered in this thesis corresponds to that of [1] and [2] in Figure 4: the act of indicating or suggesting something in a slight manner that still allows the intended meaning to be picked up by the intelligent. Two of the senses given in the *OED*, the obsolete sense [2.c] and sense [3], are not taken into account in this thesis.

On the level of meaning there is very little difference between the two senses: hinting is defined as the giving of a slight suggestion whose meaning either remains intelligible (sense [2]), or which can be picked up by the intelligent (sense [1]). The similarity between the two senses is further underpinned in [2.a], where the *hint at* construction is marked as a variant of the transitive use of *hint* with a simple NP object, i.e. of [1.a]. According to both of the *OED* definitions an act of hinting entails that the intended meaning remains intelligible for some recipient. The difference between senses [1] and [2] is one of syntax: [1] denotes the transitive use of *hint*, while [2] represents intransitive use of the verb, both with *hint at* and other possible constructions.

As possible complement patterns for the verb *hint*, the *OED* quotations in sense [1] give simple NP objects, *that*-clauses and direct speech. Additionally, [1.a.1] and [1.b.1-2] feature a *to NP* construction denoting the recipient of the hint, which in two of the examples is the speaker (*to me*). Complement patterns accompanying the *OED* sense [2] are *at + NP*, *zero* complementation, an *adverb* phrase and an *of + NP* construction. The last two examples are here taken as somewhat more peripheral cases of complementation, but are still considered complements due to communicative necessity (cf. Herbst et al. 2004:xxx): ?*Her husband's tutor was found to hint. / ?? The night above was dark, but 'star~dials hinted'.* Furthermore, the *OED* quotation [2.b.3] features what is in this thesis considered a *non-sentient subject* (NSS). The term is here reserved for active construction subjects which denote inanimate objects or similar, non-sentient entities. Active constructions featuring NSSs are of interest, as from a semantic perspective non-sentient subjects lack all capacity for animacy, volition and deliberate action (cf. Fillmore 1968:24; Cowper 1992:48; Carnie 2002:168). Consequently, NSSs are incapable of representing the agent in an act of hinting.

4.2 *Hint* in other dictionaries

In addition to the 2012 online version of the *OED*, five other dictionaries were consulted for their definition of *hint*. Two dictionaries from the early 1990s were selected, the views of which are here contrasted with the definitions found in three dictionaries published during 2009 – 2011. For the purposes of comparison, one American dictionary, the *Random House Unabridged Dictionary* (Flexner et al.:1993), was included in the group. The relevant entries are given in Figure 5:

Dictionary	Definition given of: hint, v.	
The Chambers Dictionary *12th Edition* 2011 (***TCD***)	*vt* *vi* **hint at**	to intimate or indicate indirectly. to give hints. to give a hint, suggestion, or indication of.
Oxford Advanced Learner's Dictionary *of Current English* *Eighth edition* 2010 (***OAL8***)	***verb*** [I, T] **~ at sth** **~ (that)**... **+ speech**	to suggest sth in an indirect way: *What are you hinting at?* *They hinted (that) there might be more job losses.* *'I might know something about it,' he hinted.*
Longman Dictionary of Contemporary English *Fifth edition* 2009 (***LDC***)	*hint*[2] *v* [I, T] **[+at]** **hint (that)**	to suggest something in an indirect way, but so that someone can guess your meaning *What are you hinting at?* *He hinted strongly that he might be prepared to send troops in.*
Random House Unabridged Dictionary *Second Edition* 1993 (***RHU***)	*v.t.* **5.** *v.i.* **6.** **Syn. 5.**	to give a hint of: *Gray skies hinting a possible snowfall.* (usually fol. by *at*): *The article hinted at corruption in the mayor's office.* imply. **HINT, INTIMATE, INSINUATE, SUGGEST** denote the conveying of an idea to the mind indirectly or without full or explicit statement. To **HINT** is to convey an idea covertly or indirectly, but intelligibly: *to hint that one would like a certain present* *to hint that bits of gossip might be true*
Oxford Advanced Learner's Dictionary of Current English *Encyclopedic Edition* 1992 (***OALE***)	*v* **~ at sth** **~ sth (to sb)**	[Ipr, Tn, Dn•pr, Dpr•f] suggest sth slightly or indirectly: *The possibility of an early election has been hinted at.* *She has already hinted (to me) that I've won the prize.*

Figure 5: Definition of the verb hint *in select dictionaries from 1992 – 2011.*

Considering the meaning of the verb, all of the dictionaries in Figure 5 give similar accounts, noting that *to hint* is to convey information via a slight suggestion or some other, indirect manner. Two of the dictionaries, the *RHU* and the *LDC,* follow the intelligibility aspect found in the *OED*, noting that the recipient needs to be able to understand or guess the intended meaning. The role of the

recipient is given the most prominence in the *RHU*, whose entry on the synonyms of *hint* places the verb in a group denoting the "conveying of an idea to the mind" (ibid.). From a semantic perspective, this view of *hint* places more emphasis on the cognitive process of the recipient than on the act of hinting itself. It is also worth noting that in the *RHU* the examples given of both transitive and intransitive use (senses [5] and [6]) feature non-sentient subjects: *Gray skies* and *The article*.

On the level of syntax, all of the dictionaries note that *hint* allows both transitive and intransitive use. The most comprehensive entry on the subject is given in the *OALE*, which notes that the following four verb patterns are possible with *hint*: intransitive use with an accompanying prepositional phrase that is closely linked to the verb in grammar and meaning [Ipr][2] (Oxford 1992: xvii ff.); transitive use with a noun (phrase) or a pronoun as direct object [Tn] (ibid.); double-transitive use with a direct object followed by an indirect object of the form *to/for* + noun (phrase)/pronoun [Dn**.**pr] (ibid.); double-transitive use with an indirect object of the form *to* + noun (phrase) which is followed by a direct *that*-clausal object [Dpr**.**f] (ibid.).

Considering the complementation of the verb *hint*, a complement pattern given as possible in Figure 5 that is not found among the *OED* examples is the bare *that*-clause*,* which in the *OED* examples is always accompanied by the recipient-indicating *to NP* construction. Additionally, both the *LDC* and the *OAL8* go on to note that the complementizer *that* is optional with bare *that*-clauses.

In the dictionaries of Figure 5, the *OALE* entry is the only one to feature an example with the *to NP* construction: *She has already hinted* (*to me*) *that I've won the prize*. The other dictionaries of Figure 5 make no note of the construction in their entries. The complement pattern in the above example is *to NP* + *that*-clause, denoting the recipient of the hint and the hinted information, respectively. In the *OALE* example the recipient is the speaker, which is evident from the form of the *to NP* construction (*to me*)*,* and to a lesser extent from the form of the subject pronoun within the complement clause (*I*)*.* The recipient would arguably be inferrable from the context of the verb

2 The abbreviations correspond to the list of possible verb patterns given in brackets within the *OALE* entry. For full descriptions of the individual patterns, cf. Oxford 1992:xvii ff.

and the embedded clause alone, and the *OALE* example supports this view in its giving the recipient-indicating *to NP* construction in parentheses, or as a redundant element. The *OALE* example demonstrates that the *to NP* construction can be omitted, at least with *that*-clausal complements that indicate the speaker as the recipient. The omission of the recipient construction, however, seems to be less acceptable in cases where the complement denoting the hinted information content carries less weight than the *to NP* construction (cf. omission of *to NP* in Figure 4:[1.a.1]).

The absence of the recipient-indicating construction in most of the dictionary entries in Figure 5 stands in stark contrast with the *OED,* where a total of three example quotations feature the *to NP* construction, two of which are of the specific form *to me*, denoting the speaker. As of April 2015, the *OED Online* states that the entry on *hint* was first published in 1898, and that it has not yet been fully updated (cf. Pearsall et al.:2015). Differing uses of the recipient-indicating *to NP* construction attested in more contemporary dictionary entries may thus denote a development in the use of *hint*, and the frequency of the *to NP* constructions is consequently observed in this thesis. The frequency of the seemingly redundant constructions specifically denoting the individual speaker (i.e. ones realised by the form *to me*) are considered to be of special interest in this thesis.

4.3 On the syntactic behaviour of the verb *hint*

In addition to a number of dictionaries, several grammars were consulted for their entries on *hint.*

In the *Cambridge Grammar of the English Language,* Huddleston and Pullum include *hint* in their discussion of constructions ”containing a declarative content clause within the matrix VP” (2002:958). *Hint* is listed as a verb that takes an optional PP as the first internal complement preceding a *that*-clause (ibid.:959). With *hint*, the PP is noted to be a *to* phrase “whose NP indicates the recipient of some act of communication” (ibid.).

In the discussion of variants of monotransitive complementation, *A Comprehensive*

Grammar of the English Language (Quirk et al. 1985:1177-1178) lists *hint at* as a prepositional verb without a direct object. In their complementation, verbs of this type are stated to exhibit behaviour that is closer to monotransitive than intransitive verbs (ibid.:1177). Quirk et al. further note that when "a prepositional verb is followed by a *that*-clause or a *to*-infinitive clause, the preposition disappears (…)" (ibid.:1178), although "the preposition omitted before a *that*-clause can reappear in the corresponding passive (…), even in extraposition (…), where the preposition immediately follows the passive verb phrase" (ibid.). Adapting an example by Quirk et al. (ibid.), this concerns cases such as *She hinted that they should meet* / *That they should meet was hinted at,* with extraposition taking the form *It was hinted (at) that they should meet.* Consequently, Quirk et al. treat *hint at* as an independent prepositional verb that omits the preposition *at* with certain complements. The verb *hint* is additionally listed as a public type of factual verb; a group of "speech act verbs introducing indirect statements" (ibid.:1180) with *that*-clausal complementation. In this context, *public* denotes that the act the verb represents is observable (ibid.:1181). Quirk et al. go on to note that verbs of this type "are also used for introducing direct speech" (ibid.).

Similarly to Quirk et al., in the *Cambridge Grammar of English, A Comprehensive Guide* Carter and McCarthy list *hint* as a verb reporting a speech act (2006:817). *Hint* is given as one of the verbs that are frequently used to "represent the reported clause as performing a specific speech act" (ibid.). Furthermore, *hint* is mentioned as one of the most common verbs with "reporting functions connected with speech and thought" (ibid.:511) taking *that*-clauses as direct objects.

Drawing on the attestations found in the *LSWE* corpus, *Longman Grammar of Spoken and Written English* lists the verb *hint* among the less common words in the corpus controlling a *that*-clause complement (Biber et al. 1999:663-664). As its complements, Biber et al. note that *hint* takes both a *that*-clause, as well as the *to NP* + *that*-clause pattern (ibid.:664).

Echoing the above, Poutsma lists one example of the use of *to hint* in *A Grammar of Late Modern English*: "*He* hinted to *Pen that he had better have him for his partner at whist than play*

against him" (1904:172). This thesis takes the example as representing the *to NP* + *that*-clause pattern. In Poutsma, *to hint* is further marked as belonging to a group of verbs that "are also found with one or more prepositional objects, in which case their meaning is, of course, modified" (ibid.:157).

4.4 Summary: expected behaviour of *hint*

In the six dictionaries consulted in this thesis, the verb *hint* is defined as representing the act of conveying information in an indirect manner or via some slight suggestion. Three of the dictionaries (*OED*, *LDC*, *RHU*) note that the intended meaning needs to remain intelligible, entailing the presence of a recipient with a certain level of intelligence. Such semantic restrictions, however, are not imposed on all participants, exemplified in two of the dictionaries featuring non-sentient subjects (*OED, RHU*). All dictionaries note that *hint* allows both transitive and intransitive use.

Consolidating all of the dictionary and grammar entries, *hint* is shown to allow at least the following patterns of VP-internal complementation, here presented in decreasing order of sententiality (cf. Ross 2004:351) with patterns featuring the *to NP* construction given as subordinate variants: (*that*)*-clause*; (*to NP*) + *that-clause*; *NP*; *NP + to NP*; *at + NP*; *of + NP*; *adverb phrase*; *direct speech*; *zero*.

4.5 On the semantic properties of *hint*

The entries on *hint* in the literature attest to two differing uses of the verb. Both of these uses denote the conveying of information in an indirect manner or through some slight suggestion that remains intelligible for the recipient. From the perspective of the thematic roles the verb assigns, however, the two uses are radically different.

Consider the participants involved in the scenario of *hint* in the following example quotation from the *Oxford English Dictionary*:

(9) You hinted to me that you had many calls for Money.

The complement pattern in (9) is *to NP* + *that*-clause. Regardless of the person indicated as the recipient, from a semantic perspective use of the verb *hint* with patterns involving the *to NP* construction represents the following scenario, illustrated in Figure 6:

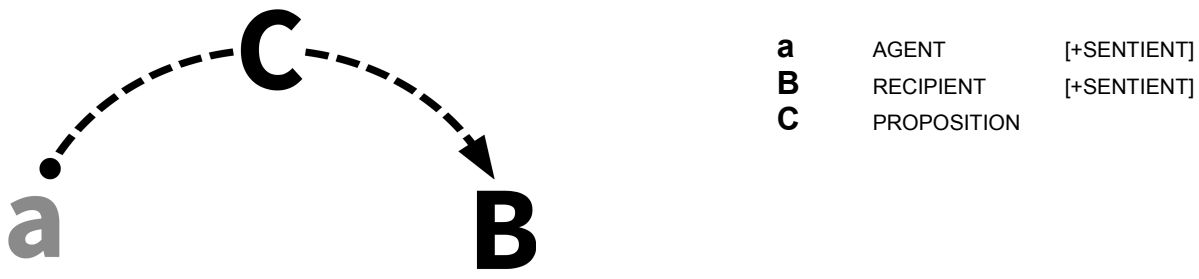

Figure 6: the theta-roles of hint *with a* to NP *construction.*

In cases such as (9), *hint* denotes a scenario where an agent (*a*) conveys information (*C*) to a recipient (*B*) in some indirect manner. The lowercase *a* in grey denotes the participant in the subject position that is not realised by a VP-internal complement; in (9) this is the agent – *You*. The uppercase *C* represents the proposition, or the hinted information content, which in (9) is realised by a *that*-clause. The uppercase *B* represents the recipient denoted by the *to NP* construction. The preposition of the recipient-indicating *to NP* construction serves to emphasize the division of roles between *a* and *B* as the active, agentive source of the transferred information, and its more passive recipient, respectively. As Smith and Escobedo (2001:552) note:

> *To* prototypically designates a path followed by an entity as it moves from a source to a concrete goal (expressed by a nominal) in the spatial domain, as shown in a sentence like *John walked to the store*.

In the context of *hint*, the strong independent meaning of the preposition *to* marks the participant denoted by the *to NP* construction as the *recipient* – a type of *goal* (Huddeston and Pullum 2002: 229, 959). The presence of a clear 'goal' participant also serves to define the agent as the source, or the "opposite of a goal" (Carnie 2002:169): the transmitter of something intended to reach the goal.

Another use of *hint*, however, effectively reverses the internal relations of the aforementioned participants with the introduction of a non-sentient subject. Consider (10), which is one of the examples given in the *Random House Unabridged Dictionary*:

(10) The article hinted at corruption in the mayor's office.

