

The Complements of *Contribute* in the 18th, 19th and 20th Centuries

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Tutkimuksessa selvitettiin *contribute*-verbin komplementaation muutoksia brittienglannissa 1700-luvulta 1900-luvulle. 1700- ja 1800-lukujen muutosten tutkimiseen käytettiin Corpus of Late Modern English Extended Version –tekstikorpusta (CLMETEV), joka on jaettu kolmeen osaan (1710-1780, 1780-1850, 1850-1920). Jokainen CLMETEV:n osa analysoitiin erikseen. *Contribute*-verbin komplementaatiota nykyenglannissa tutkittiin British National Corpus –korpuksen (BNC) avulla.

Rohdenburgin mukaan englannin lausekomplementit ovat muuttuneet viimeisten vuosisatojen aikana. Tärkein näistä muutoksista on *to* infinitiivi –komplementtien korvaantuminen –*ing*-komplementeilla. Tutkimuksessa selvitettiin, onko tämä muutos tapahtunut myös *contibute*-verbin lausekomplementeille. Lisäksi tutkimuksessa selvitettiin, onko Rohdenburgin kompleksisuusperiaate vaikuttanut *contribute*-verbin lausekomplementaatioissa havaittaviin muutoksiin. Kompleksisuusperiaatteen mukaan *to* infinitiivi –komplementti esiintyy –*ing*-komplementtia todennäköisemmin kognitiivisesti kompleksisissa lauseissa. Englannin kielessä kompleksisia lauseita muodostavat insertiot ja ekstraktiot. Insertioissa pääverbin ja komplementin väliin tulee erottava elementti. Ekstraktiossa komplementtilauseen jäsen on siirtynyt lauserajan yli pois komplementtilauseesta.

Tutkimuksessa kiinnitettiin huomioita myös horror aequi –periaatteen toteutumiseen. Horror aequi –periaatteen mukaan samanmuotoiset elementit välttävät esiintymistä toistensa välittömässä läheisyydessä.

Sekä *contribute*-verbin merkitykseen että sen lausekomplementtien merkitykseen kiinnitettiin tutkimuksessa huomiota. Bolingerin mukaan erilaisilla kieliopillisilla rakenteilla on aina potentiaalisesti eri merkitys. Näin ollen myös *to* infinitiivi – ja –*ing*-komplementeilla voi ilmaista eri merkityksiä. Bolingerin mukaan potentiaalinen merkitysero ei kuitenkaan aina toteudu.

Contribute-verbin komplementaatioissa on tapahtunut huomattavia muutoksia tutkitulla ajalla. Lausekomplementtien käyttö on vähentynyt merkittävästi nominaalikomplementteihin verrattuna. *To* infinitiivi –komplementti oli CLMETEV:n ensimmäisessä osassa toiseksi yleisin *contribute*-verbin komplementti, mutta BNC:ssä se on lähes kadonnut. –*Ing* komplementtien määrä ei ole muuttunut suuresti, mutta *to* infinitiivien katoamisen vuoksi –*ing* komplementeista on tullut *contribute*-verbin yleisin lausekomplementti. Ainoastaan *to* infinitiivi esiintyi ekstraktio-lauseissa. Insertio-lauseita löytyi kahdeksantoista, *ing*-komplementti esiintyi niistä kahdessa. Horror aequin havaittiin vaikuttavan kahdessa lauseessa. Toisessa se vaikutti –*ing*-komplementin leviämiseen, ja toisessa *to* infinitiivi –komplementin säilymiseen.

Komplementtien, jotka sisältävät *towards*-preposition, todettiin esiintyvän usein merkityksen ”antaa rahaa” kanssa. *To* infinitiivi - ja –*ing* –komplementtien välillä ei havaittu merkityseroa.

Asiasanat: kielen muutos, komplementaatio, korpuslingvistiikka

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1 Introduction

The aim of this thesis is to examine the complementation patterns of the verb *contribute* with the help of electronic corpora and the changes in the complementation patterns during the last three centuries. One of the central points of investigation in the thesis is whether the process Rohdenburg (2006) has termed the *Great Complement Shift* has affected the complementation patterns of *contribute*. I will also examine two other principles that are affecting this change according to Rohdenburg (2006), namely the *horror aequi* principle, and the *Complexity Principle* as manifested in insertions and extraction environments. I will also pay attention to the meaning of *contribute* in the different complementation patterns. I will also examine non-finite complements of *contribute* and if they have different meanings associated to them, as predicted by *Bolinger's Generalization* (Bolinger:1968).

Mair (2002:108) claims that in the history of linguistics accurate information of grammatical change in process has been rare, mostly because studies of grammatical change have been largely based on anecdotal observation only. According to Mair (2002:108), this is not the best way to observe grammatical change in process, because

at the surface level of utterances, texts, and discourse, grammatical change manifests itself indirectly – in shifting statistical distributions of constructional variants or potentially re-analysable constructions.

According to Mair (2002:108) corpus linguistics provides an excellent tool for attesting these gradual changes in grammar which are ongoing and incomplete.

In this thesis I will first discuss the data I will be using, then take a look at the meanings of *contribute* in the *OED*, and the complementation patterns in the *OED* and different grammars. Then I will analyze all the tokens of *contribute* in the tree parts of the CLMETEV, and 630 examples of 20th century English from the British National Corpus.

2 The Corpora

Crystal (2003:112) defines a corpus as

a collection of linguistic data, either written texts or a transcription of recorded speech, which can be used as a starting point of linguistic description or as means of verifying hypotheses about a language

Bauer (2002:97) points out that today the word *corpus* is typically understood to refer to computer based corpora. Leech (2007:324) emphasizes the importance of intuition in analyzing corpus data: “a corpus cannot be interpreted without intuition, and [...] intuitive data need to be complemented by corpus data.”

In his discussion of some problems in the use of corpora Bauer (2002:103) states that “corpus studies allow an appearance of precision which may be totally spurious.” This means that the texts included in the corpus may not be representative. Also, when comparing different corpora one must remember that they might not be totally comparable due to various reasons (Bauer 2002:103). The level of formality, the social background or gender of the author all influence the texts included in a corpus, and thus Bauer (2002:104) states that “marginally significant differences in linguistic behaviour measured in corpora cannot be trusted.”

2.1 The Corpus of Late Modern English Texts

The extended version of the Corpus of Late Modern English (henceforth the CLMETEV) is an electronic corpus of British English, covering the period from 1710-1920. The corpus is further divided in to three 70 year long subperiods: 1710-1780, 1780-1850, 1850-1920. These include 3 million, 5.8 million and 6.1 million words respectively. Altogether the CLMETEV includes 14.9 million words. The texts included in the CLMETEV are taken from the Project Gutenberg, the Oxford Text Archive and the Victorian Women Writers Project, all of which are freely available online. The authors of the texts included in each subperiod were born at

the earliest thirty years before the beginning, and at the latest thirty years before the end of the subperiod. The maximum amount of text per author in the corpus is limited to 200,000 words. A detailed account of the CLMET is found in De Smet (2005), for information about the extended version used in this thesis see the CLMETEV homepage. I will analyze all the occurrences of the verb *contribute* in all the three parts of the CLMETEV.

2.2 The British National Corpus

The British National Corpus (henceforth the BNC) is a 100 million word corpus of late 20th century British English. 90 % of it consists of written texts, and 10 % of spoken language. I will analyze a random sample containing 630 tokens, i.e. 10 % of the occurrences of the verb *contribute* in the whole of the BNC.

3 The Meaning of *Contribute*

The *OED* gives five different senses to the verb *contribute*. The first two of these are marked as obsolete (the transitive “to make tributary, levy tribute upon”, and the intransitive “to pay tribute (to)”). The example sentences for these meanings date in the sixteenth century, so they are not in the scope of this study. The three meanings still in use are listed below, with the definitions as well as examples given in the *OED*. The number before the definition is the number of the meaning in the *OED*. The notes on the use of the meaning have also been included.

3. a. *trans.* To give or pay jointly with others; to furnish to a common fund or charge.
 1. England contributes much more than any other of the Allies. Addison, 1746.
 2. The Princess of Orange contributed two hundred pounds to their relief. Macintosh, 1832

- b. *intrans.* or *absol.* To give or make contribution.
 3. If his friends do contribute to supply his wants. Healey, 1610.
 4. The Subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities. Smith, 1776
 5. A fund was raised .. to which all parties cheerfully and liberately contributed. Smiles, 1867.

4. *Transf.* and *fig.* To give or furnish along with others to a collective stock; to furnish an “article” to a magazine etc.
 - a. *trans.*
 6. Those who never contributed a single benefit to their age. Melmoth , 1739
 7. Critical and Historical Essays, contributed to the Edinburgh Review. Macaulay, 1843

 - b. *Intr.* or *absol.*
 8. Professor Whewell has contributed largely to the Philosophical Transactions. Bohn, 1864

5. *Fig.* To give or furnish along with others towards bringing about a result; to lend (effective agency or assistance) to a common result or purpose.
 - a. *Trans.*
 9. Is it not probable .. that he would employ, and contribute a more exact study and solicitude? W. Tirwhyt, 1634.
 10. Circumstances .. which contributed strength to the conclusion. Paley, 1790

- b. *intrans.* To do a part in bringing (it) about; to have a part or share in producing.
11. Both heaven and earth do conspire and contribute to the use and benefit of man. Bacon, 1605.
 12. He contributed greatly to improve the national music. W. Irving, 1820.
 13. It might have contributed not a little for draining of the Water. A. Gordon, 1730

Meanings 3 and 4 seem to overlap to an extent, as both concern the idea of giving something together with others. Meaning 3 is slightly ambiguous as to what the object given is: “To give or pay” suggests that it is either money or something else. In the example sentences of meaning 3 the object of the giving (either explicitly expressed or inexplicitly inferred to) is money. Thus it seems fair to say that meaning 3 is primarily about giving money, whereas with meaning 4 the object of giving may be anything, and that there is a specialised meaning “to write an article for publication with others”. From this we may conclude that there is a general meaning of “to give together with others”, and two specialised meanings, namely “to give money together with others”, and “to write an article for publication in a paper etc.”.

What is the difference between this general meaning and meaning 5 in the *OED*? It seems that there are at least two main meanings of *contribute*, one of which stresses the act of giving or doing something together with others for a common cause, the other stressing not the act but the desired or actualised result of the giving/doing.

In order to check my understanding of the meanings of *contribute* given in the *OED*, I turned to two other dictionaries, namely *The New Oxford Dictionary of English* (1998) and the *Collins Cobuild Dictionary of English Language* (hence *Collins Cobuild*) (1987). I chose these because they are based on corpora, assuming that this type of approach might shed light on the different meanings of *contribute*. Both *Collins Cobuild* and *The New Oxford Dictionary of English* give the meanings “to give”, “to pay” and “to publish an article”. In addition to these, in both of them *contribute* is described as having the meaning “to cause”:

“To help to cause or bring about” in *The New Oxford Dictionary of English*, and “[to be] one of the causes of [something]” in the *Collins Cobuild*. These are the examples given:

[T]he government imposed a tax on fuels which contributed to global warming. (*The New Oxford Dictionary of English*)

Soaring land prices contribute to the high cost of housing.
Advanced technology has directly contributed to the excessive growth of cities. (*Collins Cobuild*)

Thus, it is concluded that *contribute* has two main meanings: “to give” and “to cause”. *Collins Cobuild* uses the word “influence” to paraphrase the latter. This is the word I will also use for this meaning.

The main difference between the meanings given in all of these three dictionaries is that when the *OED* lists meaning 5 (or “to influence”) as being used both transitively and intransitively, according to the *New Oxford Dictionary of English* and *Collins Cobuild* the meaning “to influence” is only used intransitively. This implies that there may be a shift in the use of meaning 5. When analyzing the data, the tokens that have the meaning 5 in intransitive use may be easier to analyze as such, because *contribute* may be paraphrased as *influence*. In the transitive use of meaning 5 this is not possible, however. This means that special attention needs to be paid when separating meanings 4 transitive and 5 transitive. It should be born in mind that the NP in the meaning 5 expresses a result or purpose, whereas in meaning 4 it does not.

Also it might be noticed that along with the specialised meanings “to give money” and “to write an article for publication” the *New Oxford Dictionary of English* also notes that *contribute* may have the meaning “to say” (intransitive).

Thus, I will suggest the following division of meanings of *contribute*, presented hierarchically below:

1. Meaning A: to give, to add
 - 1a. Meaning B: to give money, pay
 - 1b. Meaning C: to write an article to a publication
 - 1c. Meaning D: to say, give ones opinion on sth.
2. Meaning E: to influence

Meaning A includes Meanings B, C, and D as specialised uses of the more general meaning “to give, to add”.