The complement pattern in (10) is *at + NP*, the NP of which denotes the hinted information, i.e. the implication of *corruption in the mayor's office*. As the subject in (10) represents an inanimate piece of writing, the argument in question does not meet the necessary requirements for carrying the theta-role of agent. In cases such as (10), the act of hinting needs to be interpreted as some mental judgement or inference that the subject stimulus triggers. Consequently, when a non-sentient subject (NSS) is involved, *hint* seems to behave like a psychological predicate (cf. Dowty 1991:579). As Dowty (ibid.) notes:

> What I believe sets this class of predicates off from all other natural-language verbs is that (i) the predicate entails that the Experiencer has some perception of the Stimulus – thus the Experiencer is entailed to be sentient/perceiving, though the Stimulus is not – and (ii) the Stimulus causes some emotional reaction or cognitive judgment in the Experiencer.

An NSS seems to resemble a "stimulus subject" (ibid.), causing *hint* to assign the following roles:

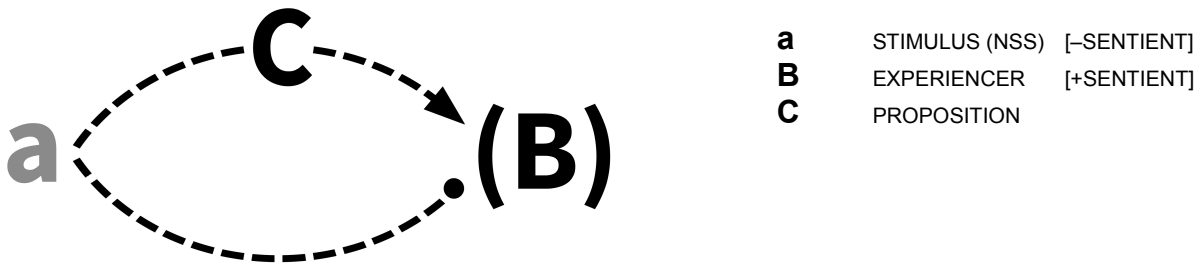

Figure 7: the theta-roles of hint *with a non-sentient subject* (*NSS*).

The NSS *a* represents some stimulus, the observation of which triggers the inference of proposition *C* in an implied experiencer (*B*). As shown in (10), with NSS-uses only the proposition needs to be

realised by a VP-internal complement. In Figure 7 the experiencer is given in parentheses, noting that the participant is not syntactically expressed; the presence of a stimulus is nevertheless taken as entailing that an experiencer is involved in the scenario of the predicate, even when left unexpressed. The dictionary definitions of the verb *hint* which note that the intended meaning needs to remain intelligible can be seen as supporting this view, as they indicate that some inferring party is involved.

5 Corpus data analysis

This chapter presents the results of the corpus analyses. The initial discussion focuses on the preliminaries and methodology followed in the analysis of all corpus data, while the rest of the chapter is dedicated to the presentation of the individual subcorpora results in chronological order.

5.1 Preliminaries

When considered together, the *CLMET3.0* and the *BNC* subcorpus used in this thesis form a sample of some 54 million words in size. The data represents written British English use during the period of 1710 – 1993, which is further divided between four consecutive subperiods. This is illustrated in Figure 8 (*CLMET3.0* data from De Smet 2015a; relevant *BNC* data from Burnard 2007):

Corpus:		Time period:	Length:	Number of words:
The ***CLMET3.0***	Part 1:	1710 – 1780	70 years	10 480 431
	Part 2:	1780 – 1850	70 years	11 285 587
	Part 3:	1850 – 1920	70 years	12 620 207
Unrepresented		1920 – 1964	44 years	–
The ***BNC***		1964 – 1993	29 years	20 172 599
Total:				54 558 824

Figure 8: Corpora overview.

As shown in Figure 8, there is an unrepresented gap of some 44 years between the *CLMET3.0* and the *BNC* data. Consequently, the developmental trends of *hint* during 1920 – 1993 should appear somewhat pronounced in the *BNC*, as only the latter half of the 73-year period is represented in the data. In the results derived from the *CLMET3.0*, on the other hand, developmental trends potentially appear less pronounced than actual language change would warrant. As De Smet notes, the make-up of *CLMET3.0* incorporates the earlier iterations of the corpus (2015a). This results in the fact that some ten million of the 35 million words in the corpus represent material that, to a large extent, has been produced by "highly schooled (and linguistically self-conscious) authors" (De Smet 2005:79) within whose writing "one expects language change to be kept at a tight leash" (ibid.).

5.2 Methodology

When working with both the *CLMET3.0* and the *BNC* subcorpora, identical search parameters were used. Four individual, non-case-sensitive searches were conducted on each of the subcorpora, corresponding to the possible verb forms *hint, hints, hinting* and *hinted*. In order to ensure maximal recall, only word forms were targeted in the searches and part-of-speech tagging was not used.

Out of all corpus data, a total of 3510 tokens of *hint* were found. These represented the four possible verb forms of *hint,* as well as tokens of different lexical categories. The results were parsed manually, yielding a total of 1212 verbal tokens, along with 2266 nominal uses and 6 adjectival ones. An additional 26 tokens were dismissed for representing either rhyming language (10 tokens), duplicate entries (12 tokens) or corpus errors (4 tokens). Examples of the non-verbal tokens are given in (11):

(11) a. He dropped certain explosive hints, which reminded me of the funny ideas of my state and greatness I had when a child. (Meredith 1870, *The Adventures of Harry Richmond*)

b. She shuddered, knowing what he suggested. Knowing also his hinted promise was likely to be so much dust. (The *BNC,* C85 1359)

c. And since only of those who have power I sing, I am sure none can think that I hint at the King. (Walpole 1735-69, *Letters*)

d. … let us lament our weakness, and hint, only hint at our resignation, but with assurances of continued support. (Bulwer-Lytton 1838, *Alice*)

e. … Or what if you hit hint on the head with a car-tool?" He looked at me pityingly, a full flat mouth on a chunky chin. (The *BNC,* H0M 1842)

Nominal use of *hint* is exemplified in (11.a), and adjectival use in (11.b). Verbal tokens featuring rhyming language (11.c) were disregarded on principle for not representing unmarked language use. Duplicates either resulted from the corpus make-up including two versions of the same text, or from emphatic, stylistic repetition as in (11.d). One instance of each duplicate was included in the analysis, with the latter token analysed from clauses with emphatic repetition. Concerning corpus errors, the typographic form of the letter *m* resembles the form of the letter pair *nt* found in *hint*, and a total of 4 tokens erroneously featured *hint* in place of the correct object pronoun *him*, as in (11.e).

In the analysis of the verbal tokens, the frequency of certain specific phenomena was observed: these constituted of passive uses, imperative uses, fronted complement elements, non-sentient subjects, tokens featuring the *to NP* construction, and tokens where the recipient construction was realised by the form 'to me'. Examples are given in (12):

(12) a. St. James's-park, within the enclosure, having been hinted as the nearest and most suitable spot … (Various 1841, *Punch, Vol.1*)

b. "Don't hint, that's all! Hold your nose and your tongue too." (Bennett 1908, *The Old Wives' Tale*)

c. That then is the secret my Charmer hinted, and which brought me so hastily to Town. (Cowley 1779, *Who's the dupe?*)

d. Can this particular story, which this girl hints at, be that of Lucy Villars? (Richardson 1748, *Clarissa*)

e. Public marches permit the display of one's symbols: the flags, the banners, the open Bible, and, on occasions, the uniforms which hint at potential violence. (The *BNC,* AD2 1096)

f. Indeed her first Husband, Sir Charles, many Years ago hinted some such thing to me. (Chetwood 1736, *The Voyages, Travels and Adventures, of William Owen Gwin Vaughan, Esq*)

Imperatives (12.b) and tokens with the recipient construction taking the specific form 'to me' (12.f) represent straightforward cases, and are not discussed further.

Concerning passives (12.a), this thesis follows Perlmutter and Soames (cf. 1979:30ff) in analysing passive tokens according to their corresponding active forms. Two types of NP fronting were distinguished, exemplified in (12.c-d). In (12.c) the verb is directly linked to the fronted NP complement *the secret*, and cases such as these were marked as featuring *fronted NP*s. In (12.d), the NP fronted from the *at + NP* complement is represented by the relative pronoun *which*, referring to the NP *this particular story* within the matrix clause. Tokens of *hint* indirectly linked to fronted NP elements through the use of a relative pronoun were marked as involving *WH-fronted NP*s. As passive tokens were analysed according to their active forms, they were not taken into account as involving fronted elements. Outside the context of passive clauses, tokens where the constituent occupying the subject position referred to a non-sentient participant were marked as NSS-uses, one

example of which is given in (12.e).

A number of tokens gave cause to further define the criteria for NSS-uses. Consider (13):

(13) a. … there is no party, no sect, no periodical, no teacher either in Great Britain or America or the Colonies, to hint at a proposal to abolish the aristocratic and monarchical elements in the British system. (Wells 1903, *Mankind in the Making*)

b. Daddy had often used queer phrases that hinted at it: "Some day—A day is coming—A day will come"; and so forth. (Blackwood 1915, *The Extra Day*)

c. The symptoms, only hinted at by a headache earlier that could easily have been nothing, and by mild swelling that was normal in hot weather, had intensified with frightening suddenness … (The *BNC,* H9H 2239)

d. … continuance of a small commissariat for the ungifted fraternal was delicately hinted at in the various documents containing the pressing invitations to "yokel population" … (Various 1841, *Punch, Vol.1*)

Four potential agents are indicated in (13.a): a *party,* a *sect,* a *periodical* and a *teacher*, with the *periodical* here seen as representing NSS-use. In the case of the rare token where multiple agents were indicated, the token was marked as representing NSS-use if one or more of the listed agents was clearly non-sentient. Tokens where the subject constituent referred to some product of a communicative act were marked as NSS-uses, applying both to pieces of writing such as the *periodical* of (13.a), as well as to speech. An example of the latter is (13.b), where *queer phrases* are given as the hinter instead of their clearly human utterer, *Daddy.* Although speech and writing are the products of sentience, they themselves are not sentient, and entail the presence of an intelligent experiencer to infer their content as hinting at something.

NSS-uses constitute a purely semantic consideration, and four passive tokens were also marked as NSS-uses. As passives by definition do not need to define their agentive participants, passive tokens were considered as NSS-uses only if a non-sentient hinter was very clearly indicated either syntactically, or in the immediate context. Examples of both cases are given in (13.c-d). In (13.c), two separate stimuli are expressed with *by*-phrases: *a headache* and *mild swelling*, whereas in (13.d) the adjunct directly following the preposition *at* indicates *various documents* as hinting at the continuance of the commissariat.

Not taking into account the fronting of NP elements out of PP complements, in cases where a complement was found in a fronted position, the fronted element was analysed as occupying the final position in the resulting pattern. Consider (14):

(14) a. To me he never hinted anything on the subject. (Scott 1825-32, *The Journal of Sir Walter Scott*)

b. But one thing I must hint to you; the very name of Peter Finder[3] is of great service to your publication, so get a verse from him now and then; … (Burns 1780-96, *Letters 1780-96*)

c. There had been something he had hinted at, something he wanted to tell her. (Bagnold 1920, *The Happy Foreigner*)

Complement patterns such as those of (14.a-b) were analysed as *NP + to NP* and *to NP + NP,* respectively. The adoption of this method allowed as little subjective interpretation as possible to enter into the analysis. Furthermore, only 26 tokens were found in all data where the order of the resulting complement pattern is potentially 'wrong', 22 of which represent the pattern variants of (14.a-b). In cases such as (14.c / *at + NP*) where the fronted NP element represented a part of a PP complement, the element was analysed as following the preposition of the PP complement in the resulting pattern regardless of the presence of other constructions.

The optional presence and varying position of the recipient-indicating *to NP* construction inevitably produces a number of complement pattern variants. In the presentation of the analysis results, the complement patterns are consequently given as variant groups. Each individual pattern group encompasses up to four variant patterns in descending order, from the most prototypical to the least common. The prototypical pattern is underlined, and variants featuring the *to NP* construction as well as any other minority variants of the prototypical pattern are given as subordinating patterns. In the analysis tables, the ordering of the complement pattern groups themselves follows an approximation of Ross (cf. 2004:351), the different pattern groups being listed in decreasing order of sententiality.

3 (14.b) is a further example of the scanning errors found in corpora which result from similarities in the typographical forms of certain letters. The name given in the *CLMET3.0* as *Peter Finder* is actually *Peter Pindar*, a pseudonym used by the contemporary English satirist John Wolcot (cf. Cousin 1910).

5.2 *Hint* in the *CLMET3.0*, Part 1

A total of 1152 tokens of *hint* were found in the first part of the *CLMET3.0,* of which 462 tokens (40,1%) represented verbal uses. This amounts to the normalized frequency of some 44 tokens per one million words. Overall statistics on the use of *hint* in the *CLMET3.0-1* are given in Figure 9:

The *CLMET3.0*, Part 1 (1710 – 1780) Number of words in subcorpus: 10,480,431				
Total number of tokens:	**1152**	**100,0%**	**109,92**	**NF**
Corpus errors:	0	0,0%	0,00	NF
Dismissed entries:	14	1,2%	1,34	NF
Adjectival tokens:	1	0,1%	0,10	NF
Nominal tokens:	675	58,6%	64,41	NF
Verbal tokens:	462	40,1%	44,08	NF
Out of all 462 verbal tokens:				
Passive use:	56	12,1%	5,34	NF
Imperative use:	0	0,0%	0,00	NF
WH-fronted NP:	48	10,4%	4,58	NF
Fronted NP	35	7,6%	3,34	NF
Non-sentient subjects:	21	4,5%	2,00	NF
Any *to NP* construction:	130	28,1%	12,40	NF
Specific '*to me*' construction:	33	7,1%	3,15	NF

Verb form 1: *hint*		
Verbal tokens:	**104**	**22,5%**
Nominal tokens:	402	of all
Adjectival tokens:	0	verbs
Verb form 2: *hints*		
Verbal tokens:	**28**	**6,1%**
Nominal tokens:	272	of all
Adjectival tokens:	0	verbs
Verb form 3: *hinting*		
Verbal tokens:	**26**	**5,6%**
Nominal tokens:	1	of all
Adjectival tokens:	0	verbs
Verb form 4: *hinted*		
Verbal tokens:	**304**	**65,8%**
Nominal tokens:	0	of all
Adjectival tokens:	1	verbs

Figure 9: hint *in the* CLMET3.0-1.

Eight duplicate entries and six instances of rhyming language use were dismissed from the analysis.

The most frequent verb form attested in the subcorpus was *hinted*, accounting for over 65% of the verbal tokens. Non-sentient subject uses were rare with only 21 attested tokens in the entire subcorpus, whereas the recipient-indicating *to NP* construction was very frequent with over 28% of all verbal tokens featuring some form of the construction. Use of the specific '*to me*' recipient construction was also frequent: 33 of all 130 recipient patterns denoted the speaker, amounting to over 25% of all the *to NP* constructions.