4 Complements and Adjuncts

Huddleston and Pullum (2002:219) state that complements “require the presence of an appropriate verb that licenses them”, i.e. the verb allows certain elements to be present, and some others not.

- (1) a. She mentioned the letter.
b. *She alluded the letter.
- (2) a. She thought him unreliable.
b. * She said him unreliable.

Licensing may be seen as affecting two aspects of the element licensed, its form and its meaning. Huddleston and Pullum (2002:227) call the restrictions on the meaning *selection restrictions*. The selection restrictions affect the semantic content of the element licensed, for example *enjoy* requires normally an animate subject:

- (3) *Kim* enjoyed the concert.
- (4) **The cheese* enjoyed the cool breeze.

Also, the verb determines the semantic roles of the complements in the sentence, the elements alone do not have semantic roles (Huddleston and Pullum 2002:227).

- (5) Kim shot the intruder. [S: Agent, O: patient]
- (6) Kim heard the explosion. [S: experiencer, O: stimulus]

The adjuncts on the other hand are interpreted in the same way in different sentences (Huddleston and Pullum 2002:227).

The form of adjuncts is not determined by the verb (Herbst et al. 2004 xxiv).

- (7) He did not want her to come last night/this time/by train/so unexpectedly.

However, Herbst et al (2004:xxviii) point out that there are adverbs which function as complements and that may take different forms independent of the verb:

- (8) We used to walk *up here*, you know.
- (9) I walked *to St. Ives*.
- (10) I walked *where I had always wanted to*.

Herbst et al. (2004:xxviii) give two reasons for classifying these as complements: “they are obligatory elements of the valency pattern of the verb --- or the semantic bonds with the verb are so strong that it seems appropriate to consider them as a part of the valency of the verb.”

In addition to licensing elements, verbs may also require some elements to be present.

Complements may thus be either obligatory or optional:

- (11) a. She perused the report.
- b. *She perused.
- (12) a. She read the report.
- b. She read.

However, this distinction is in fact not clear cut, and Herbst et al. (2004:xxxiii) point out that the boundaries between the different types of element should be seen as gradient.

In contrast to complements which are either obligatory or optional, adjuncts are always optional (Huddleston and Pullum 2002:221). This means that they can be left out and the sentence will not become ungrammatical or radically change its meaning.

- (13) She left *because she was ill*.
- (14) She left.

Adjuncts may also be moved more freely than complements that usually have a fairly fixed number of places in a sentence (Huddleston and Pullum 2002:225, Herbst et al 2004: xxiv).

A further difference can be drawn between the internal and external complements.

Internal complements form the predicative with the verb of the sentence; they are thus internal to the predicate (Huddleston and Pullum 2002:216). The subject of the clause is not part of the predicative, thus it is an external complement. I will limit my examination to the internal complements of the verb *contribute*. Also, the word complement is used to refer to internal complements in this thesis.

It needs to be noted that the term *complement* is not used in the same sense by all grammarians. Quirk et al. (1989: 54) use the term *complement* to refer to *object complements* and *subject complements*.

Operational tests may be used to analyzing obligatory and optional elements, and even distinguish complements from adjuncts. The following discussion on operational tests is based on Somers (1987). The test for distinguishing obligatory elements from optional is called *elimination test*. In it elements are deleted from the sentence to see if it stays grammatical after the deletion or not.

- (15) a. I visit him in Berlin.
 b. I visit him.
 c. *I visit in Berlin.
 d. *I visit.

If the sentence remains grammatical the element is optional, and if it becomes ungrammatical the deleted element is obligatory. It should be noted, however, that the elimination test only differentiates between obligatory and optional elements (Somers 1987:12). Thus it helps to recognize obligatory complements but the optional complements cannot be analyzed using the elimination test. However, Somers (1987) introduces another test, which can.

In this test, the anaphora *do so* is used to identify complements. It is based on the fact that *do so* must include the whole VP it refers to, i.e. it includes all the complements the matrix verb has and cannot thus be together with such complements because it already includes them. From this follows that if an element can occur together with *do so* it must be an adjunct.

These examples are from Huddleston and Pullum (2002:223):

- (16) a. *Jill keeps her car *in the garage* but Pam does so *in the road*.
 b. Jill washes her car *in the garage* but Pam does so *in the road*.
 (17) a. *I didn't read *all the reports* but did so *most of them*.
 b. I didn't cover this topic but I shall do so on Tuesday.

In what is called *backformation test* (Somers 1987:14) the element tested is reformulated as a relative clause. If the element can be reformed as relative clause, it is an adjunct; conversely, the elements that cannot be reformed as relative clauses are complements.

- (18) a. He visited her *in Berlin*.
 b. He visited her, *when she/he was in Berlin*.

- (19) a. My friend lives *in Dresden*.
b. *My friend lives, when she/he is *in Dresden*.

Somers (1987) also discusses two tests for examining the status of prepositional phrases in sentences. The first of these involves changing the matrix verb for a quasi synonym.

- (20) a. I have been waiting *for my friend for two hours*.
b. *I have been expecting *for my friend for two hours*.
c. I have been expecting *my friend for two hours*.

Also, adjunct and complement prepositional phrases cannot be conjoined:

- (21) a. *He was waiting for his friend and (for) hours.
b. *He looked over the document and my shoulder.

5 Subject Control

The following sentences from Davies and Dubinsky (2002:3) are superficially similar but differ in their underlying structure.

- (1) Barnett tried to understand the formula.
- (2) Barnett seemed to understand the formula.

Both of these have the same surface string:

NP Verb₁ to Verb₂ ...

However, Davies and Dubinsky (2002:2-3) point out that they are actually very different: In

(1) *Barnett* is semantically liked to both verbs in the sentence, but in (2) *Barnett* is semantically liked to Verb₂ only. In (1) the embedded clause has an understood Subject, which is marked as PRO, and the subject of the matrix clause is the antecedent of PRO. PRO is coreferential with its antecedent (Jackendoff 1972:108, Soames and Perlmutter 1979:92).

[[Barnett]_{NP1} [tried]_{Verb1} [[PRO]_{NP2} [[to understand]_{Verb2} ...]_{VP}]_{S2}]_{S1}

This phenomenon is called Subject Control. It should not be confused with the Raising-to-Subject, which produces sentences like (2) which are superficially identical with sentences involving Subject Control but have a different underlying structure:

[[Barnett_i]_{NP1} [seemed]_{Verb1} [[*t*_i to understand]_{Verb2} ...]_{VP}]_{S2}]_{S1}

In sentences where Raising-to-Subject applies the subject of the matrix clause is considered to be moved from its original place as the subject of the embedded clause (Radford 1988:560).

Its place is marked by *t* and it is coindexed with the subject of the matrix clause. The semantic difference between Subject Control and Raising-to-Subject constructions is that in subject control, the subject of the matrix clause appears to have two semantic roles, whereas in Raising-to-Subject constructions the subject of the matrix clause appears to have just one semantic role (Davies and Dubinsky 2002:4-5) (In reality PRO is assigned a semantic role, and the antecedent is assigned another semantic role, but we shall not investigate this issue further). Because of this Raising-to-Subject verbs may take semantically empty subjects such

as the existential *there* and the *it* of meteorological expressions, but the subject control verbs cannot (Davies and Dubinsky 2002:7-8):

- (3) a. It seemed to be raining.
 b. There seems to be a unicorn in the garden.
- (4) a. *It tried to be raining.
 b. *There tries to be a unicorn in the garden.

One way to test if a verb is a Control verb or a Raising-to-Subject verb is to use idiom chunks like “keep tabs on” in passive sentences.

- (5) a. The police kept tabs on the pushers.
 b. The tabs were kept on the pushers by the police.

The NP *tabs* does not occur in English outside this idiom. Thus it is impossible to use the idiom with control verbs that require coreference between the PRO and its antecedent, because *tabs* does not occur out of the idiom and cannot thus refer to any NP that is not in the idiom.

- (6) a. Tabs seem to have been on the pushers by the police.
 b. *Tabs wanted to be kept on the spied by the FBI.

Now these tests may be applied to see if *contribute* is a control verb or a raising to subject verb:

- (7) a. *It contributed to be raining.
 b. *There contributes to be a unicorn in the garden.
 c. *Tabs contributed to be kept on the spied by the FBI.

Having now established the fact that *contribute* is a Control verb it should be noted that it is a special kind of Control verb. Rudanko (1996:34-5) points out that in the case of some Control verbs there is an unexpressed controller in addition to the normal antecedent. Rudanko (1996:35) calls this ‘NP₁ Plus’ Control. This group includes verbs like *help*, *assist*, and *cooperate*. Indeed, the meaning of *contribute* is “to give with others”, “to do with others”, and thus its subject is never the only participant in the action it denotes.

6 Complementation patterns of *Contribute* in the OED and Grammars

6.1 The OED and other dictionaries

The only complements explicitly mentioned in the *OED* were those of the *OED* meaning 5b, the complements of the other meanings have been deduced from the example sentences given.

The possible complementation patterns of *contribute* according to the *OED* are NP, *to* NP, *towards* NP, *for* NP, NP *to* NP and *to* infinitive. The *for* NP pattern is marked obsolete, however, the example of this pattern is dated in 1820, so it is still relevant to this study. The different complementation patterns of the *OED* meanings of *contribute* are presented in table 1. below.

No	Comp. Patterns	Examples given in the <i>OED</i>
3a	NP NP to NP	England contributes much more than any other of the Allies. Addison, 1746. The Princess of Orange contributed two hundred pounds to their relief. Macintosh, 1832
3b	<i>to</i> Inf <i>to</i> NP <i>towards</i> NP	If his friends do contribute to supply his wants. Healey, 1610. A fund was raised .. to which all parties cheerfully and liberately contributed. Smiles, 1867. The Subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities. Smith, 1776
4a	NP to NP	Those who never contributed a single benefit to their age. Melmoth , 1739
4b	<i>to</i> NP	Professor Whewell has contributed largely to the Philosophical Transactions. Bohn, 1864
5a	NP NP to NP	Is it not probable .. that he would imploy, and contribute a more exact study and solicitude? W. Tirwhyt, 1634. Circumstances .. which contributed strength to the conclusion. Paley, 1790
5b	<i>to</i> NP <i>to</i> Inf <i>for</i> NP	Both heaven and earth do conspire and contribute to the use and benefit of man. Bacon, 1605. He contributed greatly to improve the national music. W. Irving, 1820. It might have contributed not a little for draining of the Water. A. Gordon, 1730

Table 1: The complements of *contribute* in the *OED*

6.2 Grammars

Three modern grammars, namely Biber et al. (1999) and Huddleston and Pullum (2002) and Quirk et al. (1989), were consulted to find out what they say about the complementation of *contribute*. None of them mention *contribute* when discussing complementation by nonfinite clauses, but list it as a prepositional verb that takes the preposition *to* followed by an NP (Biber et al. 1999:417, Huddleston and Pullum 2002:309, Quirk et al. 1989:1178).

- (1) Ruth didn't contribute **to the task**.
- (2) Anyone has the right to refuse to contribute **to our output**.

However, Poutsma (1904-1929) and Jespersen (1940) both mention *contribute* when discussing nonfinite complement clauses. Poutsma (1904-1929) lists *contribute* as a verb taking the *to* infinitive complement, and gives the following examples:

- (3) Her tears, her looks, all contributed **to discover** the real sensations of the heart.
- (4) Other circumstances have contributed **to produce** the same result.

It is then interesting to find out that Jespersen (1940:246), published almost forty years after Poutsma, lists *contribute* as a verb that may take not only the *to* infinitive but also *to gerund* complements:

- (5) They have contributed not a little **to mislead** us.
- (6) This contributed **to making** him popular.

It must be borne in mind that the grammars are not expected and indeed cannot discuss all possible verbs exhaustively. However, the fact that the *-ing* complement is included in Jespersen (1940) may hint that, during the first half of the 20th century it had become more frequent and more acceptable as a complement of *contribute*.

6.3 Summary

There are two complements in the *OED* entry for *contribute* that are not found in *Collins Cobuild* or *The New Oxford Dictionary of English*. These are the nominal *for* NP and clausal *to* infinitive. The *for* NP was marked obsolete in the *OED*, and thus it is natural that it does not occur in newer dictionaries that represent language as it is at the time of the publication. The *to* infinitive, however, was not marked obsolete in the *OED*, yet it does not occur in the modern dictionaries. This implies a change in the use of the *to* infinitive.

As regards to the form of the complements and the meaning of *contribute* the following assumptions might be made. If the meaning is “to give” (and its submeanings), it is logical to assume that the object given, i.e. the patient, and the institution or person to whom it is given, i.e. the goal, must explicitly or inexplicitly be expressed. It is interesting that The *OED* only mentions the *towards* NP complement in connection with the meaning “to give money”, as does the *New Oxford Dictionary of English*. However, according to the *Collins Cobuild*, *towards* NP may be use with the meanings “to influence” and “to give”, but with the meaning “donate” (as it is paraphrased in the *Collins Cobuild*) *to* NP is the only option besides zero complement, and *towards* NP is not mentioned.

The only clausal complement mentioned in the *OED* was the *to* infinitive. According to the *OED* this is used with the meaning “to influence”. If the *to -ing* has replaced the *to* infinitive then we might expect it to be used with this sense.

7 Factors Affecting the Choice of the Nonfinite Complement

7.1 Historical Changes

Rohdenburg (2006) draws attention to changes in the sentential complementation system of English which according to him have occurred “over the past few centuries.” He calls this phenomenon the *Great Complement Shift*. The changes Rohdenburg (2006:143-5) mentions include changes in the use of marked and unmarked infinitives, changes in the use of dependent relative clauses, and changes in the potential range of subjects implied by infinitival complements. However, Rohdenburg (2006:143) identifies the rise of gerund as a non-finite complement, mostly on the expense of the infinitival complement, as the most important of these changes. Also Bolinger (1968) points out that a change favouring the gerundive complements over *to* infinitive may be in progress. Thus the examples in (1) are less frequent and mostly replaced by (2) (these examples are from Rohdenburg 2006):

- (1) (a) She delighted to do it.
 (b) She was used/accustomed to do it.
 (c) She avoided/dreaded to go here.
- (2) (a) She delighted in doing it.
 (b) She was used/accustomed to doing it.
 (c) She avoided/dreaded going there.

This is also the change that might affect the complementation patterns of *contribute*.

Following Rohdenburg’s analysis it shall be hypothesize that the use of the nonfinite complements may have undergone a change, making the *-ing* complement more frequent and the infinitival complement less frequent.

7.2 Extrasemantic Factors

In this thesis I will examine three extra semantic factors affecting the choice between the nonfinite complements. These are extractions, insertions and the horror aequi principle. The first two are manifestations of the Complexity Principle. Rohdenburg (2006:147) formulates

the Complexity Principle as follows: “In the case of more or less explicit constructional options the more explicit one(s) will tend to be preferred in cognitively more complex environments.” This means that if complexity factors such as extractions and insertions are present, the more explicit *to* infinitive complement is preferred over the *-ing* complement, which is less explicit (Rohdenburg 2006:148, 155). It may be assumed then that the spreading of the *-ing* complement should be delayed in sentences involving insertions or extractions.

7.2.1 Extractions

According to Rohdenburg (2006:151-2) extractions occur when “a complement of a subordinate clause is extracted (by topicalization, relativization, comparativization, or interrogation etc.) from its original position and crosses clause boundaries.” Vosberg (2003a) gives the following examples of different types of extraction (the place from which the element is extracted is marked by t_i and the extracted element is coindexed with it):

Topicalization: even her acquaintance with the Belfield’s_i she **remembered** [no ever mentioning t_i] (Fanny Burney, *Cecilia*, 1782)

Relativization: ..., it is the worthy Spencer_i, whom I’m sure you **remember** [to have often heard [me mention t_i in the relation of my private misfortunes]], (John Dance, *The English Lovers*, 1622)

Clefting: It was the bangle_i that she **remembered** [having seen t_i on Francie’s wrist], (Edith CEnone Sommerville, *The Real Charlotte*, 1894)

Comparativization: ‘twas her Charming Face and modest Look, that represented to him a thousand more Beauties and taking Graces_i, than he **remembered** ever [to have seen t_i in his Unconstant and Faithless Mistress] (Philip Ayress, *The Revengeful Mistress*, 1696)

Interrogation: Now, how many_i do you **remember** [to have herd named t_i] (Sabine-Baring- Gould, *In the Roar of the Sea*, 1892)

It has been observed that the infinitival complement survives longer in extraction environments, delaying the rise of the gerundial complements (Rohdenburg 2006:153-4, Vosberg 2003b:308).

7.2.2 Insertions

Insertions occur, when an element is inserted between the matrix verb and the complement (Rohdenburg 2006:148, Vosberg 2003a:210). Examples from Vosberg (2003a:211) include (the italics have been added by L.L.):

(3) I *recollect*, as I passed the pier-glasses, *that I saw in it his clenched hand offered in wrath to his forehead*. (Samuel Richardson, *Clarissa*, 1st ed., 1748)

(4) I *recollect* Ø when I first joined, *I used to write verses*. (William M. Thackeray, *The History of Pendennis*, 1849)

Also these environments are thought to be cognitively more complex, and thus favor the more explicit infinitival complement.

7.2.3 Horror Aequi

Vosberg (2003b:305) defines the horror aequi principle as “strong aversion to the (immediate) co-occurrence of identical or similar grammatical structures.” This means that no *to* infinitive complements should be found directly after the infinitive form of *contribute*. Also, the spread of the *-ing* complements might be accelerated after a matrix verb in the infinitive form. Thus, in the modern day data (5b) should be more frequent than (5a)

- (5) (a) This ought to **contribute** *to make him popular*.
 (b) This ought to **contribute** *to making him popular*.

7.3 Semantic Factors affecting the Choice of the Complement

In the analysis of the meaning of the complements I will concentrate on the sentential complements. In discussing the *to* infinitive and *-ing* complements Bolinger (1968) argues there is always a potential difference in their meaning, although this meaning does not always have to be realized. In this section I will discuss the meaning differences between the two sentential complements suggested by the research in this area.

According to Quirk et al (1985:1191) the *to* infinitive “gives a sense of mere ‘potentiality’ for action”, whereas the *-ing* complement “gives a sense of actual ‘performance’ of the action itself”:

- (6) a. Sheila tried to bribe the jailor.
- b. Sheila tried bribing the jailor.

According to Quirk et al. (1985:1191) the first sentence implies that Sheila did not succeed in her attempt and the second one implies that she succeeded in bribing the jailor. Also Huddleston and Pullum (2002:1241) see the division between the *to* infinitive and *-ing* complements as that of potentiality vs. actual fact, the infinitive denoting the potential, and the gerund the actual. They add, however, that the infinitive is associated with goal, and is thus connected with future reference and the gerund with reference to the present (Huddleston and Pullum 2002:1241). Huddleston and Pullum (2002:1241) point out that these are “historically motivated tendencies and associations, not constant elements of meaning.”

The division between the potential and factual is also one of the meaning differences between the *to* infinitive and *-ing* complements after verbs recognized by Allerton (1988).

However, Allerton adds other semantic differences between two clausal complements.

According to Allerton (1988), the *-ing* complement denotes complete activity, whereas the *to* infinitive denotes incomplete activity.

- (7) a. Mary tried to change the fuse.
- b. Mary tried changing the fuse.

Also, the activity referred to by the *-ing* complement denotes continuous activity, and the activity denoted by the *to* infinitive is interrupted.

- (8) a. That afternoon Mary suddenly started to collapse (but John stopped her from falling).
- b. ?That afternoon Mary suddenly started collapsing.

The differences discussed are represented in the Table 2 below.

To infinitive	<i>-ing</i>
Potential	Actual
Futurity	Current
Interrupted	Continuous
Uncompleted	Completed

Table 2: Potential meaning differences between the *to* infinitive and the *-ing* complements

Duffley (2000:225) argues that the meaning of the *-ing* complement has been analyzed wrong due to confusion between the uses of the *-ing* in the progressive and gerundive uses. According to Duffley (2002:226), the gerund is a direct object of the matrix clause and as such “designated that which is “[verb]ed” in the event expressed by the verb of which it is the direct object.” According to Duffley (2000:225) the gerund complement “evokes the event as a whole.”

Duffley (2000:231) claims that the *to* in *to* infinitive is a preposition which expresses movement, and the whole *to* infinitive is thus “an adverbial specifier of the goal or result”. According to Duffley (2000:224), the *to* infinitive has two alternative interpretations, which he describes as “subsequent potentiality” and “subsequent actualization”. In the first case the event expressed by the complement clause is unrealized, and in the second case it is realized.

8 The CLMETEV Part I

Complement	contribute	contributes	Contributed	contributing	Total
<i>to</i> infinitive	49	17	41	4	111 (37)
NP <i>to</i> infinitive	3	0	1	1	5 (1.7)
<i>to</i> <i>-ing</i>	2	0	0	0	2 (0.7)
<i>towards</i> <i>-ing</i>	1	0	1	0	2 (0.7)
NP <i>towards</i> <i>-ing</i>	3	0	0	0	3 (1.0)
NP <i>in</i> <i>-ing</i>	0	0	1	0	1 (0.3)
<i>to</i> poss <i>-ing</i>	2	0	0	0	2 (0.7)
NP	4	0	4	1	9 (3.0)
<i>to</i> NP	87	29	42	15	173 (57.7)
NP <i>to</i> NP	7	3	8	1	19 (6.3)
<i>towards</i> NP	2	0	1	0	3 (1.0)
NP <i>towards</i> NP	2	1	3	0	6 (2.0)
NP <i>in</i> NP	0	0	1	0	1 (0.3)
<i>for</i> NP	1	0	1	0	2 (0.7)
∅	5	0	4	0	9 (3.0)
Total	169	50	108	22	349 (116.3)

Table 3: The complements of *contribute* in the CLMET part 1 (with normalized frequencies in brackets)

The CLMETEV was searched for *contribute*, *contributes*, *contributed* and *contributing*. The complement patterns were analyzed as well as the meaning of the matrix verb in the pattern.

The complements found are presented in Table 3 above.

The first part of the CLMET yielded 350 tokens. Of these one was disregarded:

- (1) he has the disagreeable reflection and comparison suggested only by his own thoughts, and never receives it by a sympathy with others; which must **contribute very much so his ease and satisfaction**. (1711 hume 1739-40 - treatise of human nature.txt)

It is assumed that the facts mentioned in the text had an effect on the “ease and satisfaction” of the person described, and not that “his ease and satisfaction” was given to something or someone, like use of the direct NP complement would imply. The preposition *to* has then been left out either by mistake or by an artistic choice, but which ever it is, the sentence is disregarded because of the confusion of the meaning it evokes.

8.1 The Clausal Complements in the CLMETEV Part I

Complement	contribute	contributes	contributed	contributing	Total
<i>to</i> infinitive	49	17	41	4	111 (37.0)
NP <i>to</i> infinitive	3	0	1	1	5 (1.7)
<i>to -ing</i>	2	0	0	0	2 (0.7)
<i>towards -ing</i>	1	0	1	0	2 (0.7)
NP <i>towards -ing</i>	3	0	0	0	3 (1.0)
NP <i>in -ing</i>	0	0	1	0	1 (0.3)
<i>to</i> poss <i>-ing</i>	2	0	0	0	2 (0.7)
Total	60	17	44	5	126 (42.0)

Table 4: The clausal complements of *contribute* in the CLMETEV part I

31.8 % of all the complements in the first part of the CLMETEV were *to* infinitives, making it the second commonest pattern in the data with 111 tokens. It had the normalized frequency of 37.7 per million words. The *to* infinitive complements can easily be classified as having the meaning “to influence”, the verb of the subordinate clause expressing the result of the process.

(2) Whatever increases the fertility of land in producing food, increases not only the value of the lands upon which the improvement is bestowed, but **contributes** likewise **to increase** that of many other lands, by creating a new demand for their produce. (1723 smith 1766 - wealth of nations.txt)

(3) Letters were then in their most flourishing state in Italy, and **contributed to dispel** the empire of superstition, at that time so forcibly attacked by the reformers. (1717 walpole 1764 - the castle of otranto.txt)

(4) But my daughter's health declined faster than mine; every message from her **contributed to encrease** my apprehensions and pain. (1728 goldsmith 1766 - the vicar of wakefield.txt)

The following sentence poses a problem:

(5) he did it in consequence of his principles, out of a desire to remove prejudices, and **contribute all he could to make his country happy**; however it produced his own promotion, in 1717, to be one of the principal secretaries of state. (1703 cibber 1753 - the lives of the poets 3.txt)

The *to* infinitive following the object of the matrix verb is superficially like a complement. It could be argued, however, that it is actually an adjunct of purpose. According to Huddleston and Pullum (2002:1222-1224) the *to* infinitive may also be an adjunct of purpose, adjunct of result and adjunct of cause. These are illustrated by the following examples:

(6) He hurried to catch the train. [Adjunct of purpose]

(7) He ran all the way to the station only to find that the train had just left.
[Adjunct of result]

(8) They rejoiced to hear they had won the war. [?Adjunct of cause]

Huddleston and Pullum (2002:1224) point out that the adjunct of purpose may be difficult to recognize and that in some cases two readings are possible:

(9) He swore to impress his mates.

Complement: he swore that he would impress his mates.