A total of 11 different complement patterns were found across all corpora, nine of which were attested in the *CLMET3.0-1.* The complement patterns of *hint* in the first part of the *CLMET3.0* are given in Figure 10:

The *CLMET3.0*, Part 1 (1710-1780)						group	group	group
	Complements	tokens	NF	%	NSS	tokens	NF	%
1	**THAT-CL** ●	65	6,20	14,1%	1	121	11,55	26,2%
	to NP + **THAT-CL**	44	4,20	9,5%	–			
	(THAT)-CL	10	0,95	2,2%	–			
	to NP + **(THAT)-CL**	2	0,19	0,4%	–			
2	**TO-INF**	–	–	–	–	1	0,10	0,2%
	to NP + **TO-INF**	–	–	–	–			
	NP + TO-INF	1	0,10	0,2%	–			
3	**WH-CL**	6	0,57	1,3%	1	10	0,95	2,2%
	to NP + **WH-CL**	2	0,19	0,4%	–			
	ABOUT + WH-CL	–	–	–	–			
	AT + WH-CL	2	0,19	0,4%	–			
4	**NP** ●	83	7,92	18,0%	6	159	15,17	34,4%
	NP + to NP	29	2,77	6,3%	1			
	to NP + **NP**	47	4,48	10,2%	5			
5	**ABOUT + NP**	–	–	–	–	–	–	0,0%
6	**AT + NP** ●	102	9,73	22,1%	7	110	10,50	23,8%
	AT + NP + to NP	3	0,29	0,6%	–			
	AT + NP-ING	3	0,29	0,6%	–			
	AT + ING	2	0,19	0,4%	–			
7	**FOR + NP**	–	–	–	–	–	–	0,0%
8	**OF + NP**	1	0,10	0,2%	–	2	0,19	0,4%
	to NP + **OF + NP**	1	0,10	0,2%	–			
	OF + NP-ING	–	–	–	–			
9	**ADVERB**	1	0,10	0,2%	–	1	0,10	0,2%
10	**DS**	–	–		–	1	0,10	0,2%
	to NP + **DS**	1	0,10	0,2%	–			
11	**ZERO** ●	57	5,44	12,3%	–	57	5,44	12,3%
	Total:	462	44,08	100%	21	462	44,08	100%

Figure 10: Complement patterns of hint *in the* CLMET3.0-1.

Complement pattern groups marked with a dot denote dominant patterns, each group accounting for more than 10% of all the complement patterns within the subcorpus. In the *CLMET3.0-1*, the most frequent patterns of complementation represented the *zero*, *at + NP,* bare *NP* and *that*-clausal groups. Combined, these four pattern groups account for nearly 97 per cent of all complementation in the subcorpus. Bare *NP* patterns were the most frequent complements, followed by *that*-clausal complementation and the *at + NP* pattern. The majority of the *to NP* recipient constructions (93,8%) clustered on the *that*-clausal and bare *NP* pattern groups, whereas the rare NSS-uses favoured the bare *NP* and *at + NP* patterns with 12 and 7 tokens, respectively.

Examples of *zero* complementation are given in (15):

(15) a. This graceful Effusion of a virtuous and humble Heart is, as I once hinted, the highest and, generally, the most grateful Compliment that a Person can pay to the Company; … (Brooke 1765-70, *The Fool of Quality*)

b. Though Mr. Booth was, as we have hinted, a man of a very sweet disposition, yet was he rather overwarm. (Fielding 1751, *Amelia*)

c. The chief end of this society, as I have already hinted, was to assist and support each other in their productions, which they mutually recommended to sale, with a … (Smollett 1751, *The Adventures of Peregrine Pickle*)

d. We hinted, represented--in vain. (Walpole 1735-69, *Letters*)

The vast majority of the *zero* complements found in the *CLMET3.0-1* were presented within *as*-clauses exemplified in (15.a-c / *zero*), a total of 55 of the 57 attested *zero* tokens representing this use. The position of the *as*-clause signals the hinted information content, but as the entire *as*-clause can be omitted with no impact on grammaticality, no syntactic complement for *hint* can be systematically distinguished. *As*-clausal tokens such as (15.a-c) were consequently analysed as *zero* complements. Only two tokens represented *zero* complementation outside *as*-clauses, one example of which is given in (15.d / *zero*). As the focus of *hint* in (15.d) is on the manner of action, no complement denoting the hinted information content is required.

Direct speech (*DS*), *adverbial* and *of + NP* complements were rare, all attested tokens of which are given in (16):

(16) a. This gentleman Mr. Cibber senior was very intimate with, and once hinted to him, 'He was concerned to find he stood so ill in the Dean's opinion … (Cibber 1753, *The Lives of the Poets of Great Britain and Ireland*)

b. … lashed my Lord Granville, painted my Lord of Newcastle, attacked Mr. Fox, and even hinted up to the Duke. (Walpole 1735-69, *Letters*)

c. I would have you gradually open the design to her, of which, indeed, I distantly hint in my letter to her. (Pratt 1776, *The Pupil of Pleasure*)

d. … we became acquainted with the clergyman of our parish, of whom I hinted to you before. (Griffith 1764, *The Triumvirate*)

The only direct speech complement in the subcorpus was a variant with the recipient construction (16.a / *to NP + direct speech*). The form of the direct speech complement closely resembles that of a (*that*)-*clause*, the single quote being the sole reason for the direct speech analysis. One token was

analysed as an *adverbial* complement; the person described in (16.b) is verbally attacking members of the Parliament, and *up* was considered to reflect the status-progressive manner of the attacks, culminating in the indirect implication of the Duke. Two tokens representing *of + NP* complements were found: (16.c / *of + NP*) and (16.d / *to NP + of + NP*). The tokens come from different authors, but both involve *WH*-fronted NP elements, here given paraphrased in unmarked form: *~I distantly hint of my plans in my letter to her / ~I hinted to you before of the clergyman of our parish.*

The *at + NP* complement pattern was attested both with the recipient-indicating *to NP* construction, as well as with a number of *at + ING* variants. Consider (17):

(17) a. … "I know nothing," said he, "of the business this letter hints at; but wait a few hours, and I will give you an answer." (Clara 1777, *The Old English Baron*)

b. Mr. Selvin, whom the seeming Contradictions in this Speech astonish'd, yet imagin'd in general it hinted at the Dispute between him and Mr. Tinsel; … (Lennox 1752, *The Female Quixote*)

c. … pretended jealousy of a young nobleman in the house, and artfully hinted at returning immediately to England; … (Brooke 1763, *The History of Lady Julia Mandeville*)

d. I saw the whole letter, and he did not even hint at its being communicated to me. (Walpole 1735-69, *Letters*)

e. Complains of her silence. Hints at her not having designed to go away with Lovelace. (Richardson 1748, *Clarissa*)

f. Something of this nature was hinted at by Betty to me before, but so darkly that I could not tell what to make of it; … (Richardson 1748, *Clarissa*)

The bare *at + NP* pattern is exemplified in (17.a-b), where (17.a) involves a fronted NP. Both (17.a-b) are also examples of NSS-uses: the hinter in (17.a) is *this letter*, and in (17.b) *it*, referring to the NP *this Speech*. Following Huddleston and Pullum, tokens of the *at + NP* group featuring a gerund-participle (2002:74) such as (17.c) were separately analysed as *at + ING* as they constituted a rare variant within the generally uniform pattern group. Tokens (17.d-e) additionally feature possessive pronoun subjects, (17.d) representing a gerund-participial with passive *be* and (17.e) one with perfect *have* (ibid.:1174). Both types (17.d-e) are examples of the *Poss Ing* construction (cf. Ross 2004:351), and were consolidated under the analysis *at + NP-ING*. One passive token of interest is

given in (17.f / *at + NP + to NP*), the form of which seems overly complicated when compared with the corresponding active: *Betty hinted at something of this nature to me before.* Although only 16 of the 56 passive tokens in the subcorpus favoured the *at + NP* pattern group, 40 of the 110 *at + NP* tokens featured a fronted NP element: a potential influence for the passive choice. Furthermore, while a total of 110 verbal tokens represented the *at + NP* group in the subcorpus, the recipient-indicating construction was only present in 2 other *at + NP* tokens in addition to that of (17.f).

Bare *NP* complement variants were the most frequent complements, representing 34,4% of all complementation in the subcorpus. Examples of the bare *NP* variants are given in (18):

(18) a. … not a feature in the sky, not a movement of the elements; not an aspiration of the breeze, but hints some cause for a lover's apprehension! (Sheridan 1775, *The Rivals*)

b. "Believe me, I would not hint all my sufferings to you, if I imagined they could possibly escape your ears. (Fielding 1749, *The History of Tom Jones, A Foundling*)

c. The next Day I cou'd not help hinting to my Uncle, something of his Housekeeper's Behaviour. (Chetwood 1736, *The Voyages, Travels and Adventures, of William Owen Gwin Vaughan, Esq*)

d. At least, Bella, said I, you have hinted to me to whom I am obliged, that my father and mother, and every body else, treat me thus harshly. (Richardson 1748, *Clarissa*)

One example of NSS-use is given in (18.a / *NP*), where the speaker notes that no natural phenomenon exists that a lover would not interpret as indicating some cause for apprehension. Variants of the bare *NP* pattern were found with the *to NP* construction on either side of the content-denoting NP complement, as shown in (18.b / *NP + to NP*) and (18.c / *to NP + NP*). One irregular token (18.d) was in the analysis taken as belonging to the *to NP + NP* variant: *~ you have hinted to me [the person] to whom I am obliged.* Although the token is interesting in form, it was considered to represent idiosyncratic style similar to that of (17.e) and (17.f) from the same author.

Features of both fused relatives and open interrogatives (cf. Huddleston and Pullum 2002:1068-1070) were found in the *WH*-clausal complementation of *hint*. Consider (19):

(19) a. What it did arise from, I have hinted above, and a fertile source of obscurity it is,--and ever will be,-- … (Sterne 1759-67, *The Life and Opinions of Tristram Shandy*)

b. I may appear officious; and if I thought I should, I would decline any concern in it, after I have just hinted what it is. (Richardson 1748, *Clarissa*)

c. I hinted to thee in my last what that was. (Richardson 1748, *Clarissa*)

d. … without hinting at what had past, she with the most exquisite delicacy gave me to understand it would be best I should leave … (Brooke 1763, *The History of Lady Julia Mandeville*)

In (19.a / *WH-clause*) the fronted subject position complement is a fused relative, as it can enter into plural subject-verb agreement (*What it did arise from were the unsolved problems*), but does not allow extraposition (**It is irrelevant what it did arise from*) (ibid.). In (19.b / *WH-clause*), on the other hand, the opposite applies (**What it is are the unsolved problems / It is irrelevant what it is*), showing (19.b) to be an open interrogative (ibid.). *WH*-clausal complements were rare, and as *hint* accepts both nominal and clausal complementation, fused relatives and open interrogatives were both simply considered under *WH-clauses. WH*-clausal complements were attested both with the recipient construction (19.c / *to NP + WH-clause*) as well as with *at* (19.d / *at + WH-clause*).

A number of tokens were analysed as representing special cases of other patterns:

(20) a. … or whether there be not here some of those deceitful feelings, which we have already hinted in some other instances to belong to our nature. (Kames 1751, *Essays on the Principles of Morality and Natural Religion*)

b. The Colonel perceives the alteration, as well as I, and seems to hint as if his sagacity could discover the cause of it; … (Griffith 1771, *The History of Lady Barton*)

c. I myself was modest once; and this, as I have elsewhere hinted to thee,* has better enabled me to judge of both sexes. * See Vol. III. Letter XXIII. (Richardson 1740, *Pamela*)

The token given in (20.a / *NP + TO-inf*) involves a *WH*-fronted NP, and was analysed as a variant of the to-infinitive: *~ we have already hinted those deceitful feelings to belong to our nature* (*in some other instances*). Three tokens were found with complementing *as-if* clauses, exemplified in (20.b); following Huddleston and Pullum (2002:962), these were analysed as special cases of *that*-clausal

complementation. A total of twelve tokens in the *CLMET3.0-1* featured the recipient construction as their only discernable complement, as the tokens were presented within *as*-clauses, similarly to those found with *zero* complements. One example is given in (20.c). Uses such as these were rare, with only 2 additional tokens attested outside the *CLMET3.0-1* data. Tokens of the type given in (20.c) were taken into account as special cases of the *to NP* + *that*-clause pattern, as the tokens easily accept a paraphrase with an overt complementizer: *~I have elsewhere hinted to thee that this has better enabled me to judge of both sexes.*

That-clausal complements were among the most frequent types to be found with *hint.* Examples of the different variants attested in the subcorpus are given in (21):

(21) a. I have before hinted that these People have an Extensive knowledge of the Islands situated in these Seas. (Cook 1768-71, *Captain Cook's Journal During The First Voyage Round the World*)

b. What made me hint to you, that I should bring but little with me, is this: You must know, I did intend to do, as I … (Richardson 1740, *Pamela*)

c. Has he even presumed to hint he thinks them too severe? (Griffith 1771, *The History of Lady Barton*)

d. I gave him Thanks suitable to so agreeable an Offer; but hinted to him, a Person is not so well esteem'd in the World without a University-Education. (Chetwood 1736, *The Voyages, Travels and Adventures, of William Owen Gwin Vaughan, Esq*)

The most frequent *that*-clause complement was the bare clause with an overt complementizer (21.a / *THAT-clause*): a total of 62 tokens[4] represented this type out of the 121 tokens in the pattern group. An additional 32 overt complementizer tokens[5] were found with an intervening recipient construction (21.b / *to NP + THAT-clause*). Ten tokens were found representing the bare *that*-clause without the complementizer (21.c / (*THAT*)-*clause*), whereas only two tokens made use of the *to NP* construction without the complementizer being present in the clausal complement (21.d / *to NP* + (*THAT*)-*clause*). As a *to NP* construction intervening between the verb and the clausal complement constitutes a clear complexity factor which consequently prompts the use of more

4 In Figure 10, the number of tokens representing this pattern is given as 65. These include 3 *as if* -clauses.

5 The number of tokens given in Figure 10 is 44: this includes 12 special cases of the type discussed in (20.c).

explicit variants (cf. Rohdenburg 1996:161), from a theoretical standpoint the very low amount of *to NP* + (*that*)-clausal patterns is in accordance with the expected behaviour of the verb.