Adjunct: he swore in order to impress his mates (by swearing)

So if the *to* infinitive is an adjunct of purpose it should be possible for it to be replaced with *in order to* Verb:

(10) he did it in consequence of his principles, out of a desire to remove prejudices,
and **contribute all he could in order to make** his country happy;

Another test that may be used in determining the status of the *to* infinitive in this sentence is using an anaphoric expression *do so*. According to Huddleston and Pullum (2002:223) “if a dependent (other than subject) can combine with *do so* this is sufficient to show that it is an adjunct”. This is illustrated by the following examples:

(11) a. *She rode her bicycle and she did so to school

b. She performed all the tasks and she did so remarkably well.

Thus, *to school* is a complement in the first sentence, whereas *remarkably well* in the second sentence is not. We may apply this to our sentence:

(12) He contributed and he did so to make his country happy.

The sentence does not become ungrammatical, and we can conclude that the *to* infinitive in the sentence is an adjunct.

There were altogether ten tokens selecting a pattern that involved a gerund. Most of these could be analyzed as having the meaning “to influence”. Two had the form *to –ing*:

(13) Melanthe would fain have perswaded her that this diversion would **contribute to restoring her**; but she entreated to be excused, and the other went without her. (1693 haywood 1744 - the fortunate foundlings.txt)

(14) This last was to have a church, but by a lucky want of religion in the inhabitants, who would not **contribute to building a steeple**, it remains an absolute antique temple, with a portico on the very strand. (1717 walpole 1735-48 - letters 1735-1748.txt)

Interesting about the latter is that it is a negative sentence. According to Fanego (1996:59), the gerund is more likely to be used in negative sentences.

Poutsma did not mention any gerund complements for *contribute*, the tentative assumption was made that the *to –ing* complement may have been less frequent in the past, and become more acceptable towards the middle of the 20th century. It is therefore surprising to find that in the first part of the CLMETEV there are three different patterns involving the gerund that are not mentioned in the grammars or dictionaries. These are *towards –ing* (2 tokens), NP *towards –ing* (3), NP *in –ing* (1), and the poss *–ing* (2) complement. These are illustrated by the following examples:

(15) ... were all at the private risk and expense of the adventurers. The government of Spain contributed scarce any thing to any of them. That of England **contributed** as little **towards effectuating** the establishment of some of its most important colonies in North America. (1723 smith 1766 - wealth of nations.txt)

(16) even the common workman, if his wages are considerable, may maintain a menial servant; or he may sometimes go to a play or a puppet-show, and so **contribute his share towards maintaining** one set of unproductive labourers; (1723 smith 1766 - wealth of nations.txt)

(17) had not only favoured him with his countenance in a much greater degree than heretofore, but also **contributed his interest**, and even promised the assistance of his purse, **in procuring** for him a lieutenancy, (smollett 1751 - the adventures of peregrine pickle.txt)

(18) We may observe, that there are two relations, and both of them resemblances, which **contribute to our mistaking the succession of our interrupted perceptions** for an identical object. (1711 hume 1739-40 - treatise of human nature.txt)

(19) It must nevertheless be observed, that they must be baked or boiled till all the Gravey is out of them; for the Gravey being in them, will **contribute to their spoiling** by growing musty, or otherways foetid. (1688 bradley 1732 - the country housewife and lady's director.txt)

Rudanko (1996) divides verbs that take *in -ing* complements into five groups. Rudanko (1996:28) defines one of these groups as follows: “Verb₁ has the approximate meaning ‘perform the act of’ or ‘carry out the activity of’, NP₁ performs/carries out the act/activity of Verb₂*ing* or engages in Verb₂*ing*.” A subgroup in this class has the meaning “to do so with others”, and Rudanko (1996:28) gives the following verbs as examples of the subgroup: *aid, assist, collaborate, cooperate, help, join, participate, share*. Meaning 5a of *contribute* in the *OED* is ‘to lend (effective agency or assistance) to a common result or purpose’. *Contribute* clearly fits this class semantically, and thus it is logical that it may also take the *in -ing* complement like the other verbs in the group.

Three cases of extraction were found in the data:

(20) Jenkinson at the first interview therefore seemed not a little struck with **the beauty of my youngest daughter_i**, which her pensive air contributed to **heighten t_i**, and my little ones did not pass unnoticed. (1728 goldsmith 1766 - the vicar of wakefield.txt)

(21) but it cannot continue; for their situation produces a **natural rivalship_i**, which every accidental circumstance has **contributed to increase t_i**. (1709 johnson 1740-1 - parliamentary debates 1.txt)

(22) The men, for whose sake I am now speaking, sir, laugh equally with myself at the apprehensions of **those_i** whom they **contribute to terrify t_i**; (1709 johnson 1740-1 - parliamentary debates 1.txt)

All the extractions found are out of *to* infinitives which reinforces the claim based on the Complexity Principle that extractions occur more easily with *to* infinitive complements.

There are seventeen instances where an adverb has been inserted between the matrix verb and a *to* infinitive complement. There are four instance when a longer sequence was inserted between the matrix and the *to* infinitive complement.

(23) Thus, in the neighbourhood of a great town, the demand for milk, and for forage to horses, frequently **contribute**, together with the high price of butcher's meat, **to raise the value of grass** above what may be called its natural proportion to that of corn. (1723 smith 1766 - wealth of nations.txt)

(24) What in the days of its prosperity had been saved from that annual produce, and employed in purchasing gold and silver. will **contribute**, for some little time, **to support its consumption** in adversity. (1723 smith 1766 - wealth of nations.txt)

(25) Patriotism **contributed**, as well as devotion, **to consecrate the Sonnenwald**, or wood of the Semnonnes. (1737 gibbon 1776 - decline and fall of the roman empire 1.txt)

(26) he offers you his services, and wishes nothing more ardently than to **contribute**, as far as may be in his little power, **to procure you 'les agremens de Paris'**. (1694 chesterfield 1746-71 - letters to his son on the art....txt)

Interestingly there is one instance in which an element is inserted between the matrix verb and a complement involving gerund:

(27) inquiring about the occasion of his promotion, had not only favoured him with his countenance in a much greater degree than heretofore, but also contributed **his interest**, and even promised the assistance of his purse, **in procuring for him a lieutenancy**, which he was then soliciting with all his power; (1721 smollett 1751 - the adventures of peregrine pickle.txt)

This is against the Complexity Principle.

None of the *-ing* complements occurred with the gerund form of contribute. Thus the horror aequi principle was not violated. However, the horror aequi may also affect the complement selection by accelerating the spread of the *-ing* complements after infinitive forms of the matrix verbs. Eight of the *-ing* complements found in the first part of the CLMETEV occur with *contribute*, and one sentence was found, where an *-ing* complement followed *contribute* in the infinitive:

(28) but to console them for the loss of it, she promised to speak to some of her friends in their behalf, and also to **contribute something herself towards alleviating their misfortunes**; (1693 haywood 1744 - the fortunate foundlings.txt)

Altogether the clausal complements make up 37.07 % of the complements: patterns involving gerund 2.84 % and infinitival patterns 33.23 % of all the tokens.

Duffley (2003) analyzed the *to* infinitive complements in terms of “subsequent potentiality” and “subsequent actualization”, and the *to* as a preposition denoting direction towards a goal or result. Whether we agree with Duffley’s analysis of the *to* in *to* infinitive as a preposition or rather with the view, that it is an infinitival marker which has retained the meaning of the preposition does not matter here. It is clear that in case of *contribute* the subject of the matrix clause is involved in action, the result of which is expressed by the complement.

(29) nothing so much **contributes to make** any man an enemy to his country, as the consciousness that he is universally abhorred. (1709 johnson 1740-1 - parliamentary debates 1.txt)

(30) A gentle sigh stole from Sophia at these words, which perhaps **contributed to form** a dream of no very pleasant kind; (1707 fielding 1749 - tom jones.txt)

(31) and, at the same time, you are **contributing to fill** the world, not only with nonsense, but with all the scurrility, indecency, and profaneness with which the age abounds, (1707 fielding 1751 - amelia.txt)

(32) This examination will **contribute to suggest** to us matters of inquiry; (1723 reynolds 1769-76 - seven discourses on art.txt)

The *-ing* complement was analyzed by Duffley to be the direct object of the matrix verb, and thus it is simple “that which is [verb]ed”, without denoting time in relation to the matrix verb. Also, according to Duffley the *-ing* complement refers to the event if denotes as whole. Indeed, the event denoted by the *-ing* complement may be analyzed as “that which is contributed to”.

However, the division of potentiality vs. fact adopted by Quirk et al (1985) and Huddleston and Pullum (2003) is not relevant to *contribute*.

8.2 The Nominal Complements in the CLMETEV Part I

Complement	Contribute	contributes	Contributed	contributing	Total
NP	4	0	4	1	9 (3.0)
<i>to</i> NP	87	29	42	15	173 (57.7)
NP <i>to</i> NP	7	3	8	1	19 (6.3)
<i>towards</i> NP	2	0	1	0	3 (1.0)
NP <i>towards</i> NP	2	1	3	0	6 (2.0)
NP <i>in</i> NP	0	0	1	0	1 (0.3)
<i>for</i> NP	1	0	1	0	2 (0.7)
∅	5	0	4	0	9 (3.0)
Total	108	33	64	17	223 (74.3)

Table 5: The nominal complements of *contribute* in the CLMETEV Part I

Half of the matrix verbs (49.57 %) in the first part of the BNC had the *to* NP complement. It had the normalized frequency of 57.7 per million words. The majority of these have the meaning “to influence”, although the meaning “to give”, and its submeaning “to give money” also appear. Examples of the meaning “to influence” are:

(33) but 'tis much too tedious to be ever rendered profitable; however, any means that can be used to dry Malt without parching of it, will certainly **contribute to the goodness of the Malt**. (1688 bradley 1732 - the country housewife and lady's director.txt)

(34) that the memory of that valiant and excellent person whose memoirs I am now concluding may in some measure have **contributed to that signal and complete victory** with which God was pleased to crown the arms of his Royal Highness; (1701 doddridge 1750 - the life of col. james gardiner.txt)

Examples of “to give”, and “to give money”, are:

(35) To object for ever, and to advance nothing, is an easy method of disputation upon any question, but **contributes** very little **to the increase of knowledge**: (1709 johnson 1740-1 - parliamentary debates 1.txt)

(36) ... your children's bread; you saved my life, and afterwards you sustained it by your food and raiment: I ought to have maintained myself, and to have **contributed to your maintenance**. But besides this, your treatment of me was the first of my preferment; it recommended me to the notice of this noble family. ... (1729 reeve 1777 - the old english baron.txt)

(37) By paying that price, he indirectly pays all those wages and profits, and thus indirectly **contributes to the maintenance of all the workmen and their employers**. (1723 smith 1766 - wealth of nations.txt)

The NP *to* NP complement had the normalized frequency of 6.3 per million words. In most cases, it had the meaning “to influence”, but “to give“ and “to give money “ also occurred. It seems natural to analyze tokens in which the NP in *to* NP is an abstract noun as having the meaning “to influence”, and those where it is a concrete noun as having the meaning “to give”. Examples of the first are:

(38) What immortal honour has not every private man acquired, who **contributed the least part to successes that astonish the whole world!** (1693 haywood 1744 - the fortunate foundlings.txt)

(39) ... as those who have engaged, at the hazard of their lives, to repel invasion, and repress rebellion, and who **contribute more than their part to the general felicity**, by securing property, and preventing danger. (1709 johnson 1740-1 - parliamentary debates 1.txt)

There were two tokens that had the meaning “to give”:

(40) Lord Middlesex is one of the new treasury, not ambassador as you heard. So the Opera-house and White's have **contributed a commissioner and a secretary to the treasury**,(887) as their quota to the government. (1717 walpole 1735-48 - letters 1735-1748.txt)

(41) Marsten has **contributed eight plays to the stage**, which were all acted at the Black Fryars with applause, (1703 cibber 1753 - the lives of the poets 1.txt)

Examples of the tokens with the meaning “to give money”:

(42) Would not the nation with more cheerfulness **contribute half-pay to those who are daily labouring for the publick good**, than to the caterpillars of the land service, that grow old in laziness, and are ... (1709 johnson 1740-1 - parliamentary debates 1.txt)

(43) ... to afford, in time of peace, a revenue to the public, sufficient not only for defraying the whole expense of its own peace establishment, but for **contributing its proportion to the support of the general government of the empire**. (1723 smith 1766 - wealth of nations.txt)

(44) For every 5s. therefore, **which they contribute to the payment of the first tax**, they must **contribute £6:4s. to the payment of the second**. (1723 smith 1766 - wealth of nations.txt)

However, all bar one of these came from the same text.

The *for* NP pattern marked obsolete in the OED occurs twice in the first part of the CLMETEV.

(45) you are a quack in sanctity and devotion, you will find it an easy matter to impose upon silly women, and others of crazed understanding, who will **contribute** lavishly **for your support**. (1721 smollett 1771 - the expedition of humphrey clinker.txt)

(46) The wealth which the Romans defended against his rapacious tyranny, they freely **contributed for his destruction**. (1737 gibbon 1776 - decline and fall of the roman empire 1.txt)

The first of these has the meaning “to give money” and the second the meaning “to influence”. These complements are interesting, because they have the same form as some adjuncts of purpose, for example “I did it *for fun/for the firm/for you*”. However, leaving them out would result in odd sentences:

(47) ?The wealth which the Romans defended against his rapacious tyranny, they freely contributed.

(48) ?you are a quack in sanctity and devotion, you will find it an easy matter to impose upon silly women, and others of crazed understanding, who will contribute lavishly.

In addition to the *to* NP, also *towards* NP and NP *towards* NP were found. There were tree tokens of *towards* NP, and six of NP *towards* NP.

(49) It is my opinion, that the above pills would be extremely proper to be taken with Asses milk, and might **contribute towards the renewing and restoring decayed lungs**.' (1703 cibber 1753 - the lives of the poets 3.txt)

(50) Permit me, Sir, to add another circumstance in our Colonies which **contributes no mean part towards the growth and effect of this untractable spirit**. (1729 burke 1775 - on conciliation with america.txt)

The complements involving the preposition *towards* are often associated with the meaning “to give money”: Out of the 16 tokens involving *towards*, eight have that meaning. The following examples of *towards* –*ing* and NP *towards* –*ing* complements illustrate this:

(51) ... were all at the private risk and expense of the adventurers. The government of Spain contributed scarce any thing to any of them. That of England **contributed as little towards effectuating the establishment of some of its most important colonies** in North America. (1723 smith 1766 - wealth of nations.txt)

(52) If any particular province, therefore, does not **contribute its share towards defraying this expense**, an unequal burden must be thrown upon some other part of the empire. (1723 smith 1766 - wealth of nations.txt)

(53) The colonies of Spain and Portugal only have **contributed any revenue towards the defence of the mother country**, or the support of her civil government. (1723 smith 1766 - wealth of nations.txt)

Indeed, the same tendency could be attested in the *towards –ing* complements: three out of the five sentences involving the *towards –ing* complement had the meaning “to give money”:

(54) They complain of the extravagant gain of other people; but they say nothing of their own. The high profits of British stock, however, may **contribute towards raising the price of British manufactures**, in many cases, as much, and in some perhaps more, than the high wages of British labour. (1723 smith 1766 - wealth of nations.txt, Line 16290)

(55) If any particular province, therefore, does not **contribute its share towards defraying this expense**, an unequal burden must be thrown upon some other part of the empire. (1723 smith 1766 - wealth of nations.txt, Line 17057)

(56) even the common workman, if his wages are considerable, may maintain a menial servant; or he may sometimes go to a play or a puppet-show, and so **contribute his share towards maintaining one set of unproductive labourers**; or he may pay some taxes, and thus help to maintain another set [...]. (1723 smith 1766 - wealth of nations.txt, Line 6148)

It should be noted, though, that these are all from the same source. Considering this fact, the only conclusion that may be drawn is that it is possible to use the *towards* NP complement with the meaning “to give money”.

One nominal complement comes up that is not mentioned by the reference grammars and dictionaries discussed above, namely *in* NP, which occurs two times, once in both transitive and intransitive patterns.

(57) and to be quick of Flight; **in which** the spreading of their Tail-Feathers greatly **contribute**, as well as to guide them in the Air. (1688 bradley 1732 - the country housewife and lady's director.txt)

(58) and Langbaine asserts, that these plays **in which** he only contributed **a part**, far exceed those of his own composition. (1703 cibber 1753 - the lives of the poets 1.txt)

The first of these has the meaning “to influence”, and the second represent the subcategory of the meaning “to give”, namely “to write an article etc. for publication”. On the basis of the two tokens it may be stated, that the *in* NP does not seem to differ radically from the *to* NP complement, and thus it looks like they could be interchangeable, although *to* NP is the preferred choice.

Both the complement NP and the zero complement occurred nine times in the data and had the normalized frequency of 3 per million words. Both occurred with all the meanings found thus far, that is “to influence”, “to give”, “to give money”.

(59) upon this principle we have proceeded thus far, several gentlemen have proposed their opinions, **contributed their observations**, and laboured as in an affair universally admitted to be of high importance to the general prosperity. (1709 johnson 1740-1 - parliamentary debates 1.txt) (“to influence”)

(60) Even upon this very moderate supposition, the great body of the people, over and above **contributing the tax** which pays the bounty of 5s. upon every quarter of wheat exported, must pay another of 4s. upon every quarter which they themselves consume ... (1723 smith 1766 - wealth of nations.txt) (“to give money”)

(61) and (if we may borrow the warm expression of a contemporary) "when the proportion of those who received, exceeded the proportion of those who **contributed**, the provinces were oppressed by the weight of tributes." (1737 gibbon 1776 - decline and fall of the roman empire 1.txt) (“to give”)

In addition, the only token with the meaning “to publish an article etc.” had an NP complement:

(62) He **contributed papers on his methods of preventing scurvy**, and on the tides of the Pacific. (1728 cook 1768-71 - captain cook's journal.txt)

9 The CLMETEV Part II

Complement	contribute	contributes	contributed	contributing	Total	
<i>to</i> infinitive	21	11	59	1	92	(15.9)
NP <i>to</i> infinitive	1	1	4	1	7	(1.2)
<i>to</i> - <i>ing</i>	0	0	0	0	0	(0.0)
<i>towards</i> - <i>ing</i>	2				2	(0.3)
NP <i>towards</i> - <i>ing</i>	0	0	0	0		(0.0)
<i>in</i> - <i>ing</i>	1				1	(0.2)
NP <i>in</i> - <i>ing</i>	0	0	0	0	0	(0.0)
<i>to</i> poss - <i>ing</i>	1	0	0	0	1	(0.2)
NP	2	0	12	3	17	(2.9)
<i>to</i> NP	66	10	45	15	136	(23.4)
NP <i>to</i> NP	4	2	18	4	28	(4.5)
<i>towards</i> NP	2	1	2	0	5	(0.9)
- NP <i>towards</i> NP	1	0	0	1	2	(0.3)
<i>in</i> NP	0	0	0	1	1	(0.2)
NP <i>in</i> NP	1	0	0	0	1	(0.2)
<i>for</i> NP	0	0	0	0	0	(0.0)
∅	5	0	2	0	7	(1.2)
Total	107	25	142	26	300	(51.7)

Table 6: The complements of *contribute* in the CLMETEV Part II

There were 311 tokens of the verb *contribute* in the second part of the CLMETEV. However, a “small print” added to the texts from the Project Gutenberg included in the CLMET also came up in the search (“If you are interested in contributing scanning equipment or software...”). There were ten of these. In addition, *contribute* was used once as an adjective:

(1) 100 [[Contributing]] Fellows of the Royal Society. (1792 babbage 1830 - reflections on the decline of science in england.txt)

These were naturally disregarded, reducing the sample to 300 tokens.

9.1 The Clausal Complements in the CLMETEV Part II

The number of infinitival complements has declined from 111 tokens to 92 tokens and normalized frequency of 15.9, which is less than half than the normalized frequency of 37 pre million words of the first part of the CLMETEV. Thus far it seems then that the predictions

Complement	contribute	contributes	contributed	contributing	Total
<i>to</i> infinitive	21	11	59	1	92 (15.9)
NP <i>to</i> infinitive	1	1	4	1	7 (1.2)
<i>to -ing</i>	0	0	0	0	0 (0.0)
<i>towards ing</i>	2				2 (0.3)
NP <i>towards -ing</i>	0	0	0	0	(0.0)
<i>in -ing</i>	1				1 (0.2)
NP <i>in -ing</i>	0	0	0	0	0 (0.0)
<i>to</i> poss <i>-ing</i>	1	0	0	0	1 (0.2)
Total	26	12	63	2	103 (17.8)

Table 7: The clausal complements of *contribute* in the CLMETEV Part II

about the decline of the *to* infinitive are correct. The meaning is again exclusively “to influence”:

(2) We must appear forward to speak all that will give him pleasure, and **contribute** to maintain in him an agreeable state of being. (1756 godwin 1831 - thoughts on man.txt)

(3) It is the thinking ourselves vicious then, that principally **contributes to make us vicious**. (1756 godwin 1794 - the adventures of caleb williams.txt)

(4) whether our alliances have **contributed to secure us** from our inveterate and habitual enemies, or to expose us to them; (1709 johnson 1740-1 - parliamentary debates 1.txt)

However, the number of complements involving the gerund drops unexpectedly to less than a one per million words from the 3.3 per million words of the first part of CLMETEV. This is against the prediction made based on Rohdenburg’s Great Complement Shift, according to which *-ing* complements are in the process of replacing the *to* infinitives complements. So instead of replacing the *to* infinitive the gerundive complement seems to be disappearing with it. Interestingly, no tokens of the *to -ing* complement were found, even though it is the only gerundive complement mentioned in the reference material. The remaining *-ing* complements found in the data are *towards -ing*, which occurred twice, and *in -ing* and *poss -ing*, both found once.

(5) and two or three of the girls accompanied us, bringing with them a part of whatever the house afforded to **contribute towards rendering my supper more plentiful**; (1759 wollstonecraft 1796 - letters on sweden, norway and denmark.txt)

(6) I may mention here that this seal, simple as the design was, was made to **contribute** largely, as will be shown in its proper place, **towards turning the attention of our countrymen** to the case of the injured Africans [...]. (1760 clarkson 1839 - the history of the abolition of the african slave-trade.txt)

(7) Whoever, in Bristol, from their admiration of departed genius, may wish to **contribute, in rescuing from distress the family of Robert Burns**, will be pleased to leave their donations with Mr. Cottle, High-Street. Mr. Nichol, (1770 cottle 1847 - reminiscences of samuel taylor coleridge and robert southey.txt)

(8) In a few instances they may attract the attention of persons both able and willing to **contribute to their being brought to perfection**. (1756 godwin 1831 - thoughts on man.txt)

In (6) above of the *-ing* complements is separated from the matrix verb by an insertion. It includes the complement *towards -ing*, with two adverbs of manner inserted into the sentence, a one-word adverb and a sentential one. According to the Complexity Principle insertions occur more easily with *to* infinitives, and that insertion environments delay the change from *to* infinitive complements to gerundive complements. This finding is thus against the Complexity Principle, because in (6) we have a gerundive complement in an insertion context.

An adverb consisting of one word is inserted between the matrix verb and a *to* infinitive in 19 instances. In addition to this *the most* and *so much* were both inserted in once between the matrix verb and a *to* infinitive, however, these are short enough to treat them as one word insertions. An adverb consisting of a longer sequence between the matrix verb and a *to* infinitive occurred twelve times, ten in a transitive and two in an intransitive pattern.

(9) Having now given a general account of my own proceedings, I shall state those of the committee; or show how they **contributed**, by fulfilling the duties of their several departments, **to promote the cause in the interim**. (1760 clarkson 1839 - the history of the abolition of the african slave-trade.txt)

(10) yet they **contribute** but in a very small degree **to augment the mass of happiness** in the society, (1766 malthus 1834 - an essay on the principle of population.txt)

(11) No, the wise only can enjoy- to us only true luxury is given, when mind, brain, invention, experience, thought, learning, imagination, all **contribute** like rivers **to swell the seas of SENSE!**- Ione!' (1803 bulwer-lytton 1834 - the last days of pompeii.txt)

(12) This happy invention gave all those who saw it a much better idea, than they could otherwise have had, of the horrors of their transportation, and **contributed** greatly, as will appear, afterwards, **to impress the public** in favour of our cause. (1760 clarkson 1839 - the history of the abolition of the african slave-trade.txt)

In two cases the insertion occurs between the direct object and an *to* infinitive complement:

(13) The effects of the azote are precisely similar to the first and second of those above described; it seems to form no combinations, and **contributes nothing**, in any stage, **to augment the heat**. (1792 babbage 1832 - the economy of machinery and manufactures.txt)

(14) It is hoped that this reprint in a popular form may serve the purpose of **contributing something**, in co-operation with the present exertions, **to expose**, and partially remedy, the lamentable and nationally disgraceful ignorance (1770 foster 1821 - an essay on the evils of popular ignorance.txt)

So even though one gerundive complement was found once in an insertion context it is clear, that the twelve insertions out of *to* infinitives prove that insertions occur more easily with *to* infinitives than gerundive complements.