5.3 *Hint* in the *CLMET3.0*, Part II

In the second part of the *CLMET3.0*, an overall 794 tokens of *hint* were found, 281 of which represented verbal uses. This amounts to the normalized frequency of 24,9 verbal tokens per one million words. Statistics on the use of *hint* in the *CLMET3.0-2* are given in Figure 11:

The *CLMET3.0*, Part 2 (1780 – 1850) Number of words in subcorpus: 11,285,587					**Verb form 1: *hint***		
					Verbal tokens:	**94**	**33,5%**
					Nominal tokens:	300	of all
Total number of tokens:	**794**	**100,0%**	**70,36**	**NF**	Adjectival tokens:	0	verbs
Corpus errors:	2	0,3%	0,18	NF			
Dismissed entries:	3	0,4%	0,27	NF	**Verb form 2: *hints***		
Adjectival tokens:	2	0,3%	0,18	NF	**Verbal tokens:**	**11**	**3,9%**
Nominal tokens:	506	63,7%	44,84	NF	Nominal tokens:	203	of all
Verbal tokens:	281	35,4%	24,90	NF	Adjectival tokens:	0	verbs
Out of all 281 verbal tokens:					**Verb form 3: *hinting***		
Passive use:	47	16,7%	4,16	NF	**Verbal tokens:**	**18**	**6,4%**
Imperative use:	0	0,0%	0,00	NF	Nominal tokens:	3	of all
WH-fronted NP:	10	3,6%	0,89	NF	Adjectival tokens:	0	verbs
Fronted NP	14	5,0%	1,24	NF			
Non-sentient subjects:	18	6,4%	1,59	NF	**Verb form 4: *hinted***		
Any *to NP* construction:	42	14,9%	3,72	NF	**Verbal tokens:**	**158**	**56,2%**
Specific '*to me*' construction:	5	1,8%	0,44	NF	Nominal tokens:	0	of all
					Adjectival tokens:	2	verbs

Figure 11: hint *in the* CLMET3.0-2.

Seven tokens were not taken into account in the analysis: two corpus errors with *hint* in place of *him*, one rhyming language token, two duplicate verbal entries and two adjectival tokens.

The verb form *hinted* represented 56,2% of all verbal tokens within the *CLMET3.0-2*, making it the most frequent verb form in the subcorpus. In addition to a significant drop in the frequency of verbal uses, the relative proportion of the recipient-indicating constructions dropped to less than 15% of all verbal tokens in the *CLMET3.0-2*. At the same time, the frequency of the specific recipient '*to me*' was more than halved: the speaker was denoted in only five of the 42 recipient constructions found in the *CLMET3.0-2.* In relative terms, this amounts to less than 12%

of all the *to NP* constructions in the subcorpus. Non-sentient subject uses saw a marginal increase in their relative proportion, representing 6,4% of all verbal tokens in the second part of the *CLMET3.0*.

Eight complement patterns were attested in the *CLMET3.0-2*. These are given in Figure 12:

	The *CLMET3.0*, Part 2 (1780-1850) Complements		tokens	NF	%	NSS	group tokens	group NF	group %
1	**THAT-CL**	●	56	4,96	19,9%	4	77	6,82	27,4%
	to NP + **THAT-CL**		15	1,33	5,3%	–			
	(THAT)-CL		5	0,44	1,8%	1			
	to NP + **(THAT)-CL**		1	0,09	0,4%	–			
2	**TO-INF**		1	0,09	0,4%	–	1	0,09	0,4%
	to NP + **TO-INF**		–	–	–	–			
	NP + TO-INF		–	–	–	–			
3	**WH-CL**		2	0,18	0,7%	–	4	0,35	1,4%
	to NP + **WH-CL**		1	0,09	0,4%	–			
	ABOUT + WH-CL		–	–	–	–			
	AT + WH-CL		1	0,09	0,4%	–			
4	**NP**	●	42	3,72	14,9%	4	65	5,76	23,1%
	NP + to NP		9	0,80	3,2%	–			
	to NP + **NP**		14	1,24	5,0%	1			
5	**ABOUT + NP**		–	–	–	–	–	–	0,0%
6	**AT + NP**	●	86	7,62	30,6%	7	91	8,06	32,4%
	AT + NP + to NP		1	0,09	0,4%	–			
	AT + NP-ING		2	0,18	0,7%	–			
	AT + ING		2	0,18	0,7%	–			
7	**FOR + NP**		–	–	–	–	–	–	0,0%
8	**OF + NP**		1	0,09	0,4%	–	2	0,18	0,7%
	to NP + **OF + NP**		1	0,09	0,4%	–			
	OF + NP-ING		–	–	–	–			
9	**ADVERB**		–	–	–	–	–	–	0,0%
10	**DS**		8	0,71	2,8%	–	8	0,71	2,8%
	to NP + **DS**		–	–	–	–			
11	**ZERO**	●	33	2,92	11,7%	1	33	2,92	11,7%
	Total:		281	24,90	100%	18	281	24,90	100%

Figure 12: Complement patterns of hint *in the* CLMET3.0-2.

The most frequent complements of *hint* in the *CLMET3.0-2* represented the *at + NP* pattern, whose variants accounted for 32,4% of all complementation within the subcorpus. The *at + NP* group is followed in frequency by *that*-clausal, bare *NP* and *zero* complementation. The bulk of the *to NP* recipient constructions (92,9%) resided with the bare *NP* and *that*-clause complement groups, while NSS-uses were divided between *at + NP,* bare *NP, that-clausal* and *zero* complement patterns. In

the *CLMET3.0-2*, non-sentient subject uses fully coincide with the dominant complement groups.

Examples of the attested *zero* complements are given in (22):

(22) a. … her _eldest_ daughter, she must just mention--she felt it incumbent on her to hint, was likely to be very soon engaged." (Austen 1813, *Pride and Prejudice*)

b. If your verses, as you seem to hint, contain censure, except you want an occasion to break with me, don't send them. (Burns 1780-96, *Letters 1780-96*)

c. … for her book or no, and if Lord Byron is to be called over about some verses he has written, as the papers hint" … (Byron 1810-13, *Letters*)

Of the 33 *zero* complement tokens attested in subcorpus, 3 tokens were presented outside *as*-clauses (22.a / *zero*), and 30 tokens within *as*-clausal environments (22.b-c / *zero*). Token (22.c) also represents the sole NSS *zero* token found in the *CLMET3.0-2*, giving *the papers* as the hinter.

A number of *direct speech* and *of + NP* complements were attested:

(23) a. 'And when,' hints Mr Dombey, 'would it be convenient?' (Dickens 1844, *Dombey and Son*)

b. Of his circumstances, Valancourt himself hinted as far as delicacy would permit, when he said he had at present little else to offer but an heart … (Radcliffe 1794, *The Mysteries of Udolpho*)

c. … —did he, in recalling those words, in which his father had more than hinted to Courtland of his future amendment, contemplate recovering a parent made wise by years … (Bulwer-Lytton 1832, *Eugene Aram*)

One example of direct speech complementation is given in (23.a). Two tokens were found in the subcorpus where the form of the complement pattern was *of + NP*, one involving fronting (23.b / *of + NP*) and one making use of the recipient construction (23.c / *to NP + of + NP*). Although not an NSS token, (23.c) is interesting in that it indicates both a clearly sentient hinter (*his father*) as well as a non-sentient source for the hinted information (*those words*).

Examples of the *at + NP* group are given in (24):

(24) a. While hinting at the right connection between price and rent, he yet believed that rent formed a part of price. (Mill 1848, *Principals of Political Economy*)

b. … Hortensio, the other new-married man, could not forbear sly jests, which seemed to hint at the shrewish disposition of Petruchio's wife … (Lamb 1807, *Tales from Shakespeare*)

c. Yet so small were his expectations of success, that not even to his sister did he hint at the situation of his heart … (Burney 1782, *Cecilia*)

d. … and her manner, when I have hinted at becoming a reformed man in this respect, convinces me of it. (Hazlitt 1823, *Liber Amoris, or the New Pygmalion*)

e. Mr. Solus, you have frequently hinted at my fortune being impaired; but I do not approve of such notions being received abroad. (Inchbald 1793, *Everyone Has His Fault*)

Prototypical tokens are exemplified in (24.a-b / *at + NP*), where (24.b) represents NSS-use with *sly jests*. Only one *at + NP* token was found in conjunction with the recipient construction, originally located in a fronted position (24.c / *at + NP + to NP*). Three *at + ING* variants were attested in the subcorpus, exemplified in (24.d / *at + ING*) and (24.e / *at + NP-ING*). In the *CLMET3.0-2*, only five of the 91 *at + NP* pattern group tokens featured a fronted NP element.

Example tokens of the bare *NP* group variants are given in (25):

(25) a. Many things invite to flight. The voice Journals invites; Royalist Journals proudly hinting it as a threat, Patriot Journals rabidly denouncing it as a terror. (Carlyle 1837, *The French Revolution*)

b. I found that his favourite maid had prejudiced him, and I was foolish enough to hint this to him, which he resented very warmly, and gave me a lecture in such language … (Hunt 1820-22, *Memoirs of Henry Hunt*)

c. … his conscience hinted to him certain circumstances, which, in some measure, explained the conduct of Montoni: … (Radcliffe 1794, *The Mysteries of Udolpho*)

The token in (25.a / *NP*) is a prototypical bare *NP* token, and variants with the *to NP* construction are given in (25.b / *NP + to NP*) and (25.c / *to NP + NP*). Tokens (25.a) and (25.c) are also examples of NSS-uses, giving *Royalist Journals* and *his conscience* as the hinters, respectively. Token (25.c) is especially interesting as it makes use of the recipient-indicating *to NP* construction to denote the experiencer, while the experienced stimulus, *his conscience,* is a purely cognitive one.

Attested variants of both *WH*-clausal and *to*-infinitival complementation are given in (26):

(26) a. … and he then hinted how becoming it would be for Jos to send Georgy to a good school and make a man of him … (Thackeray 1843, *Vanity Fair*)

b. … she forbore to hint to Mrs Charlton what had passed, that the subject might never be started; … (Burney 1782, *Cecilia*)

c. … but more were doubtful; and one spoke to young Mr. Duncombe, hinting at what they thought." "O Jem! what a shame!" said Mary, with mournful indignation. (Gaskell 1848, *Mary Barton*)

d. … and I never heard that it was even hinted to offer to remove them, except once, on which occasion the following curious circumstance took place. (Hunt 1820-22, *Memoirs of Henry Hunt*)

Token (26.a / *WH-clause*) is raised as an example as it features *how* as the WH-word of the complement clause. In (26.b / *to NP + WH*-clause), *hint* is found in *to*-infinitival form as the catenative complement (cf. Huddleston and Pullum 2002:1177) of *forbear*, immediately followed by the *to NP* construction. In accordance with the *horror aequi* principle, uses such as these were rare, the *CLMET3.0-2* featuring 8 of only 20 similar tokens found in all data. Only singular tokens of *at + WH*-clausal (26.c) and *to*-infinitival (26.d) complementation were found in the subcorpus.

Examples of *that*-clausal complements found in the *CLMET3.0-2* are given in (27):

(27) a. … but he was offended at her expressions, which seemed to hint that he was in want, and assured her he was not hungry." (Cary 1846, *Lives of English Poets*)

b. … Drummond left the house in apparent displeasure, hinting to the other that they two should settle that in a more convenient place. (Hogg 1824, *Private Memoirs and Confessions of a Justified Sinner*)

c. … only because she happened to hint it was the sun when he affirmed the moon shone brightly at noonday. (Lamb 1807, *Tales from Shakespeare*)

d. … and I must take the liberty to hint to you, a conversation of this easy kind is not what I am much in practice in hearing." (Burney 1782, *Cecilia*)

Tokens (27.a / *THAT-clause*) and (27.b / *to NP + THAT-clause*) are overt complementizer variants, whereas (27.c / (*THAT*)-*clause*) and (27.d / *to NP* + (*THAT*)-*clause*) lack the complementizer. Token (27.a) is an example of NSS-use, as *expressions* are given as the hinter, while (27.d) is a further example of the *to*-infinitival use of *hint* directly followed by an adjacent *to NP* construction.

5.4 *Hint* in the *CLMET3.0*, Part III

In total, 605 tokens of *hint* were found in the *CLMET3.0-3*, of which 231 represented verbal uses. This amounts to the normalized frequency of 18,3 verbal tokens per one million words. Statistics on the use of *hint* in the third part of the *CLMET3.0* are given in Figure 13:

The *CLMET3.0*, Part 3 (1850 – 1920) Number of words in subcorpus: 12,620,207				
Total number of tokens:	**605**	**100,0%**	**47,94**	**NF**
Corpus errors:	0	0,0%	0,00	NF
Dismissed entries:	3	0,5%	0,24	NF
Adjectival tokens:	0	0,0%	0,00	NF
Nominal tokens:	371	61,3%	29,40	NF
Verbal tokens:	231	38,2%	18,30	NF
Out of all 231 verbal tokens:				
Passive use:	17	7,4%	1,35	NF
Imperative use:	5	2,2%	0,40	NF
WH-fronted NP:	6	2,6%	0,48	NF
Fronted NP	6	2,6%	0,48	NF
Non-sentient subjects:	34	14,7%	2,69	NF
Any *to NP* construction:	39	16,9%	3,09	NF
Specific '*to me*' construction:	4	1,7%	0,32	NF

Verb form 1: *hint*		
Verbal tokens:	**60**	**26,0%**
Nominal tokens:	259	of all
Adjectival tokens:	0	verbs
Verb form 2: *hints*		
Verbal tokens:	**16**	**6,9%**
Nominal tokens:	110	of all
Adjectival tokens:	0	verbs
Verb form 3: *hinting*		
Verbal tokens:	**31**	**13,4%**
Nominal tokens:	2	of all
Adjectival tokens:	0	verbs
Verb form 4: *hinted*		
Verbal tokens:	**124**	**53,7%**
Nominal tokens:	0	of all
Adjectival tokens:	0	verbs

Figure 13: hint *in the* CLMET3.0-3.

One duplicate verbal entry and two rhyming tokens were disregarded in the analysis.

The most frequent verb form was *hinted*, which represented 53,7% of the verbal tokens in the subcorpus. The overall frequency of verbal uses declined in the *CLMET3.0-3*, while non-sentient subject uses rose significantly, the 34 NSS-uses representing 14,7% of all verbal tokens attested in the subcorpus. The raw number of the *to NP* constructions decreased slightly from that of the *CLMET3.0-2* (from 42 to 39 tokens), but in relative terms the number of the recipient constructions saw an increase, 16,9% of all verbal tokens featuring some form of the *to NP* construction in the *CLMET3.0-3*. The specific '*to me*' recipient, however, was rare. Only 4 of the 39 recipient constructions denoted the speaker in the *CLMET3.0-3*, in relative terms amounting to 10,3% of all the *to NP* constructions found in the subcorpus.