Only one case of extraction was found in the data. As in the first part of the CLMETEV, it was an extraction out of a *to* infinitive complement.

(15) but the evil deeds of that institution will long remain in **the impression** they have **contributed to confirm** throughout Europe, of the character of our scientific establishments. (1792 babbage 1830 - reflections on the decline of science in england.txt)

Thus far no extractions out of gerundive complements have been found. This confirms the Complexity Principle, according to which *to* infinitive complements are easier to extract out of than complements involving a gerund.

Again, no difference of meaning was felt between the clausal complements.

9.2 The Nominal Complements in the CLMETEV Part II

Complement	contribute	contributes	contributed	contributing	Total
NP	2	0	12	3	17 (2.9)
<i>to</i> NP	66	10	45	15	136 (23.4)
NP <i>to</i> NP	4	2	18	4	28 (4.5)
<i>towards</i> NP	2	1	2	0	5 (0.9)
NP <i>towards</i> NP	1	0	0	1	2 (0.3)
<i>in</i> NP	0	0	0	1	1 (0.2)
NP <i>in</i> NP	1	0	0	0	1 (0.2)
<i>for</i> NP	0	0	0	0	0 (0.0)
∅	5	0	2	0	7 (1.2)
Total	81	13	79	24	197 (34.0)

Table 8: The nominal complements of *contribute* in the CLMETEV Part II

To NP continues to dominate in the second part of the CLMET, now with 45.33 % of the complements. However, its normalised frequency is now 23.4 per million words, compared to the 57.7 per million words in the first part.

(16) From this time, hardly a day passed in which she did not call in Postman-square, where nothing in her reception was omitted that could **contribute to her contentment**. (1752 burney 1782 - cecilia 1-2.txt) (“To influence”)

(17) The captain agreed to take us, who remained, to Hamburg for ten guineas, **to which** the Dane **contributed** so largely, that the other passengers paid but half a guinea each. (1772 coleridge 1817 - biographia literaria.txt) (“To give money”)

Also, the meaning “to write an article” which was only found once in the first part comes up now several times, in the following patterns.

(18) In 1827, there were one hundred and nine members who had [[contributed]] **to the Transactions of the Royal Society**; amongst these were found: (1792 babbage 1830 - reflections on the decline of science in england.txt)

(19) The learned professor of all arts and sciences cannot reduce any one of them to practice, though he may **contribute an account of them to an Encyclopedia**. (1778 hazlitt 1821-2 - table talk.txt)

(20) From the returns which have been laid on your table, of the Fellows who have **contributed papers**, and from the best estimate they can make of the persons without doors who are engaged in the active pursuit of science, (1792 babbage 1830 - reflections on the decline of science in england.txt)

The NP *to* NP complement was found twenty six times and had the normalized frequency of 4.5 per million words, which is a slight decline from the 6.3 per million words in the first part of the CLMETEV. In the second part, however, a stylistic variant of this pattern is found in two sentences:

(21) In 1760, he **contributed to the Biographia Britannica a Life of Sir Thomas Pope**, twice, subsequently published, in a separate form, with considerable enlargements: (1772 cary 1846 - lives of the english poets.txt)

(22) Moore himself **contributed to the 'Edinburgh'**, between the years 1814 and 1834, **essays on multifarious subjects**, from poetry to German Rationalism, from the Fathers to French ... (1788 byron 1810-3 - letters 1810-1813.txt)

This complement includes the same elements as the NP *to* NP (an indirect and a direct object), but in a different order, so that the direct object has been moved after the indirect object from its usual place before it, resulting in the *to* NP NP complement. It seems that in both of these sentences the reversal of the normal order has been motivated by the long modifying element after the last noun, which would have moved the *to* NP too far away from the direct object if the normal order had been used.

The *in* NP not mentioned in the grammars or dictionaries is found again once in a transitive and once in an intransitive pattern.

(23) We have thus traced through six successive stages of copying the mechanical art of printing from stereotype plates: the principle of copying [[contributing]] **in this**, as in every other department of manufacture, to the uniformity and the cheapness of the work produced. (1792 babbage 1832 - the economy of machinery and manufactures.txt)

(24) Having given some general directions, I conceived, that it was not enough to stand by and superintend, but that I should [[contribute]] **my personal labour in the public concern**. (1756 godwin 1794 - the adventures of caleb williams.txt)

However, the *in* NP in (22) may also be analyzed as an adverbial.

The *for* NP complements were not found anymore, which is logical, since according to the *OED* it should be an obsolete pattern, although the *OED* example is dated in 1820, and is thus the pattern might be still expected to come up in the second part of the CLMETEV, which covers the years 1780-1850.

Other nominal complements found in the second part are *towards* NP, with 5 tokens and a normalized frequency of 0.9 per million words, and NP *towards* NP, with 2 tokens and normalised frequency of 0.3 per million words.

(25) In answer to this, I persuaded myself that generous people would be found who would unite with me in **contributing their mite towards the undertaking**, (1760 clarkson 1839 - the history of the abolition of the african slave-trade.txt)

(26) I shall be glad to **contribute my mite towards it**. (1788 byron 1810-3 - letters 1810-1813.txt)

(27) and it was more than ever a loving strife between him and Mary, which should **contribute towards the happiness of the declining years of their mother**. (1810 gaskell 1848 - mary barton.txt) Influence

One of these has the meaning “to give money”:

(28) Mr. Lambton immediately presented Dr. B. with the munificent sum of fifteen hundred pounds. One other individual also, **contributed handsomely toward the same object**, (1770 cottle 1847 - reminiscences of samuel taylor coleridge and robert southey.txt)

In the second part of the CLMETEV, a pattern emerges that was not attested in the previous parts or mentioned in the grammars and dictionaries. It is a divalent pattern, i.e. it has two complements, which seems to have the meaning of NP *to* NP, but instead of *to* NP it has an adverb of place. One token like this was found:

(29) You will see in the third volume of Johnson's Scots songs that I have **contributed my mite there**. (1759 burns 1780-96 - letters 1780-1796.txt)

It was said above in chapter 4 that adverbs are usually adjuncts, but that under certain conditions they may also be complements. According to Hudleston and Pullum (2002:224, 574) an adverb may be a complement if it is obligatory part of the valency pattern of the matrix verb. According to Herbst et al (2004:xxviii) obligatoriness or strong semantic bonds

with the matrix verb are reasons to analyze an adverb as a complement. If elimination test is used to determine if *there* is obligatory or not, we see that the sentence does not become ungrammatical if *there* is deleted:

(30) You will see in the third volume of Johnson's Scots songs that I have contributed my mite ____.

Thus it is not obligatory. However, it can be argued that the goal (which in (28) is expressed by *there*) should be implicitly known if the element expressing it is left out.

If substitution test is used it can be seen that *there* can be substituted by *to it*:

(31) You will see in the third volume of Johnson's Scots songs that I have contributed my mite **to it**.

There is no change of the meaning, and thus it can be concluded that *there* is a complement.

10 The CLMETEV Part III

Despite being the largest part of the CLMETEV with 6,1 million words, only 103 tokens of the verb *contribute* were found in the third part of the CLMETEV, thus making it the smallest sample from the all three parts. No tokens were disregarded.

Complement	contribute	contributes	contributed	contributing	Total	
<i>to</i> infinitive	0	1	7	1	9	(1.3)
NP <i>to</i> infinitive	0	0	0	0	0	(0.0)
<i>to</i> - <i>ing</i>	0	0	0	0	0	(0.0)
NP <i>towards</i> - <i>ing</i>	1	0	0	0	1	(0.2)
NP <i>in</i> - <i>ing</i>	0	0	0	0	0	(0.0)
<i>to</i> poss - <i>ing</i>	0	0	0	0	0	(0.0)
NP	6	0	7	1	14	(2.3)
<i>to</i> NP	17	8	14	5	44	(7.2)
NP <i>to</i> NP	9	5	10	1	25	(4.1)
<i>towards</i> NP	0	0	0	0	0	(0.0)
NP <i>towards</i> NP	2	0	0	2	4	(0.7)
<i>in</i> NP	0	0	0	0	0	(0.0)
NP <i>in</i> NP	0	0	0	0	0	(0.0)
<i>for</i> NP	0	0	0	0	0	(0.0)
∅	4	0	2	0	6	(1.0)
Total	39	14	40	10	103	(16.9)

Table 9: The complements of *contribute* in the CLMETEV Part III

10.1 The Clausal Complements in the CLMETEV Part III

The number of infinitival complements has dropped further to nine tokens and the normalized frequency of 1.3 per million words from the 37 per million words of the first part of CLMET.

It seems that the *to* infinitive is disappearing as a complement of *contribute*, with only nine tokens found in the third part of the CLMETEV.

(1) For many things **contributed to make** me less good-humoured now than my real nature was; and the very least of all these things would have been enough to make some people cross ... (1825 blackmore 1869 - lorna doone.txt)

Complement	contribute	contributes	contributed	contributing	Total
<i>to</i> infinitive	0	1	7	1	9 (1.3)
NP <i>to</i> infinitive	0	0	0	0	0 (0.0)
<i>to -ing</i>	0	0	0	0	0 (0.0)
NP <i>towards -ing</i>	1	0	0	0	1 (0.2)
NP <i>in -ing</i>	0	0	0	0	0 (0.0)
<i>to</i> poss <i>-ing</i>	0	0	0	0	0 (0.0)
Total	1	1	7	1	10 (1.6)

Table 10: 7.3.1 The clausal complements of *contribute* in the CLMETEV Part III

(2) The monotonous, silent attitude contributed **to plunge her mind into that dull despair** which produces immobility of frame; (1826 craik 1850 - olive 1-3.txt)

One of the *to* infinitives occurred after *contributing*:

(3) The phonolite stones of the Rhine, and the Tripoli stone, contain species identical with what are now **contributing to form a sedimentary deposit** (and perhaps, at some future period, a bed of rock) extending in one continuous stratum for 400 measured miles. (1825 huxley 1894 - discourses.txt)

This may be motivated by horror aequi.

However, also the number of *-ing* complements has fallen to 0.2 per million words, there being only one solitary case of complementation involving a gerund, namely NP *towards -ing*.

(4) I want to **contribute something towards helping the brutes**, and helping the children, especially the southern children, (1841 blind 1883 - george eliot.txt)

It seems that in the case of *contribute* the Great Complement Shift only applies on the part of the *to* infinitive complements which are disappearing but not on the part of the *-ing* complements, which instead of gaining round are vanishing too.

According to the horror aequi principle the spreading of the *-ing* complements should be more advanced after matrix verbs in the infinitive. However, (4) above the sole surviving *-ing* complement is found after an infinitive, although it must be noted that there is an object in

between the matrix verb and the *-ing* complement, so strictly speaking the horror aequi does not apply here.

No insertions were found. No extractions were found.

Again, the possible meaning difference between the *to* infinitive and *-ing* complements remains unrealized. All of the clausal complements designate the result that the NP₁ actions lead to. In this sense it resembles semantically to the *to* NP complement, which is capable of expressing the same semantic content. Indeed, it could be thought that the fact that *to* NP may be used to the same effect as the clausal complements may have contributed to the decline of the clausal complements.

10.2 The Nominal Complements in the CLMETEV Part III

Complement	Contribute	contributes	contributed	contributing	Total
NP	6	0	7	1	14 (2.3)
<i>to</i> NP	17	8	14	5	44 (7.2)
NP <i>to</i> NP	9	5	10	1	25 (4.1)
<i>towards</i> NP	0	0	0	0	0 (0.0)
NP <i>towards</i> NP	2	0	0	2	4 (0.7)
<i>in</i> NP	0	0	0	0	0 (0.0)
NP <i>in</i> NP	0	0	0	0	0 (0.0)
<i>for</i> NP	0	0	0	0	0 (0.0)
∅	4	0	2	0	6 (1.0)
Total	38	13	33	9	93 (15.2)

Table 11: The nominal complements of *contribute* in the CLMETEV part III

The most common nominal complement is again *to* NP. It had the normalized frequency of 7.2 per million words.

(5) At the same time, I entreat her to believe that the information which I have derived from her Diary will in no respect help me to **contribute to that failure**. (1824 collins 1859-60 - the woman in white.txt)

(6) The silicious coats of species only known living in the waters of the South Polar Ocean, have, during past ages, **contributed to the formation of rocks**; and thus they outlive several successive creations of organized beings. (1825 huxley 1894 - discourses.txt)

The *to* NP NP was found again, now in one sentence:

(7) The late Vice-Admiral P. H. Colomb **contributed to the** United Service Magazine **of September 1899 a very striking article** on the subject of Nelson's tactics in his last battle, (1839 bridge 1899-1902 - sea-power and other studies.txt)

Again, the direct object is followed by a long modifying element which caused its movement from its usual place.

Also many of the nominal complements found in the previous parts of the CLMETEV were not found in the third part. There were no instances of the *for* NP, confirming the claim made by the *OED* that it is obsolete today. Also no instances of the *in* NP pattern were not found, neither in transitive nor intransitive use. Also the *towards* NP complement did not come up in the data. The number of cases not taking complements has doubled if compared to the first part. However, the normalized frequency of the zero complement is one per million words, lowest in all the three parts. Fourteen instances of NP complements were found.

In terms of meaning, the most important finding was the emergence of the meaning “to say”, which was found five times.

(8) Margaret was silent. "This business is as broad as it's long," **contributed** the doctor. (1879 forster 1910 - howards end.txt)

(9) And when you speak against hotels, I think you forget that I met your father at Chamounix. You can **contribute nothing**, dear, at present, and I think you had better hold your tongue. (1879 forster 1905 - where angels fear to tread.txt)

(10) I cannot but regret, now that I am concluding my story, how little I am able to **contribute to the discussion** of the many debatable questions which are still unsettled. (1866 wells 1897 - the war of the worlds.txt)

(11) propositions for discussion, from which a topic could be selected, and could then be made to prepare for a disputation **to which** all would have to **contribute**, with the Professor as a controlling influence in the chair to check facts and logic and to conclude, it would have the value of a dozen lectures. (1866 wells 1902-3 - mankind in the making.txt)

(12) shock of self-revelation, and the Misses Ponsonby were uneasy, not because the conversation had taken such an unusual turn, but because a pupil had **contributed**. Mrs. Cardew, distressed at her husband's embarrassment, ventured to come to the rescue. "I think Dr Johnson quite right: (1831 rutherford 1893 - catherine furze.txt)

Again, the divalent construction with NP *to* Adv emerges. Two of these were found:

(13) Then he said, with a clearly modulated and rather mincing articulation: `Would it discommode you to **contribute elsewhere a coin** with a somewhat different superscription? (1874 chesterton 1914 - the wisdom of father brown.txt)

(14) Picnics on the lake, **where** each family **contributed its quota**, were the grand summer amusements of Eden; and walking expeditions up the more practicable mountains, 1822 linton 1885 - the autobiography of christopher kirkland 1-3.txt)

In the case of the second sentence, leaving the adverb out would result in grammatically incorrect sentence:

(15) *Picnics on the lake, ___ each family **contributed its quota**, were the grand summer amusements of Eden;

In the case if the first sentence, leaving the adverb out would not result in ill-formedness:

(16) Then he said, with a clearly modulated and rather mincing articulation: Would it discommode you to **contribute** ___ **a coin** with a somewhat different superscription?'

However, it may be argued that the semantic content of the sentence is blurred if the adverb is removed, and thus it is possible to say that it is licensed by the matrix verb. Thus, both of these adverbs are analyzed as complements.

11 The BNC

The lemma search for *contribute* yielded 6300 hits. Out of these a random sample of 630 was taken for the analysis, thus making the sample exactly 10 % of all the tokens of *contribute* in the BNC. Two tokens were disregarded. One of the disregarded tokens was an adjective:

(1) Contributing Editor Stephanie Ferguson (EC5 170)

Another was a past tense form of *contribute*, which appeared alone after a longer text, with no period following it. It may be speculated that it was a passive construction with the agent left out (possibly someone who contributed the text to the publication), but since these are only speculations, the token was left out of the analysis.

Complement	contribute	contributes	contributed	contributing	Total	
<i>to</i> infinitive	2	0	1	1	4	(0.4)
NP <i>to</i> infinitive	0	0	0	0	0	(0.0)
<i>to</i> -ing	8	1	6	1	16	(1.6)
NP <i>to</i> -ing	1	0	0	0	1	(0.1)
<i>towards</i> -ing	2	0	0	2	4	(0.4)
NP <i>towards</i> -ing	0	0	0	0	0	(0.0)
<i>in</i> -ing	1	0	0	1	2	(0.2)
NP <i>in</i> -ing	0	0	0	0	0	(0.0)
<i>to</i> poss -ing	0	0	0	0	0	(0.0)
NP	21	11	32	8	72	(7.2)
<i>to</i> NP	161	44	148	65	418	(41.8)
NP <i>to</i> NP	19	2	23	8	52	(5.2)
<i>towards</i> NP	8	0	3	4	15	(1.5)
NP <i>towards</i> NP	3	0	0	0	3	(0.3)
<i>in</i> NP	2	0	1	0	3	(0.3)
NP <i>in</i> NP	0	0	0	0	0	(0.0)
<i>for</i> NP	0	0	0	1	1	(0.1)
∅	18	0	11	4	33	(3.3)
ADV	2	0	0	0	2	(0.2)
NP ADV	1	1	0	0	2	(0.2)
Total	249	59	227	93	628	(62.8)

Table 12: Complementation of *contribute* in the BNC

11.1 The Clausal Complements in the BNC

Complement	contribute	contributes	contributed	contributing	Total
<i>to</i> infinitive	2	0	1	1	4 (0.4)
NP <i>to</i> infinitive	0	0	0	0	0 (0.0)
<i>to -ing</i>	8	1	6	1	16 (1.6)
NP <i>to -ing</i>	1	0	0	0	1 (0.1)
<i>towards -ing</i>	2	0	0	2	4 (0.4)
NP <i>towards -ing</i>	0	0	0	0	0 (0.0)
<i>in -ing</i>	1	0	0	1	2 (0.2)
NP <i>in -ing</i>	0	0	0	0	0 (0.0)
<i>to poss -ing</i>	0	0	0	0	0 (0.0)
Total	14	1	7	5	27 (2.7)

Table 13: The clausal complements of *contribute* in the BNC

The most dramatic finding in the BNC data is the extinction of the *to* infinitive complement: in the first part of the CLMETEV there were 111 tokens of *to* infinitive, the normalized frequency being 37 per million words. In the second part it was halved with 15.9 per million words, and the third part of the CLMETEV it was only 1.6. In the BNC data four instances of *to* infinitive were found, with the normalized frequency of 0.4 per million words.

- (2) Each member contributed so much a week **to form a common fund**. (BPH 887)
- (3) a committee which labouring afterwards with Mr. Wilberforce as a parliamentary head did, under Providence, in the space of twenty years, contribute **to put an end to a trade** which… was the greatest practical evil that ever afflicted the human race. (CLN 1004)
- (4) It is expected that the institute of origin or the host institution will contribute **to defray any remaining expenses** incurred by the fellowship holder. (BOM 2555)
- (5) The input of new seedlings was small and the number eventually contributing **to mature rosettes** in the pasture seemed insignificant in comparison with the contribution from clonal growth. (CMA 319)

In the latter case, one of the reasons for the use of the receding *to* infinitive complement might be the Horror Aequi principle, and the need to avoid putting an *-ing* complement, even with the *to*, after a matrix verb in the gerund form.

Rudanko (2002:31) points out that in the present day English many of the *to* infinitive complements of *contribute* may have a 'slightly adverbial flavour'. Indeed, one token that

comes up in the BNC data takes a *to* infinitive which could possibly also be analyzed as an adverb:

(6) Each member contributed so much a week **to form a common fund**. (BPH 887)

(7) Cf. Each member contributed so much a week **in order to form a common fund**.

The following may also be such, if we take the meaning to be “to give money”:

(8) a. It is expected that the institute of origin or the host institution will contribute **to defray** any remaining expenses incurred by the fellowship holder. (BOM 2555)

(9) Cf. It is expected that the institute of origin or the host institution will contribute **in order to defray** any remaining expenses incurred by the fellowship holder.

Sixteen tokens with the complement *to –ing* were found in the BNC.

(10) In this area, theological colleges can **contribute to redefining the meaning of a Christian presence in societies which are in transition** --; such as Spain and Portugal. (EBH 200)

(11) The award is presented every two years in recognition of activity that "has **contributed** exceptionally **to furthering a better understanding of the influence of the communications media and technology** on society in general, and on its cultural, artistic and scientific activities in particular." (EBB 347)

(12) It may be exempted under Article 85(3) if it **contributes to improving production** or distribution of goods or promoting technical or economic progress while allowing consumers a fair share of the resulting benefit. (BP5 1418)

(13) "At prop, if you do not show aggression and attack your opposite number, whilst **contributing to making sure** that your own ball is protected, you can be certain that your opponents will give you a hard time. (CHV 573)

NP *to –ing* was found once.

(14) Such theories **contribute nothing to explaining** the mystery of perception. (A0T 1272)

Towards –ing was found four times.

(15) They must **contribute towards constructing genuine communities**, family values generating City values. (A6B 1730)

(16) These traditions, and they are very strong, all **contribute towards maintaining authority**, reducing pressures, saving time, achieving passable examination results. (BLY 283)

(17) And she gives a complex, psychoanalytically-influenced account of her male identification and its effects: "I had… **contributed towards making an object of myself** and other women. (CMR 1678)

(18) Another way in which local authorities contribute to training is via Local Government Training Boards, or similar groups, which are intended to, and which have, **contributed towards creating a training climate in local authorities generally**. (BNM 624)

In -ing was found twice.

(19) The same thing has happened at Newcastle now, where Keegan's put together a good side full of players who all **contribute in making goals** and taking them --; the kind of player he was himself. (CBG 1055)

(20) "I look forward to contributing further **in helping them achieve all their objectives**." (CBG 10282)

The number of gerundive complements has continued to decline. However, the *to -ing* complement has become more frequent with 1.6 occurrences per million words, compared to the 0.7 per million words in the first part of the CLMETEV. If all the complements involving *-ing* are counted together (23 in the BNC, and ten in the first part of the CLMETEV), it can be seen that the frequency of complements involving *-ing* has actually dropped from 3.3 occurrences per million words in the CLMETEV to 2.3 occurrences per million words in the BNC. However, the alone the *to -ing* is found four times more than the *to* infinitive, which proves that even though the sentential complements are not used as frequently with *contribute* than they used to in the 16th century, and when they are used the gerundive complement is more likely to be chosen. This means that the Great Complementation Shift applies in the case of *contribute*.

One sentence was found in which *to -ing* complement followed *to contribute*:

(21) The Public Library Research Group definition of public library aims reads "To contribute **to sustaining** the quality of life in all aspects -- educational, economic, industrial, scientific and cultural ... ". (B07 77)

The use of the *to -ing* complement here after the infinitive might be due to the horror aequi principle.

Also, according to complexity principle the *to* infinitive complement should be preferred if material has been inserted between the matrix verb and the nonfinite complement. One such example was found:

(22) Each member **contributed** so much a week **to form a common fund**. (BHP 887)

However, six examples were found in which an adverb was inserted between the matrix verb and a *to -ing* complement, and one such insertion was also found before an *in -ing* complement:

(23) A variety of factors -- including preventive medicine, diet, exercise, sensible drinking and not smoking -- can **contribute** substantially **to improving health** across the whole population. (AM8 1136)

(24) Despite undoubted problems in certain regions its presence as a widely-spoken African language has **contributed** greatly **to furthering national communication** in Tanzania. (CDU 1499)

(25) I look forward to **contributing** further **in helping** them achieve all their objectives. (CBG 10282)

However, all of these are one word insertions, which are easier to process than longer insertions, thus making them more acceptable even with the less explicit *-ing* complements.

No extractions were found in the BNC data.

Again, there was no semantic difference between the *to* infinitive and the *-ing* complements, which confirms the assumption made in the previous section that sentential complements are on the decline and the nominal complements are taking over.

11.2 The Nominal Complements in the BNC

The most common complement of *contribute* is again *to* NP with normalized frequency of 41.8 per million words.

(26) However, it is true that government policies (or lack of policies in some areas) have contributed significantly **to our problems** and some of the changes that are now in the pipeline will almost certainly make matters worse. (A0F 2178)

Complement	contribute	contributes	contributed	contributing	Total
NP	21	11	32	8	72 (7.2)
<i>to</i> NP	161	44	148	65	418 (41.8)
NP <i>to</i> NP	19	2	23	8	52 (5.2)
<i>towards</i> NP	8	0	3	4	15 (1.5)
NP <i>towards</i> NP	3	0	0	0	3 (0.3)
<i>in</i> NP	2	0	1	0	3 (0.3)
NP <i>in</i> NP	0	0	0	0	0 (0.0)
<i>for</i> NP	0	0	0	1	1 (0.1)
∅	18	0	11	4	33 (3.3)
ADV	2	0	0	0	2 (0.2)
NP ADV	1	1	0	0	2 (0.2)
Total	235	58	218	90	601 (60.1)

Table 14: The nominal complements of *contribute* in the BNC

(27) Another factor contributing **to Japan's good health** was the country's low-fat diet, the researchers said. (AAL 937)

(28) The superimposition of massive conventional forces on what should have been an atomic strategy, made no sense to Churchill, who appreciated that financial pressures would reduce rather than increase the number of divisions that Britain could contribute **to Western European defence**. (ABA 569)

The *to* NP NP is found twice:

(29) He was a friend of d'Alembert, and **contributed to Diderot's seminal Encyclopedia (published in 35 volumes in 1750-1780) an article (1764) on equine maladies**. (B2W 79)

(30) Most Conservative opinion had long been opposed to the system whereby a trade union could **contribute to the Labour Party a proportion of each member's subscription**, unless the member specially contracted out. (EFN 1070)

Here the reasons for the reversed order of the objects is not the same as in the sentences found in the CLMETEV. Rather, it is the information structure.