Eleven complement patterns were attested in the *CLMET3.0-3*, here given in Figure 14:

The *CLMET3.0*, Part 3 (1850-1920)						group	group	group
	Complements	tokens	NF	%	NSS	tokens	NF	%
1	**THAT-CL**	71	5,63	30,7%	11	89	7,05	38,5%
	to NP + **THAT-CL**	18	1,43	7,8%	2			
	(THAT)-CL	–	–	–	–			
	to NP + **(THAT)-CL**	–	–	–	–			
2	**TO-INF**	–	–	–	–	1	0,08	0,4%
	to NP + **TO-INF**	1	0,08	0,4%	–			
	NP + TO-INF	–	–	–	–			
3	**WH-CL**	1	0,08	0,4%	–	2	0,16	0,9%
	to NP + **WH-CL**	1	0,08	0,4%	–			
	ABOUT + WH-CL	–	–	–	–			
	AT + WH-CL	–	–	–	–			
4	**NP**	40	3,17	17,3%	5	54	4,28	23,4%
	NP + to NP	11	0,87	4,8%	1			
	to NP + **NP**	3	0,24	1,3%	1			
5	**ABOUT + NP**	2	0,16	0,9%	–	2	0,16	0,9%
6	**AT + NP**	50	3,96	21,6%	12	56	4,44	24,2%
	AT + NP + to NP	3	0,24	1,3%	–			
	AT + NP-ING	–	–	–	–			
	AT + ING	3	0,24	1,3%	–			
7	**FOR + NP**	1	0,08	0,4%	1	1	0,08	0,4%
8	**OF + NP**	–	–	–	–	2	0,16	0,9%
	to NP + **OF + NP**	1	0,08	0,4%	–			
	OF + NP-ING	1	0,08	0,4%	–			
9	**ADVERB**	1	0,08	0,4%	–	1	0,08	0,4%
10	**DS**	2	0,16	0,9%	–	3	0,24	1,3%
	to NP + **DS**	1	0,08	0,4%	–			
11	**ZERO**	20	1,58	8,7%	1	20	1,58	8,7%
Total:		231	18,30	100%	34	231	18,30	100%

Figure 14: Complement patterns of hint *in the* CLMET3.0-3.

In the *CLMET3.0-3*, the relative portion of *zero* uses dropped to 8,7%, leaving only three dominant pattern groups: *that*-clausal, *at + NP* and bare *NP* complementation. The *at + NP* and bare *NP* groups share a near-equal number of tokens, whereas the proportion of *that*-clausal complements is significant: the group clearly represents the most frequent pattern of complementation in the subcorpus with 38,5% of all verbal tokens. Most of the *to NP* constructions were found with *that*-clausal and bare *NP* complementation (82,1%). NSS-uses, on the other hand, clustered on the bare *NP*, *at + NP* and *that*-clause patterns, the latter two featuring 12 and 13 NSS tokens, respectively.

Examples of the *zero* complementation in the *CLMET3.0-3* are given in (28):

(28) a. I'm not hinting! I'm going to speak out very plainly, and I tell you that I look upon your conduct as something atrocious! (Jones 1908, *Dolly Reforming Herself*)

b. As before hinted, literature and the fine arts are made possible by those activities which make individual and social life pos … (Spencer 1861, *Essays on Education*)

c. Were there, as the expression "one could not do without" seemed to hint, beliefs, without which life itself must be almost impossible, principles which had their sufficient ground … (Pater 1885, *Marius the Epicurean*)

d. The employers, however, he hints, object to pay ticket-men at all; seeming to think government ought to assign them gratuitously … (Various 1852, *Chambers's Edinburgh Journal, nº. 418-462*)

Five tokens of prototypical *zero* use were found in the subcorpus (28.a), while 11 tokens were presented within *as*-clauses (28.b-c). In (28.b), the *as*-clause is in an atypical sentence-initial position and indicates no agent; agentless *zero* tokens found within *as*-clauses such as (28.b) were seen as corresponding to passives (*~As (was) before hinted*) and were marked as representing passive use. The only *zero* complement token with a non-sentient subject in the *CLMET3.0-3* is given in (28.c), where a verbal expression is indicated as the hinter. In addition to the *as*-clausal insertions, four *zero* tokens were found that did not mark the inserted clause with *as*, one example of which is given in (28.d).

Direct speech, *adverbial* and *of + NP* complementation are exemplified in (29):

(29) a. "Perhaps," I hinted darkly, "there may be an outcome of the expedition." "What do you mean?" (Hope 1894, *The Prisoner of Zenda*)

b. "Cheer 'em up a bit!" he hinted to my Lady. "Cake!" my Lady muttered to herself with great decision, crossing … (Carroll 1889, *Sylvie and Bruno*)

c. ALICK [at last]. When you're ready, John Shand. [JOHN hints back, and then he has the grace to rise, dogged and expressionless.] JAMES [like a railway porter]. (Barrie 1918, *What Every Woman Knows*)

d. Bauer's lips were for ever sealed; the old woman was too scared and appalled to hint even to her gossips of the suspicions she entertained. (Hope 1898, *Rupert of Hentzau*)

e. … but when he had further hinted of his being sent by Bedford to bring the ring, the Queen, perhaps at the mention of the brother-in-law, pout … (Yonge 1870, *The Caged Lion*)

Direct speech complementation (29.a-b) was rare, with only three tokens attested in the subcorpus,

one of which made use of the recipient construction (29.b / *to NP + direct speech*). One token was analysed as an adverb complement in the specific context of stage drama directions (29.c / *adverb*). The token in (29.d / *to NP + of + NP*) involves a lengthy recipient construction intervening between the verb and the PP complement which potentially contributes to the choice of the preposition *of*. One gerund-participial complement token with passive *be* was found with the atypical preposition *of* (29.e / *of + NP-ING*), a complement previously attested only in conjunction with *at*.

A number of novel choices in preposition were attested in the *CLMET3.0-3*, given in (30):

(30) a. Know his house, too—once occupied by a foreign fiddler, next a Cabinet Minister, lastly, a successful artist, hints (if required) for scenes on the Continent, in Parliament, and the Royal Academy. (Various 1890, *Punch, Vol. 99*)

b. And when, with some fencing and foils of inquiry, I hinted about Lady Lorna Dugal, the old man's face became so pleasant that I knew her birth must be wondrous high. (Blackmore 1869, *Lorna Doone, A Romance of Exmoor*)

c. Yet he might have just hinted about that old love of his, and asked, in a playful off-hand way, if he might speak of it. (Hardy 1874, *Far from the Madding Crowd*)

Token (30.a / *for + NP*) represents NSS-use (*his house*) and features an intervening parenthetical element between the verb and the PP complement, possibly affecting the choice of preposition. Two other tokens in the subcorpus (30.b-c / *about + NP*) made use of the atypical preposition *about.*

Example tokens representing the *at + NP* pattern group are given in (31):

(31) a. … so a germ in the course of its development hurries through a series of phases, hinting at them only. (Butler 1880, *Unconscious Memory*)

b. He could not hint at such an idea to the unsympathetic fellow, or rather, the burly antagonist to anything of the sort, beside … (Meredith 1895, *The Amazing Marriage*)

c. … someone down the river cured his cattle with water poured over a Mushaf (a copy of the Koran), and has hinted at writing out a chapter for me to wear as a hegab (an amulet for my health). (Gordon 1866-9, *Letters from Egypt*)

Token (31.a / *at + NP*) features a non-sentient subject (*a germ*) and (31.b / *at + NP + to NP*) the recipient-indicating construction. Three gerund-participial complement tokens were found with the

preposition *at* (31.c / *at + ING*). Similarly to the second part of the *CLMET3.0*, only four of the 56 tokens representing the *at + NP* pattern group involved a fronted NP element.

Examples of bare *NP* tokens are given in (32), where (32.a / *NP*) is a prototypical token:

(32) a. 'I am surprised that you venture to hint the remotest possibility of such a contingency.' (Rutherford 1896, *Clara Hopgood*)
b. A Chinese trader was in the house, and he, too, wanted men the next day; but on his hinting this to the Orang Kaya, he was sternly told that a white man's business was now being … (Wallace 1869, *The Malay Archipelago*)
c. The sound of her voice hinted to Monica the advisability of walking as they conversed, and they moved towards Walworth Road Station. (Gissing 1893, *The Odd Women*)

In (32.b / *NP + to NP*) *hint* is found within a *Poss Ing* construction (cf. Ross 2004:351), and the token demonstrates how the differing weights of the content NP and the *to NP* construction affect the internal order of the complements (cf. #… *on his hinting to the Orang Kaya this, he* …). NSS-use is exemplified in (32.c / *to NP + NP*), giving the *sound of her voice* as the experienced stimulus.

In total, only three tokens represented *WH*-clausal and *to*-infinitival complementation in the *CLMET3.0-3*. All attested tokens are given (33):

(33) a. He might not have done so, had not Miss Meliora hinted how lovely the former was, and how useful she might be as a model when they grew sociable together. (Craik 1850, *Olive*)
b. … Is it too much to ask, if I request you only to hint to me what your interest is in the lost recollection—or what you believe that lost recollection to be?" (Collins 1868, *The Moonstone*)
c. The holy Sheykh went away to pray, and Mustapha hinted to Yussuf to go with him, but he only smiled, and did not stir; … (Gordon 1866-9, *Letters from Egypt*)

A bare *WH*-clause complement token is given in (33.a / *WH-clause*). The recipient-indicating construction was found with one *WH*-clausal token (33.b / *to NP + WH-clause*), as well as in conjunction with the only attested token representing *to*-infinitival complementation within the subcorpus (33.c / *to NP + TO-inf*). Furthermore, (33.b) represents one of the 20 tokens found across

all corpora that make use of *hint* in *to*-infinitival form with a directly adjacent *to NP* construction.

Examples of *that*-clausal complementation found within the *CLMET3.0-3* are given in (34):

(34) a. They delicately hint that the meaning is often obscure, and the "images left imperfect." (Ainger 1903, *Crabbe*)

b. Mrs. Merridew has insisted on accompanying her. The note hints that the old lady's generally excellent temper is a little ruffled, and requests all due indulgence for her … (Collins 1868, *The Moonstone*)

c. Fan's nose had been hinting to her that she was behind the times, not up-to-date in the affairs of the household … (Bennett 1908, *The Old Wives' Tale*)

d. … gleams of watery lightning began to play in the midst of the black masses. I hinted to Cardozo that I thought we had now had enough of watching, and suggested a cigarette. (Bates 1863, *The Naturalist on the River Amazons*)

Tokens (34.a-b / *THAT-clause*) demonstrate prototypical *that*-clausal complementation with an overt complementizer, while (34.c-d / *to NP* + *THAT-clause*) represent overt complementizer tokens with the recipient-indicating *to NP* construction intervening between the verb and the complement clause. Despite the fact that 89 of the 231 verbal tokens (38,5%) attested in the *CLMET3.0-3* represented *that*-clausal complementation, no *that*-clause complements were found without the complementizer. Furthermore, twelve of the 89 *that*-clausal tokens featured a non-sentient subject in the subcorpus, examples of which are given in (34.b-c). In (34.b / *THAT-clause*) the stimulus is *the note*, the content of which is inferred as indicating that the *old lady's generally excellent temper is a little ruffled*. In (34.c / *to NP* + *THAT-clause*), on the other hand, the non-sentient subject is *Fan's nose*, the metonymy evoking an association between the physical sense of smell and the intuition or cognitive awareness of the current state of affairs. Tokens such as (34.c) represent the most explicit variants of NSS-use found in the entire *CLMET3.0*, as they employ the recipient-indicating *to NP* construction to denote the experiencer, while expressing the hinted content with a fully clausal complement.

5.5 *Hint* in the *BNC*

A total of 959 tokens of *hint* were found in the 20-million-word *BNC* subcorpus, with 238 tokens

representing verbal uses. This amounts to the normalized frequency of 11,8 verbal tokens per one million words. Statistics on the use of *hint* in the *BNC* are given in Figure 15:

The *BNC* (1964 – 1993) Number of words in subcorpus: 20,172,599					**Verb form 1: *hint***		
					Verbal tokens:	**40**	**16,8%**
					Nominal tokens:	590	of all
Total number of tokens:	**959**	**100,0%**	**47,54**	**NF**	Adjectival tokens:	0	verbs
Corpus errors:	2	0,2%	0,10	NF			
Dismissed entries:	2	0,2%	0,10	NF	**Verb form 2: *hints***		
Adjectival tokens:	3	0,3%	0,15	NF	**Verbal tokens:**	**8**	**3,4%**
Nominal tokens:	714	74,5%	35,39	NF	Nominal tokens:	121	of all
Verbal tokens:	238	24,8%	11,80	NF	Adjectival tokens:	0	verbs
Out of all 238 verbal tokens:					**Verb form 3: *hinting***		
Passive use:	8	3,4%	0,40	NF	**Verbal tokens:**	**53**	**22,3%**
Imperative use:	1	0,4%	0,05	NF	Nominal tokens:	3	of all
WH-fronted NP:	11	4,6%	0,55	NF	Adjectival tokens:	1	verbs
Fronted NP	10	4,2%	0,50	NF			
Non-sentient subjects:	70	29,4%	3,47	NF	**Verb form 4: *hinted***		
Any *to NP* construction:	11	4,6%	0,55	NF	**Verbal tokens:**	**137**	**57,6%**
Specific '*to me*' construction:	1	0,4%	0,05	NF	Nominal tokens:	0	of all
					Adjectival tokens:	2	verbs

Figure 15: hint *in the* BNC.

Seven tokens were disregarded in the analysis: two corpus errors with *hint* in place of *him*, one rhyming verb token, one duplicate verbal entry and three adjectival tokens.

A total of 57,6% of all verbal tokens represented the verb form *hinted*, making it the most frequent verb form in the *BNC*. Compared with the *CLMET3.0-3*, verbal use of *hint* continued its decline in the *BNC*, although the normalized frequency of all attested uses of *hint* remained at a comparable level with some 47 tokens per one million words. Considering verbal tokens, the number of recipient-indicating *to NP* constructions also continued to decline: only 11 tokens in the *BNC* subcorpus made use of the recipient construction, amounting to only 4,6% of all verbal tokens. Furthermore, only a single *to NP* construction denoted the speaker in the *BNC* subcorpus. NSS-uses, on the other hand, saw a significant rise in their relative proportion, 29,4% of all verbal tokens featuring a non-sentient subject in the *BNC*.

Out of the 11 different patterns of complementation found across corpora, nine were attested in the *BNC* subcorpus. These are given in Figure 16:

	Complements	The *BNC* (1964-1993) tokens	NF	%	NSS	group tokens	group NF	group %
1	**THAT-CL**	54	2,68	22,7%	7	78	3,87	32,8%
	to NP + **THAT-CL**	6	0,30	2,5%	–			
	(THAT)-CL	18	0,89	7,6%	1			
	to NP + **(THAT)-CL**	–	–	–	–			
2	**TO-INF**	–	–	–	–	–	–	0,0%
	to NP + **TO-INF**	–	–	–	–			
	NP + TO-INF	–	–	–	–			
3	**WH-CL**	1	0,05	0,4%	–	6	0,30	2,5%
	to NP + **WH-CL**	–	–	–	–			
	ABOUT + WH-CL	1	0,05	0,4%	–			
	AT + WH-CL	4	0,20	1,7%	1			
4	**NP**	11	0,55	4,6%	1	14	0,69	5,9%
	NP + to NP	2	0,10	0,8%	–			
	to NP + **NP**	1	0,05	0,4%	–			
5	**ABOUT + NP**	2	0,10	0,8%	–	2	0,10	0,8%
6	**AT + NP**	108	5,35	45,4%	58	112	5,55	47,1%
	AT + NP + to NP	2	0,10	0,8%	–			
	AT + NP-ING	–	–	–	–			
	AT + ING	2	0,10	0,8%	–			
7	**FOR + NP**	2	0,10	0,8%	–	2	0,10	0,8%
8	**OF + NP**	3	0,15	1,3%	1	3	0,15	1,3%
	to NP + **OF + NP**	–	–	–	–			
	OF + NP-ING	–	–	–	–			
9	**ADVERB**	–	–	–	–	–	–	0,0%
10	**DS**	4	0,20	1,7%	–	4	0,20	1,7%
	to NP + **DS**	–	–	–	–			
11	**ZERO**	17	0,84	7,1%	1	17	0,84	7,1%
	Total:	238	11,80	100%	70	238	11,80	100%

Figure 16: Complement patterns of hint *in the* BNC.

The proportion of the bare *NP* complement patterns dropped to only 5,9% of all verbal tokens in the *BNC*, leaving *hint* with two dominant pattern groups: *at + NP* and *that*-clausal complementation. The *at + NP* pattern was the most frequent complement with 47,1% of all verbal tokens, *that*-clauses representing the other dominant group with 32,8%. The recipient constructions were found with *that*-clausal, bare *NP* and *at + NP* complements, with 6, 3 and 2 tokens, respectively. Non-sentient subject uses clearly established themselves on the *at + NP* pattern, 58 of all 70 attested NSS-uses (82,9%) favouring the prototypical pattern. Consequently, over half (51,8%) of the verbal tokens belonging to the dominant *at + NP* pattern group featured a non-sentient subject in the *BNC*.

Example tokens of *zero* complementation are given in (35):

(35) a. He did not hint, but was characteristically outspoken. ‘I had to work my way through medical school,’ he told her. (The *BNC*, ABW 1046)

b. No, lad. I'll hint — strongly. But that's as far as I can go. (The *BNC*, APW 770)

c. If there was, as Morrissey had previously hinted, a certain amount of jealousy within the band then this must have intensified ten-fold as Morrissey captured a limelight which made Boy George seem … (The *BNC*, ART 1617)

d. … especially as I was still uncertain about the future, and as the news, as his letter hinted, was by no means all good. (The *BNC*, H9X 1248)

Eleven tokens represented prototypical *zero* uses in the *BNC*, exemplified in (35.a-b), while six tokens made use of an *as*-clause, as in (35.c-d). The only *zero* NSS token found in the *BNC* is (35.d), where *his letter* is given as the stimulus.

Four tokens with *direct speech* complements were attested, exemplified in (36):

(36) a. He shook his head, and really whetted her appetite by hinting, ‘We are so close to it, we could walk there in less than ten minutes.’ (The *BNC*, JYF 1918)

b. ‘Perhaps an escort,’ hinted Isabel, worried that Matilda was going to suggest she wait for the good father's return. ‘A serf, or maid, or some such person.’ (The *BNC*, HH1 3939)

The atypical prepositional phrase complements *of* + *NP, for* + *NP* and *about* + *NP* were all attested in the *BNC* with a total of 7 tokens. Two examples of each are given in (37):

(37) a. Silas ignored the comment and went out to the car to collect her case, returning with a particularly large one which hinted of a lengthy stay. (The *BNC*, HHB 2152)

b. Mark had blown in like a fresh breeze, hinting, with wild scents, of other delightful worlds where the air was free, pure, invigorating. (The *BNC*, GVT 383)

c. Sabine digested that, then took a breath. ‘Nor was I hinting for a guided tour. You — don't have to take me to Monpazier.’ (The *BNC*, HH8 1673)

d. They had a whirlwind romance, and after a few months she'd started hinting for a ring. And he had thought, well, why not? (The *BNC*, JY6 4082)

e. George Wood had hinted, and not too darkly, about the ‘lads’ who knew how to get past the guards and into the mines at night: he had intimated that there was a prosperous smugglers' route … (The *BNC*, FP1 462)

f. He played soft romantic music, hinted about the goings-on upstairs, which had temporarily gone silent, and gazed into her eyes. (The *BNC*, AC3 1007)

Tokens (37.a-b) are examples of the *of + NP* pattern, where (37.a / *of + NP*) is a clear NSS token, indicating a *case* as the stimulus behind the inference of a *lengthy stay*. Similarly to the uses in the *CLMET3.0*, in (37.b / *of + NP*) the pattern is found in conjunction with an intervening element between the verb and its complement. Although not marked as NSS-use, (37.b) is interesting in that it equates the sentient *Mark* with the non-sentient *fresh breeze*, leaving the line between traditional and NSS-use of *hint* blurry. The tokens in (37.c-d) represent the only two instances of the *for + NP* pattern attested in the *BNC*. In both cases the complement denotes some potential, unrealised eventuality. This seems to echo the findings of Bresnan, who notes that the predicate complementizer *for* accepts, or "may even require, a 'modal' context" (1979:73). Tokens (37.e-f) represent the *about + NP* pattern. In (37.e) the verb and the PP complement are separated by an intervening element, whereas in (37.f) the complement is in a directly verb-adjacent position.

Attested variants of the clearly dominant *at + NP* pattern group are given in (38):

(38) a. The coins of a King Eadwald precede Cenwulf's in East Anglia, and hint at another short-lived rising against Mercian overlordship. (The *BNC*, GTD 1106)

b. He smiled as he sat back, looking suddenly quite charming although the duelling scar on one cheek hinted at a more ruthless side to his nature. (The *BNC*, HTW 591)

c. Jane had indeed been hinting at the opportunity for her husband's murder, but she could not admit as much. (The *BNC*, CMP 1331)

d. As you know I visited his widow last week and she seemed to hint at pressure coming from two areas: the youth leader Jefferson and Canon Wheeler. (The *BNC*, H8B 1746)

e. I thought that was why he began to type his own notes, you see. I even hinted at it to Heather. (The *BNC*, H8T 2830)

f. 'There may not be much more time,' she countered. 'My boss hinted this afternoon at asking me to work on another case.' (The *BNC*, G15 879)

g. Leave a note by his bedside; you're good at that.' 'Sometimes it's the only way,' she said coldly, knowing what he was hinting at. (The *BNC*, JY4 3651)

Tokens (38.a-d) represent the prototypical pattern *at + NP*, (38.a-b) of which are NSS-uses. Only four of the 112 group tokens were non-prototypical pattern variants. Two tokens made use of the recipient construction (38.e / *at + NP + to NP*), one of which was found in a fronted, clause-initial

position. The two remaining variant tokens involved a gerund-participial (38.f / *at + ING*). In the *BNC* subcorpus, nine *at + NP* tokens involved a fronted NP; seven of the fronted elements were *WH*-fronted NPs such as (38.g / *at + NP*), where the fronted relative pronoun *what* stands in place of some larger information content. It is worth noting that the use of *what* in (38.g) is similar to the use of *it* in (38.e), where the content NP *it* by itself carries very little semantic content, only serving to refer to the preceding sentence.

In total, 14 tokens of the bare *NP* group were attested in the *BNC*; this number includes 7 pro-clause complement tokens analysed as bare *NP*s due to functional similarities. Consider (39):

(39)
a. He had known for some time that it was inevitable. Sister Cooney had been the first to hint it to him. (The *BNC*, A7J 11)
b. … your uncle Orrin tells me that he dare not inform your father of the dreadful things Havvie is hinting about you for fear of what he might do to Havvie. (The *BNC*, HGE 3494)
c. Allan just had to turn up, so the paper hinted, and I was a beaten man. (The *BNC*, BMM 1532)
d. … she's adamant that all the kitchen and scullery windows were closed when she left at nine-thirty. She was quite outraged when I hinted otherwise. (The *BNC*, C8D 2540)
e. I think there is a secret in the study. He had hinted as much more than once, just vaguely, just enough to entice me so that I want to ask what, so that he knows that I want to ask. (The *BNC*, HWC 195)
f. I have hinted your case to Lord Darnford, but I am concerned to say that he imputes selfish views to me. (The *BNC*, FU4 725)
g. But she had flirted with the Big Man. At least that's what she hinted to me. And the Colonel had grinned and encouraged it. (The *BNC*, H9N 1390)

In (39.a / *NP + to NP*) the content NP *it* is again used to refer to the larger information content presented in the preceding sentence. This type of use was characteristic for most bare *NP* tokens in the *BNC*, and only three tokens were found where the content NP by itself represented the hinted information; one example is given in (39.b / *NP*), which also involves a fronted NP element, here given in unmarked form: ~ *Havvie is hinting dreadful things about you.* Tokens (39.c-e) represent a total of 7 tokens whose complements were *so, otherwise, as much* and *such*, which were considered to be pro-clausal elements (cf. Huddleston and Pullum 2002:1535-1536, 1548). Although certain

pro-clause forms are indeterminate with regard to lexical category (cf. ibid.:1535), the 7 tokens were included in the bare *NP* analysis as many of the bare *NP* complements in the *BNC* correspond to pro-clausal use. In (39.c), the pro-clausal element *so* is found in a fronted position, and the token represents the only NSS-use in the pattern group, indicating *the paper* as the non-sentient source of the hint. Three bare *NP* complement pattern tokens included the *to NP* construction, one of which is given in (39.f / *NP + to NP*). This was the only token in the entire *BNC* subcorpus where the use of the bare *NP* pattern corresponds to the *CLMET3.0*, the complement elements denoting the full content of the hint and its recipient, respectively. The token, however, comes from a play which is based on a novel by Samuel Richardson, originally published in 1740 (cf. Burnard 2007:10). The sole token in the *BNC* subcorpus where the *to NP* construction denotes the speaker is given in (39.g / *to NP + NP*), the token again involving a *WH*-fronted NP which refers to the previous sentence. The recipient *to me* is used in conjunction with *at least*, forming a hedge expression that signals that the speaker has no way of ascertaining whether his information is accurate. The presence of the *to NP* thus seems to involve some degree of communicative necessity in (39.g).

Three *WH*-clausal complement variants were attested in the *BNC*, exemplified in (40):

(40) a. He didn't care. He just limped around gaining more sympathy from his students by hinting what a brute his wife was. (The *BNC*, AC3 276)

b. Think of that, Sir Edmund, before you sit at my table and hint about who was responsible for the death of your secretary! (The *BNC*, H90 1137)

c. Lightning, deep in the clouds, flashed orange over whole quarters of the sky at a time. Occasionally a thin savage streak of wiry blue hinted at what the storm could really do if it tried. (The *BNC*, B0U 2101)

d. It was as they approached Portugal that the skipper began to hint at what he wanted of her. ‘Let's talk about you, Sylvia.’ (The *BNC*, FPX 1545)

Token (40.a / *WH-clause*) is a prototypical example, and (40.b / *about + WH-clause*) a variant with the atypical preposition *about*. Two *WH*-clausal tokens made use of the preposition *at* (40.c-d / *at + WH-clause*), (40.c) of which was the only NSS token in the group, giving lightning as the stimulus.

Three different variants of *that*-clausal complementation were attested in the *BNC*

subcorpus, sharing between them a total of 78 tokens. Examples are given in (41):

(41) a. Lucy pushed her flaxen curls from her forehead, her reproving tone hinting that such open prejudice showed lamentable immaturity. (The *BNC*, JY3 204)

b. Rebecca West has often plainly hinted that I should arrange a meeting with Ivy, whom she dearly wished to see. (The *BNC*, CA6 1214)

c. And by now, the tabloid writers were switching their attention to other male members of the Neighbours cast, and hinting Kylie may be dating them too. (The *BNC*, ADR 1070)

d. The Pope hinted to the mission that much embarrassment could be avoided if the King were to arrange his divorce without consulting Rome. (The *BNC*, CFF 163)

The most frequent *that*-clause complement was the bare clause with the overt *that* complementizer, 54 of the 78 *that*-clausal tokens (69,2%) representing the variant pattern (41.a-b / *THAT-clause*). One token of NSS-use is given in (41.a), where *her reproving tone* denotes the stimulus behind the inference. Although the NSS-uses of *hint* clearly favoured the *at + NP* pattern in the *BNC*, a total of 8 NSS tokens were attested with *that*-clausal complementation, amounting to 10,3% of the tokens in the *that*-clausal pattern group. In contrast to *CLMET3.0-3*, the less explicit *that*-clausal variants were relatively frequent in the *BNC*: in total, 18 *that*-clausal tokens were found without the complementizer present (41.c / *(THAT)-clause*), representing 23,1% of all *that*-clausal tokens within the subcorpus. The recipient-indicating *to NP* construction, however, was only found with overt complementizer variants, with a total of six attested tokens (41.d / *to NP + THAT-clause*).

6 Discussion of findings

The corpus analyses show that during the period of 1710 – 1993, the use of *hint* has decreased significantly in written British English: both in overall use irrespective of lexical category, but especially in the number of verbal uses. This is illustrated in Figure 17:

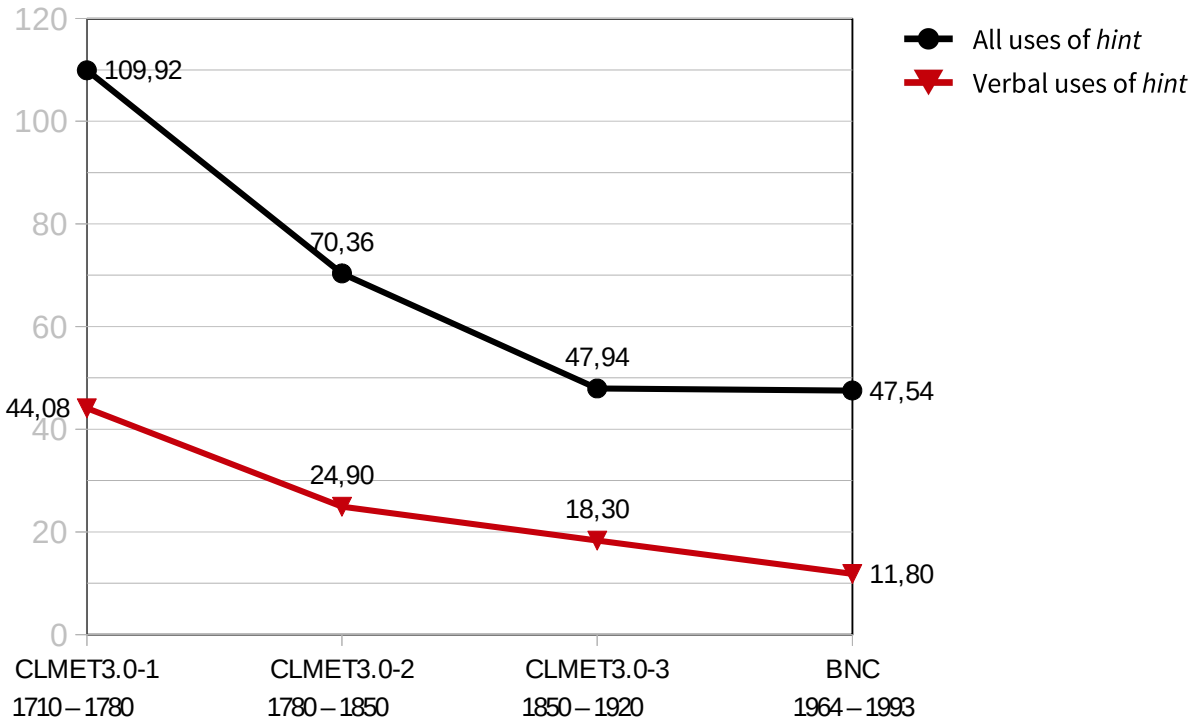

Figure 17: Tokens of hint *per one million words (NF) from 1710 to 1993.*

During the period of 1710 – 1920, the overall frequency of *hint* more than halves from some 110 tokens to some 48 tokens per one million words, after which the frequency of use remains at the same level. The number of verbal uses, on the other hand, steadily declines from 1710 to 1993, the normalized frequency of 11,8 attested in contemporary British English being a little over a quarter from the frequency of use in the 18th century (44,08 NF).