The complements involving the preposition *in* still come up, although none of the grammars or dictionaries mentioned them. There were three *in* NP complements.

(31) they have, over many centuries, contributed a great deal **in the formation of the Madeira we know today** -- particularly in the areas of trade, industry and tourism. (CA7 860)

(32) The British thermo-nuclear tests on Christmas Island showed that British scientists were ahead of their American colleagues in several important areas and could contribute significantly **in the collaborative exchanges**. (ABA 841)

The *for* NP pattern marked obsolete in the OED occurs, but only once with the normalized frequency of 0.1 occurrences per million words.

(33) In April the Smolensk Party advised the Roslavl' cell that contributions to the Famine were tailing off in the Roslavl' area, so two new directives were issued: first, to collect another famine tax, with every twenty town-workers or employees supporting one hungry child, and every five peasant households contributing **for one hungry adult**; second, to hold agitational meetings in all trade-union branches and at village *skhod* meetings. (A64 235)

Out of the nominal complements involving the preposition *towards*, eight (44.4 %) may be associated with the meaning “to give money”.

(34) The hospital does not contribute **towards funeral costs**. (A0Y 317)

(35) At the time, most observers believed that the real reason was that the BBC had been unable to persuade the newly-elected Conservative government to contribute **towards the cost of setting up** (about £3million at 1977 prices) or running a dedicated traffic service. (A19 2133)

(36) As well as publicizing the activities of the Library the Friends contribute **money towards purchases** over and above those which can be made from the College funds. (B29 44)

Examples of other meanings with *towards* are:

(37) In contributing **towards the creation of the properly trained worker**, adaptability was also thought to be an indispensable element in the struggle to reduce unemployment, (B1T 651)

(38) Each one of those millions of evolutionary changes by means of which the single cell multiplied and diversified into the vast complexity of all living things, was either "good", and contributing **towards the development of the human being of today**, or "not good" and was therefore continuing the development of what was, or would become, a non-human species, or lost to evolution by bringing about the extinction of a species. (BM2 599)

Four tokens of the meaning “to say” attested in the third part of the CLMETEV were found in the BNC data.

(39) Every time one of us dares contribute **to the debate**, she tells us with thriftiness of spirit and consonants of flint that we have no common sense. (A0U 1706)

(40) It was so unusual for him to contribute **anything to the conversation** that Paula glanced at him in surprise. (BMW 2740)

(41) "I experienced a space **in which** people contributed **their unique perspectives, suggestions and inspirations**. (ASD 678)

(42) The older generation have greater maturity and insights **which** they can usefully contribute, even though the situation is not of their making. (BLW 1749)

As in the third part of the CLMETEV, sentences that include adverbs which could be complements were found in the BNC data. These were:

(43) It's the issue with the Tom Verlaine article, the one **where** Chadwick **contributed some Verlaine-orientated thoughts** for the piece --; but instead of turning first to that, he flips straight to the cover interview with Slash. (C9H 652)

(44) E2L teachers can contribute greatly **here** if they work closely with subject teachers in developing an appropriate curriculum and content. (CCV 1594)

(45) There is, however, one other option **where** individuals can contribute , and that is recycling. (ALW 2202)

(46) Governor's [sic] serve in a voluntary capacity and are unlikely to turn up at meetings if they are dull events **where** they are expected to contribute **nothing** except approval and applause. (AND 1008)

The first one is fairly straightforward; the adverb *where* is used in place of the usual *to* NP:

(47) Cf. It's the issue with the Tom Verlaine article, the one **to which** Chadwick **contributed some Verlaine-orientated thoughts** for the piece --;

Also, leaving the adverb out would result in an ill-formed sentence:

(48) * It's the issue with the Tom Verlaine article, the one ____Chadwick contributed **some Verlaine-orientated thoughts** for the piece

It is concluded that it is an obligatory element and thus a complement.

(48) is slightly more complicated. In order to make the meaning of the sentence clearer, the sentence preceding it needs to be included:

(49) Bilingual pupils at secondary school should be helped to extend their range of English so that they can undertake high-level tasks alongside their peers. E2L teachers can contribute greatly **here** if they work closely with subject teachers in developing an appropriate curriculum and content.

Now it can be concluded that the adverb *here* in the sentence refers to the process of helping bilingual pupils “to extend their range of English”. In the text the adverb *here* serves as an element binding the sentences together, and making it easier for the reader to follow the text, but could be left out without the sentence becoming grammatically incorrect or changing its meaning. However, it is licensed by the matrix verb and is thus a complement. This is also shown in the fact that it could be replaced with “to this”, which would be a complement:

(50) Cf. Bilingual pupils at secondary school should be helped to extend their range of English so that they can undertake high-level tasks alongside their peers. E2L teachers can contribute greatly **to this** if they work closely with subject teachers in developing an appropriate curriculum and content.

(45) is from a text about saving energy. The preceding sentence provides information about measures that can be taken in order to improve “energy efficiency”:

(51) The development of alternative, environmentally safer energy technologies or the expansion of the nuclear power industry are two further contrasting options to help combat global pollution. There is, however, one other option **where** individuals can contribute , and that is recycling.

Political decisions need to be made before the measures describe in the preceding text can be taken; in contradictions to recycling, which anyone can do. Again, the adverb *where* could not be left out, and thus it is a complement. Same applies for the last one: the adverb cannot be left out, and could be replaced by *to NP*

12 Conclusion

Two major changes in the complementation patterns of the verb *contribute* could be attested in the study. The first of these is the decline in the use of the sentential complements: in the first part of the CLMETEV the sentential complements had the normalized frequency of 42 per million words, and the nominal complements had that of 74 per million words. In the BNC the normalized frequency for the sentential complements was 2.7 per million words, and for the nominal complements the normalized frequency was 60.2 per million words.

The other change attested was the fall of the *to* infinitive complements. In the first part of the CLMETEV 111 *to* infinitive complements were found, the normalized frequency being 37 per million words. In the BNC four *to* infinitive complements were found, the normalized frequency being 0.4 per million words. At closer inspection it was found out that two of the *to* infinitive complements in the BNC may be analyzed as adjuncts, which leaves only two true *to* infinitive complements in the BNC.

The decline of the *to* infinitive also means that even though the *-ing* complements have not become more frequent as a complement type, they are nevertheless used more frequently than the *to* infinitive in the present day English. In the BNC four *to* infinitive and sixteen gerundive complements were found. Thus there were four gerundive complements per one infinitival complement. According to Rohdenbug's Great Complementation Shift the gerundive complements have risen on the account of the *to* infinitive complements. In the case of *contribute* it seems that the gerundive complements have not replaced the infinitival complements in the sense that they would have become as frequent as the infinitival complements at the start of the 18th century. However, decline of the *to* infinitive complement has changed the situation so that if a sentential complement is used the gerundive complements are now most likely to be chosen.

Cases of extraction and insertions were also found. According the Complexity Principle the *to* infinitive complement is favoured in extraction and insertions contexts. This was confirmed. Extraction occurred four times, always with *to* infinitive. Gerundive complements occurred in insertion contexts two times. However, the number of *to* infinitive complement in insertion contexts is higher: fifteen *to* infinitives occurred in insertion context.

No violations of the horror aequi principle were found in the data. However, in the third part of the CLMETEV the only gerundive complement in the data is found after *contribute* in the infinitive form. In the BNC one of the two real *to* infinitive complements occurs after *contributing*. Thus, in the BNC the horror aequi has slowed the decline of the *to* infinitive, whereas in the third part of the CLMETEV it stopped the *-ing* complements from disappearing completely.

Complements were found in the study which were not mentioned in the grammars and dictionaries consulted. These were complements involving the preposition *in* (*in -ing* and *in* NP, both occurred in intransitive and transitive patterns), the gerundive pattern with preposition *towards*, and the *to* poss *-ing* complement. In the second part of the CLMETEV and the BNC adverbs occurred as complements of the verb *contribute*.

According to Rohdenburg's Generalization structures that have different surface structures also have a potential difference in their meanings. In the case of *contribute* no difference between *to* infinitive and *to -ing* complements was realized. In the dictionaries the *towards* NP was associated with the meaning "to give money". This was confirmed in this study, were both nominal and sentential complements were often associated with that meaning. In the third part of the CLMETEV a new meaning "to say" emerges.

Bibliography

Primary Sources

The British National Corpus.

Corpus for Late Modern English Texts. For more information, see <http://perswww.kuleuven.be/~u0044428/clmet.htm>, or De Smet, Hendrik. (2005): "A corpus of Late Modern English", *ICAME-Journal* 29:69-82.

Secondary Sources:

Allerton, David J. 1988. "'Infinitives' in English". In *Essays on the English Language and the applied Linguistic on the Occasion of Gerhard Nickel's 60th Birthday*. Klegraf and Nehls (eds). Julius Groos Verlag: Heidelberg. 11-23.

Bauer, Laurie. 2002. "Inferring Variation and Change from Public Corpora". In Chambers et al. (eds): *The Handbook of Language Variation and Change*. 97-114. Malden: Blackwell.

Biber, Douglas et al. 1999. *Longman Grammar of Spoken and Written English*. London: Longman.

Bolinger, Dwight. 1968. "Entailment and the Meaning of Structures". In *Glossa* 2:2. 119-27.

Collins Cobuild Dictionary of English Language. 1987. Glasgow: Harper Collins.

Crystal, David. 2003. *A Dictionary of Linguistics and Phonetics*. 5th ed. Malden: Blackwell.

Davies, William D. and Dubinsky, Stanley. 2004. *The Grammar of Raising and Control*. Oxford: Blackwell.

Duffley, Patrick J. 2000. "Gerund versus Infinitive as Complement of Transitive Verbs in English". *Journal of English Linguistics* 28:3. 221-248.

Fanego, Teresa. 1996. "The Development of Gerund as Objects of Subject-Control Verbs in English (1400-1760)". *Diachronica* XIII:I, 29-62.

Huddleston, Rodney and Pullum, Geoffrey. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Jackendoff, Ray S. 1972. *Semantic Interpretation in Generative Grammar*. Cambridge: The MIT Press.

Jespersen, Otto. 1940. *A Modern English Grammar on Historical Principles. Part V*. London: George Allen and Unwin Ltd. 1961.

Keyser, Samuel Jay and Postal, Paul M. 1976. *Beginning English Grammar*. New York: Harper & Row.

Leech, Geoffrey. 1990. "The value of a corpus in English Language Research". In Teubert and Krishnamurthy (eds.). 2007. *Corpus Linguistics*. London: Routledge. 315-325.

Mair, Christian. 2002. "The Changing Patterns of Verb Complementation in Late Modern English: A Real-Time Study Based on Matching Text Corpora". In *Language and Linguistics* 6:1. 105-31.

Oxford English Dictionary. 1989. 2nd ed.

Quirk, Randolph et al. 1985. *A comprehensive grammar of the English language*. London: Longman.

Pearsall, Judy (ed). 1998. *The New Oxford Dictionary of English*. Oxford: Clarendon Press.

Poutsma, H. 1904-1929. *The Grammar of Late Modern English*. Groningen: Noordhoof.

Rohdenburg, Günther. 2006. "The Role of Functional Constraints in the Evolution of the English Complementation System." In Dalton-Puffer et al. (eds): *Syntax, Style and Grammatical Norms*. Bern: Peter Lang. 143-66.

Rudanko, Juhani. 1996. *Prepositions and Complement Clauses*. Albany: State University of New York Press.

Rudanko, Juhani. 2002. *Corpora and Complementation*. Lanham: University Press of America.

Soames, Scott and Perlmutter David M. 1979. *Syntactic Argumentation and the Structure of English*. Berkely: University of California Press.

Vosberg, Uwe. 2003a. "Cognitive Complexity and the establishment of the *-ing* complement". In Dossena and Jones (eds), *Insights into Late Modern English*. Peter Lang: Berlin. 197-220.

Vosberg, Uwe. 2003b. "Extractions and horror aequi in the evolution of *-ing* complements." In Rohdenburg and Mondorf (eds), *Determinants of Grammatical Variation in Modern English*. 305-327.