The fact that the verbal use of *hint* continues its decline from the 1920s onwards while the overall frequency of *hint* remains constant translates into increasing numbers of nominal use. In the *CLMET3.0-3*, nominal uses account for 61,3% of all tokens of *hint*, whereas in the *BNC* nominal uses increase to 74,5%, representing nearly three quarters of all tokens of *hint*. A potentially related development can be seen in the verb form preferences within the individual subcorpora, illustrated

in Figure 18:

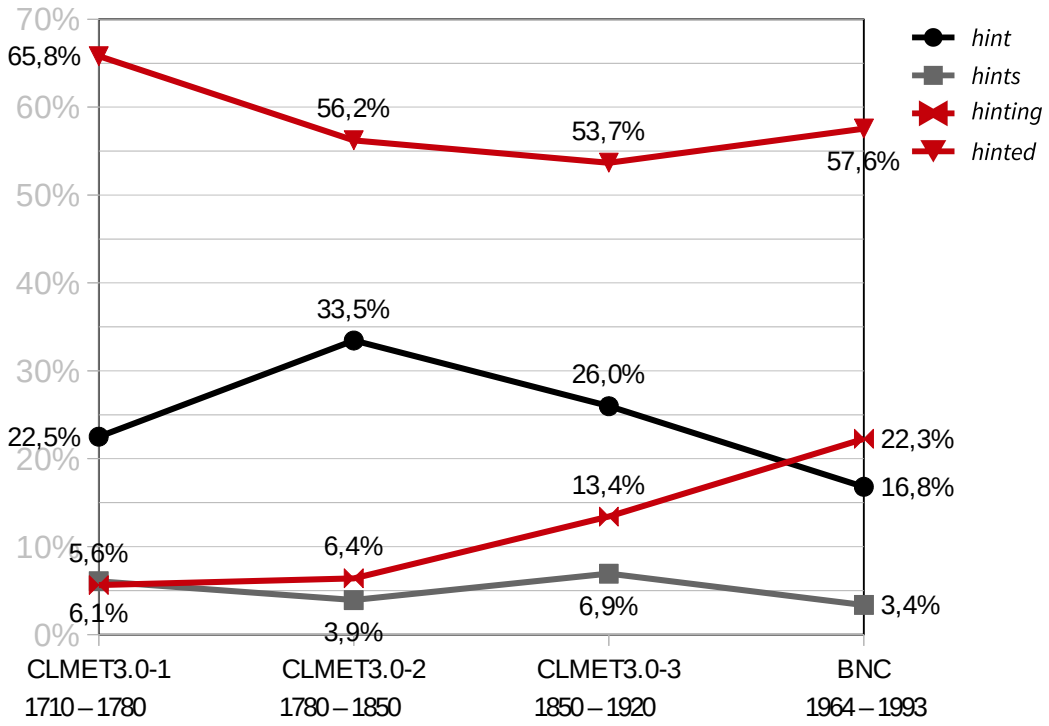

Figure 18: The verb form preferences of hint *within the individual subcorpora.*

Despite the constantly diminishing number of verbal uses, there seems to be an increasing preference for the use of the verb forms *hinting* and *hinted* from the *CLMET3.0-3* onwards. The increase in the use of the gerund-participle is especially noticeable: the proportion of tokens featuring the verb form *hinting* has risen steadily from 5,6% in the *CLMET3.0-1* to 22,3% in the *BNC*. At the same time the proportion of verbal tokens representing the verb forms *hint* and *hints* either remains at an already low level (*hints*) or declines considerably (*hint*).

The high numbers of nominal tokens attested in the *CLMET3.0-3* and the *BNC* potentially contribute to the preference of the verb forms *hinting* and *hinted*, which are clearly distinct from the majority of the nominal uses of *hint*. Out of the 2266 nominal tokens found in all corpus data, 2257 (99,6%) represented the forms *hint* and *hints*, which are identical to the plain and 3rd person singular present tense forms of the verb. A further factor worth considering in the case of the declining verb forms *hint* and *hints* can be found in the frequent environments of the corresponding nominal forms. Consider the following nominal tokens from the *BNC* subcorpus:

(42) a. All I could do was keep dropping hints, trying to get it through to you that we were going through something incredible together.' (The *BNC*, JYD 4313)

b. Whether he suspects anything or not I do not know. Certainly he has never given a hint that he knows anything. (The *BNC*, ASN 2875)

c. 'You're treading on highly dangerous ground,' he warned. Manville took the hint. (The *BNC*, CDA 515)

d. The last one I was involved in, it was me that was stabbed! I thought I would look at your file, to see if I could pick up any hints from how you had dealt with it.' (The *BNC*, ANL 2827)

Nominal uses of *hint* and *hints* can be found in a number of expressions that in themselves are verbal, such as *drop a hint* (42.a) and *take a hint* (42.c). Furthermore, when used within expressions that denote an act of hinting such as *drop a hint* and *give a hint* (42.a-b), the nominal *hint* and *hints* negotiate their meaning from the larger context of the full expression, and are thus able to relay more information than the corresponding verbal forms. Nominal uses of *hint* such as (42.a-b) provide one potential explanation for the decline of the verbal uses of *hint* and *hints* as well as for the increasing frequency of the nominal forms.

One of the more noticeable developments of *hint* attested across the two corpora is the clear rise in the frequency of non-sentient subject uses. Similarly to (42.a-b), one of the reasons for the rising number of NSS-uses may be their increased semantic transparency. Consider (43):

(43) a. More, he had hinted, unless I had misread him, at a connection with the family. (The *BNC*, CKF 1337)

b. Her gaze was dark, and hinted at some impossibly deep sense of pain; and for a moment Lucy felt a certain regret, if not shame … (The *BNC*, GW0 281)

Token (43.a) features a clearly sentient agent, *he,* and (43.b) a non-sentient subject: *Her gaze*. In cases such as (43.a) where an agent is involved, no information is provided on *how* the hinted information is relayed from the agent to the recipient: when meaning is negotiated between two people, any act imaginable can also be construed as an act of hinting. In the case of NSS-uses such as (43.b), on the other hand, the manner in which the information is relayed is always the same: the NSS stimulus triggers the inference of a proposition in the experiencer. It is consequently the

experiencer's own inference that relays the hinted information content with NSS-uses.

The complementation and change of the verb *hint* during 1710 – 1993 is characterized by a process of simplification. Consider the internal development of the eleven attested complement patterns of *hint,* illustrated in Figure 19:

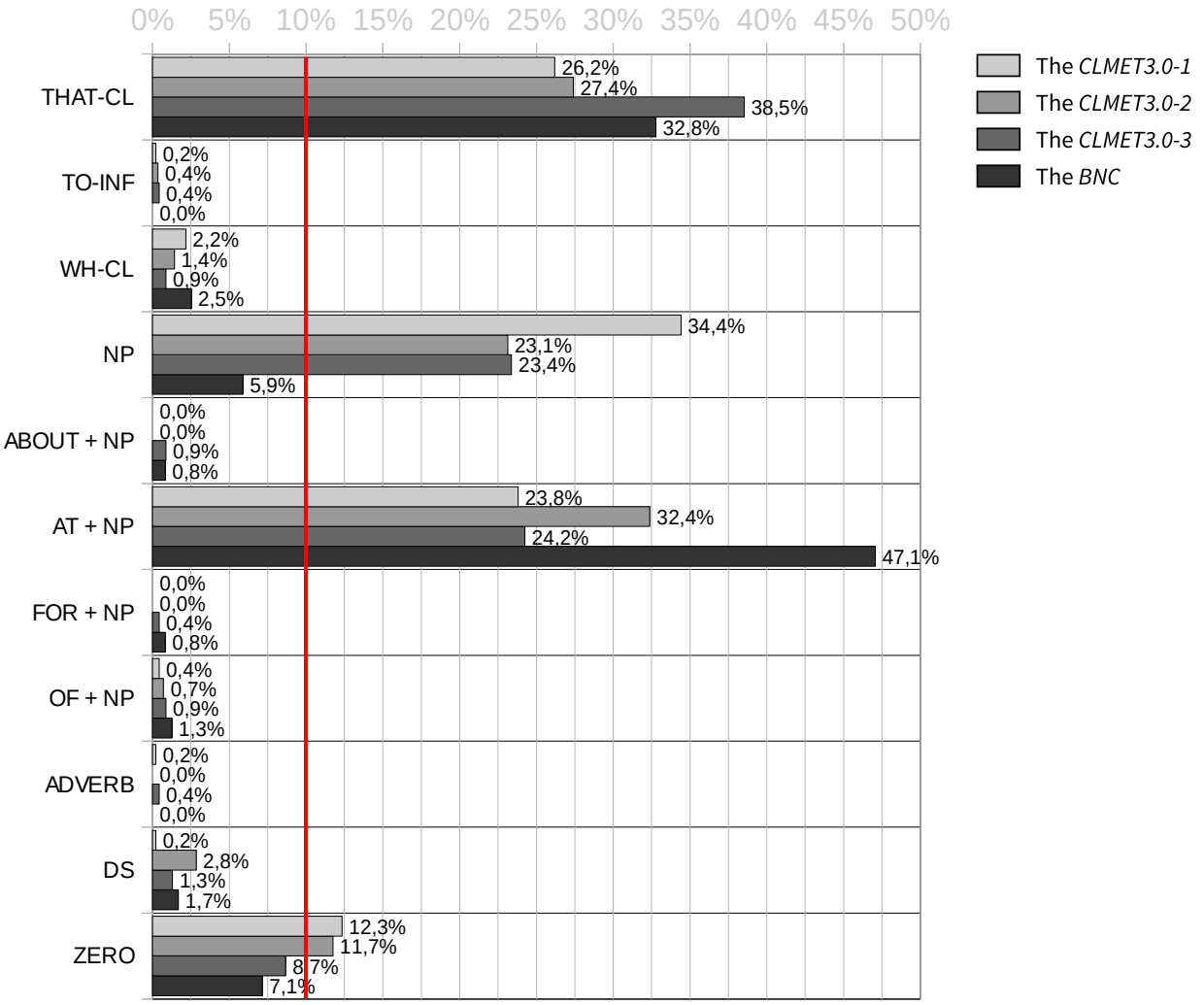

Figure 19: The relative proportions of the complement patterns of hint *per subcorpus.*

The vertical red line marks the 10% threshold which in this thesis is used to denote a dominant complement pattern. As shown in Figure 19, in the *CLMET3.0-1* the verb *hint* had four dominant complement patterns: *zero, at + NP,* bare *NP* and *that*-clause complementation. All other patterns stand in the minority, each representing less than 3% of the verbal tokens. The four dominant patterns continue to maintain high levels of frequency in the *CLMET3.0-2*, but due to the decline of

the *zero* pattern, only three dominant patterns are left in the *CLMET3.0-3*. In the contemporary data of the *BNC*, only two dominant patterns remain: *at* + *NP* and *that*-clausal complementation, representing 47,1% and 32,8% of all verbal tokens, respectively. In the *BNC*, the relative proportion of the bare *NP* pattern has dropped drastically, representing only 5,9% of all verbal tokens in the subcorpus. It should also be noted that in the *BNC* analysis 7 pro-clausal complement tokens were included in the bare *NP* group: without these tokens, the relative proportion of the bare *NP* complements is only 2,9% of all verbal tokens in the *BNC*.

As shown in Figure 19, *hint* exhibits a very high frequency of *at* + *NP* complementation in contemporary use; at the same time, the number of bare *NP* tokens has dropped drastically. One compelling explanation for both phenomena can be found in the rise of the non-sentient subject uses as well as in the diminishing use of the *to NP* construction. Consider Figure 20:

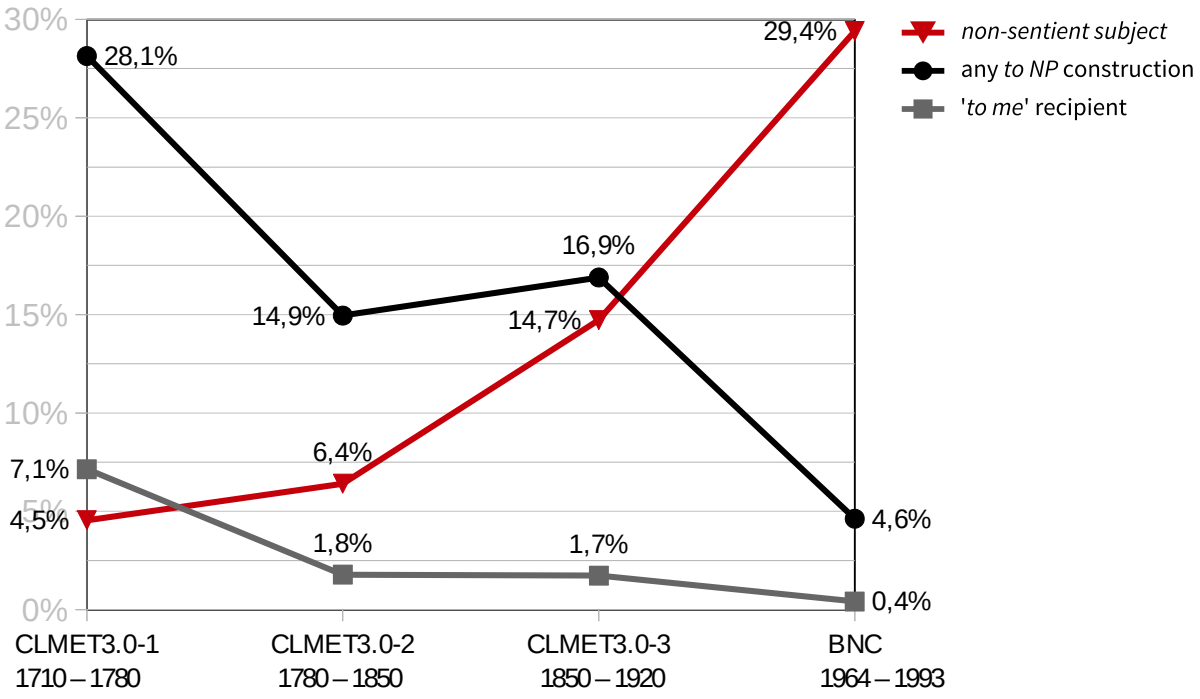

Figure 20: The proportion of tokens with a non-sentient subject or a recipient construction per subcorpus.

The relative proportion of the NSS-uses of *hint* rises steadily from 1710 to 1993. After a moderate increase in frequency from the *CLMET3.0-1* to the *CLMET3.0-2*, the proportion of NSS-uses out of all verbal tokens roughly doubles with each subsequent subcorpus. Characteristic for all NSS-uses

of *hint* is the presence of a subject stimulus, which is here seen as entailing that the scenario of the predicate also involves an experiencer – a role distinctly separate from that of a recipient. Consequently, as the competing thematic structure introduced by NSS-uses gains ground, the experiencer begins to replace the recipient, making the recipient construction redundant and causing it to slowly fall into decline. Example tokens of the constructions in Figure 20 are given in (44):

(44) a. The light is ebbing away. A fingernail moon hints at night, sharing the sky with a late sun. (The *BNC*, HH0 1033)
b. When she faintly hinted her apprehensions to Samuel, he demanded, as if surprised— … (Bennett 1908, *The Old Wives' Tale*)
c. Knyphausen once hinted to me, that I might have some authentic papers, if I was disposed to write the life of his master; … (Walpole 1735-69, *Letters*)

Token (44.a / *at + NP*) is taken from the *BNC* and features a non-sentient subject, *night* being the inference the experiencer draws from seeing *a fingernail moon*. Token (44.b / *NP + to NP*) is taken from the *CLMET3.0-3* and features a recipient-indicating *to NP* construction, while (44.c / *to NP + THAT-clause*) from the *CLMET3.0-1* features the recipient construction in the specific form '*to me*'.

As shown in Figure 20, the rising developmental trend of NSS-uses is fully inverse to the decline of the *to NP* construction, both featuring similar values in the course of their development if the spike in the use of the *to NP* constructions in the *CLMET3.0-3* is not taken into account. It is also worth noting that in the *CLMET3.0-1* as well as in the *CLMET3.0-2* over half of the *to NP* constructions were found with the bare *NP* pattern. Furthermore, the frequencies of the *to NP* construction given in Figure 20 closely resemble the developmental pattern of the bare *NP* complement in Figure 19. The data seems to point to the assumption that there is a connection between the bare *NP* pattern and the *to NP* construction, the near-disappearance of one causing a similar development in the other. Across the subcorpora of the *CLMET3.0*, the *at + NP* and bare *NP* complement patterns exhibit a state of competitive opposition: on average, the two patterns share between them some 54% of all verbal tokens of *hint*. Assuming the development of the bare *NP* pattern follows that of the *to NP* construction, the recipient construction falling out of use causes a

similar development in the bare *NP* pattern, leaving the majority share of the previously contested tokens for the *at + NP* complement pattern. As the *BNC* data shows, this seems to be the case in contemporary British English. It is, however, worth noting that the phenomena can also be unrelated. The fall of the bare *NP* pattern itself may well be the cause behind the decline in the frequency of the recipient construction, and not have anything to do with the rise in the NSS-uses of *hint*. The corpus data seems to suggest that there is some relation between the phenomena, but ascertaining the exact nature of the relation lies beyond the scope of this thesis.

As shown in Figure 20, the development of the recipient constructions deviates from the general trend of decline during 1850-1920. In the *CLMET3.0-3* data, the overall proportion of tokens with a recipient construction reverses its course of development and increases, while the specific *'to me'* recipient continues to decline, although only by a marginal 0,1%. The recipient constructions were attested with 7 of the 11 complement patterns in the *CLMET3.0-3*, which coincides with the highest attested frequency of *that*-clausal complementation in all data: in total, 38,5% of all complementation in the *CLMET3.0-3* represented *that*-clauses, all of which were explicit complementizer variants. These developments present themselves at the same time as the NSS-uses of *hint* see their first substantial increase in the relative proportion of all verbal tokens, 14,7% featuring a non-sentient subject in the *CLMET3.0-3*. Interestingly, the high number and spread of the *to NP* constructions along with the preference for the use of explicit, fully clausal complements is similar to the expected syntactic behaviour in cognitively complex environments. It can also be argued that the presence of a *to NP* construction in a complement pattern constitutes a more explicit variant than one without the recipient construction. Furthermore, in *CLMET3.0-3* the frequency of marked constructions involving passive use and fronted NP elements – both relatively common in the first two subsections of the *CLMET3.0* – see a low point in their development. This is illustrated in Figure 21:

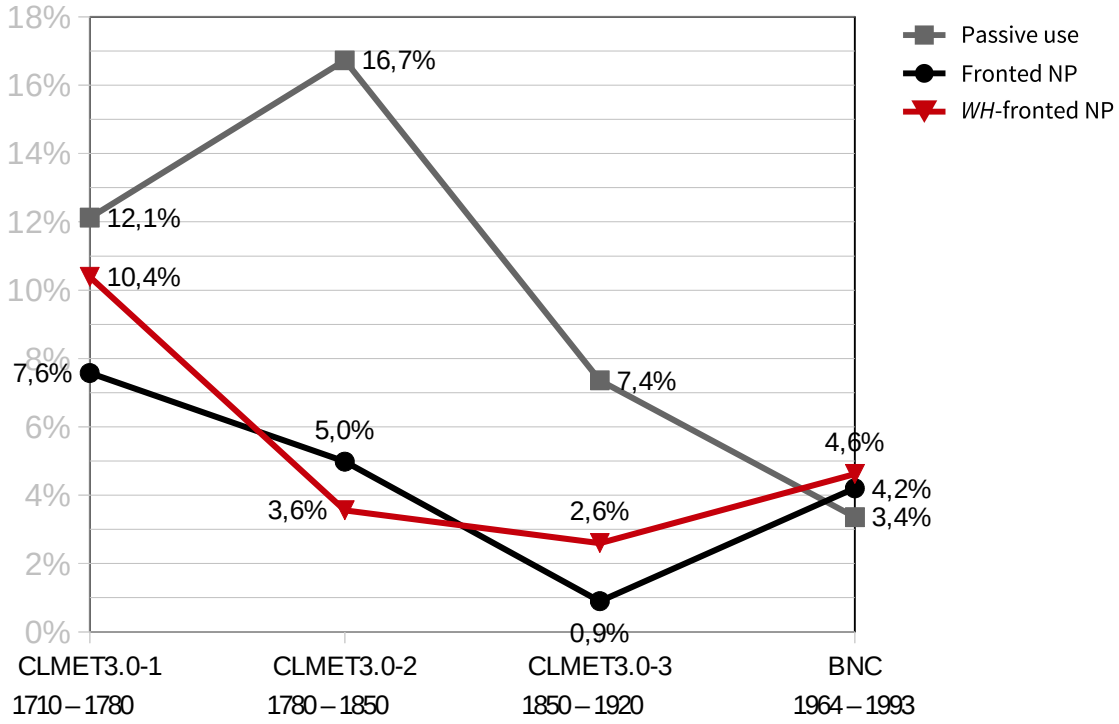

Figure 21: The relative proportion of passive uses and tokens with fronted NP elements per subcorpus.

Example tokens of passive uses and both types of fronted NP elements are given in (45):

(45) a. The conclusion which she drew from it need scarce be hinted to the reader. (Fielding 1751, *Amelia*)

b. Such realisation was by mercy ordinarily withheld, but its possibility was hinted in the legend of the Visio malefica. (Falkner 1859, *The Lost Stradivarius*)

c. Something of this he hinted in the morning--that Lewson had suspicions of him--Why these … (Moore 1753, *The Gamester*)

d. … she, in explanation, fulfils the presentiment we had some delicacy in hinting too soon--that she is the wife of the man who was killed in the … (Various 1841, *Punch, Vol 1.*)

e. … but afterward she confirmed what she had now hinted at, and told Louisa, that she had resolved to pass some little time in … (Haywood 1744, *The Fortunate Foundlings*)

f. Now, the hypothesis which we have hinted above, is, that beyond the direct pleasure which it gives, music has the indirect effect of developing … (Spencer 1861, *Essays on Education*)

Tokens (45.a-b) exemplify passive uses, (45.c-d) fronted NP elements and (45.e-f) *WH*-fronted NPs.

Only 6 tokens with *WH*-fronted NPs and 2 tokens with fronted NPs were found in the *CLMET3.0-3*.

Passive uses as well as both types of fronted elements are here considered to add a level of complexity to their environments, and it is worth noting that especially the fronted NP elements see the lowest point of their development in the *CLMET3.0-3* where the NSS-uses of *hint* first exhibit a significant rise in frequency. In the *BNC*, the relative proportion of tokens involving fronted elements begins to rise, whereas the continuing decline of passive uses in contemporary English is likely to be affected by the sheer amount of NSS-uses, as shown in the *BNC* data (29,4% of all verbal tokens). Although NSS-uses are active in voice, the presence of a non-sentient element in the subject position in itself mimics the passive, making passivization difficult: ~ ?*Corruption in the mayor's office was hinted at by the article.*

Considering the contemporary *BNC* data, the non-sentient subject uses have clearly focused on the *at + NP* pattern, over half of the *at + NP* pattern group tokens representing NSS-uses. The corpus analyses nevertheless show that a handful of NSS-uses were already present in the first subsections of the *CLMET3.0-1.* One NSS token from each subcorpus is given in (46):

(46) a. My letters hinted, too, my contempt of learned men and their miserable conduct. (Walpole 1735-69, *Letters*)

b. … the absence of vulgarity, though a few purply tints delicately hinted that he had assisted at many an orgie of the rosy offspring of Jupiter and Semele. (Various 1841, *Punch, Vol 1.*)

c. Her withdrawal had hinted at other things besides disease and pain. (Forster 1910, *Howards End*)

d. Like writing, paintings seem to hint at a topsy-turvy world in which, so to speak, time's arrow moves the other way. (The *BNC*, FYV 2239)

Regardless of the time period the tokens originate from, the NSS tokens found in the *CLMET3.0* (46.a-c) behave in the same way as the contemporary *BNC* example of (46.d). All four tokens feature a non-sentient subject stimulus which triggers some inference in the experiencer. It is also worth noting that the NSS-use of *hint* involves only a minor change in meaning from the *agent-recipient* model: an act of hinting where a human agent relays some piece of information to a human recipient in an indirect manner still entails that the recipient understands the intended

meaning, i.e. is able to *infer* the content of the hint. However slight, the shift in the meaning of *hint* that enables NSS-uses is interesting, as it represents a change from the domain of human interaction to one that is cognitive in nature. The shift can be considered to represent something akin to an "associative leap" (Hopper and Traugott 2003:84) or "inference across conceptual boundaries" (ibid.) seen in the early stages of grammaticalization (cf. ibid.:11).

The fact that the *at + NP* pattern is the most frequent complement pattern of *hint* in contemporary British English poses an interesting scenario for the future development of the pattern. With over half of the *at + NP* tokens attested in the *BNC* subcorpus featuring a non-sentient subject, it seems plausible that this affects the way the meaning of the complement pattern itself is perceived, even in cases where a clearly sentient agent is involved. Consider one of the more contemporary *at + NP* tokens of the *BNC*, taken from the 1993 novel *Space Marine* by Ian Watson:

> Valence shuddered at the mention of Chaos. In his sermons the Chaplain of Cadets had only hinted at the existence of terrible ultimate anti-Gods which stalked the warp, seeking to spill through into the cosmos to corrupt precious reality — the antithesis of all that the Emperor stood for; forces which Marines should pray that they never encountered. Never. Ever.
>
> The Chaplain had only delivered veiled hints as to the nature of this 'Chaos' … (The *BNC*, CJJ 1206)

Allerton lists *hint at* as a divalent construction (1982:97-100), with the two participants involved being the hinter, and the thing hinted at (ibid.). Accordingly, the grammatical valence of *hint* in the above *BNC* token is two: the hinter is the *Chaplain of Cadets*, while the thing hinted at is … *the existence of* (...) *anti-Gods* ... i.e. the existence of Chaos. The way the verb is used, however, can be seen as implying the presence of a third participant, or a semantic valence of three. The protagonist, *Valence*, is present in the act of hinting; not as a passive, designated recipient of some transferred information, but as a more active experiencer within a larger audience, capable of observing a sermon that only contains *veiled hints* and making an inference based upon them. From the perspective of theta-roles, however, this would represent an anomalous scenario, illustrated in

Figure 22:

Figure 22: the theta-roles of hint *with an implied experiencer outside the context of NSS-use.*

The use of *hint* where no recipient construction is present and an experiencer is implied is gaining ground, especially with the *at + NP* complement pattern as it exhibits a high number of NSS-uses. When a clear agent is indicated with the *at + NP* pattern, however, an implied experiencer would entail the presence of a stimulus: a fourth theta-role in a scenario involving three participants, and thus in violation of the Theta Criterion. If the *at + NP* pattern is undergoing a development where its use and meaning is becoming equated with the presence of an experiencer as the corpus data seems to suggest, uses with a sentient agent become problematic, as shown in Figure 22, which is likely to increase the preference of non-sentient subjects with the *at + NP* pattern.

7 Conclusion

In this thesis I have examined the complementation of the verb *hint* in written British English during the period of 1710 – 1993. The analysis shows that the use of the verb is in decline, and that a process of simplification characterizes the developments in its complement selection.

The number of frequently attested complement patterns that account for more than 10% of all complementation within the examined subcorpora decline from four patterns in the *CLMET3.0-1* to two patterns in the *BNC*. From the beginning of the 18th century to the middle of the 19th century, the *zero*, *at + NP,* bare *NP* and *that*-clausal complement patterns each represent more than 10% of the complementation of *hint*. During 1850 – 1920, the use of the *zero* pattern declines to 8,7%, leaving only three highly frequent patterns of complementation: *at + NP,* bare *NP* and *that-clausal* complements. In the contemporary *BNC* data that represents the period of 1964 – 1993, *hint* is shown to clearly favour *at + NP* and *that*-clausal complementation, the two patterns representing 47,1% and 32,8% of the complementation of *hint*, respectively.

A part of the attested development during 1710 – 1993 is the heavy decline in the frequency of the optional, recipient-indicating *to NP* construction. Another development attested in the corpus data is the rise in the uses of *hint* that involve the presence of a non-sentient subject, which sees the use of *hint* adopting features usually associated with psychological predicates. Non-sentient subject use is nevertheless shown to have become prevalent in contemporary British English, 29,4% of all verbal tokens of *hint* featuring a non-sentient subject in the contemporary *BNC* data.

Considering potential topics for further research, a number of relevant questions arise from the study presented in this thesis. This thesis has shown that the NSS-uses of *hint* are gaining ground in British English. The development of *hint* in American English, however, is of interest, especially since the *Random House Unabridged Dictionary* entry presented in this thesis featured a number of usage examples featuring non-sentient subjects. One potential influence for the attested development of *hint* can, in fact, be language transfer between the two major variants of English, as

the attested rise in NSS-uses found in the *CLMET3.0-3* coincides with a number of 19th century innovations in communication technology. Furthermore, this thesis has only examined the use of *hint* in written British English, the frequency and use of *hint* in spoken British English providing another possible point of investigation. Concerning complementation, this thesis has shown *hint* to have undergone significant simplification in its complement patterns, especially with the near-complete loss of the *to NP* construction as well as the heavy decline of the bare *NP* complement pattern. Although some potential reasons for these developments have been suggested in this thesis, their potential verification or invalidation rests on further research.

8 References

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