Journal of English Linguistics

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Journal of English Linguistics 2010 38: 4 originally published online 28 April 2009
DOI: 10.1177/0075424209335495

The online version of this article can be found at:
http://eng.sagepub.com/content/38/1/4

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Journal of English Linguistics
38(1) 4–24

DOI: 10.1177/0075424209335495
http://eng.sagepub.com
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Abstract

This article examines sentential complements of the adjective *accustomed* involving subject control in the 1930s, 1940s, and 1950s on the basis of the *TIME* Magazine Corpus. Two specific principles are identified to explain the argument structure properties of *accustomed*. The first is the role of extractions, which is shown to have played a significant role in the 1930s in favor of *to* infinitives. The other principle is semantic: when the situation encoded by the lower clause predicate involves agentivity and choice on the part of the lower subject, the complement is likely to be of the *to* infinitive form in the 1930s, whereas a lower clause with a [–Choice] predicate is likely to be of the *to -ing* type. In the 1940s and 1950s, the *to* infinitive declines rapidly in frequency, with the *to -ing* pattern becoming entrenched even in contexts that had favored *to* infinitives earlier.

Keywords

grammatical change; to infinitives; to -ing complements; the Extraction Principle; American English; the Great Complement Shift

Over the twentieth century, the adjective *accustomed* exhibited both variation and a gradual shift in its sentence complements involving subject control, such that *accustomed to [verb]ing* had almost completely displaced *accustomed to [verb]* by the end of the century. This article examines relevant data from the new *TIME* Magazine Corpus, targeting specifically the 1930s, 1940s, and 1950s, with a focus on the role of two analytic principles in explaining grammatical variation and change between the two patterns of sentential complementation. To introduce the two patterns of sentential complementation independently of the adjective *accustomed*, it is appropriate to compare the predicates *be eager* and *be opposed*, as in (1a–b):

University of Tampere, Finland

(1) a. John is eager to change the wording.
b. John is opposed to changing the wording.

The pattern of (1a) is here called the *to* infinitive pattern, and that of (1b) is called the *to -ing* pattern. In the *to -ing* pattern, the *-ing* form is a gerund.

The patterns of (1a) and (1b) are similar in a number of ways. In particular, in both patterns an adjectival head selects a complement. It is assumed here that the complement is sentential, with an understood or implicit subject of its own. This is a somewhat controversial assumption to make, but many traditional and modern grammarians have made it. Among such grammarians is Otto Jespersen, who wrote some seventy years ago,

> Very often a gerund stands alone without any subject, but as in other nexuses (nexus substantives, infinitives, etc.) the connexion of a subject with the verbal idea is always implied. (Jespersen [1940] 1961:140)

Beside an appeal to tradition, there are also substantive arguments in favor of postulating an understood subject in both (1a) and (1b). One simple argument is that an understood subject provides a convenient representation of the subject argument of the verb *change* in each of the sentences. In both (1a) and (1b), the higher predicates, *be eager* and *be opposed,* clearly assign a theta role to their subjects. Both sentences are thus control structures. A welcome consequence of the postulation of an understood subject argument is that it is then possible to characterize the control properties of (1a–b) in a simple and economical way: both (1a) and (1b) involve subject control. The understood subjects of (1a) and (1b) may be represented with the symbol PRO in the syntactic bracketings of the sentences. This symbol was not used by traditional grammarians, but it is used in the current literature for the type of understood subject in question.

In spite of the similarities between (1a) and (1b), there are also robust grammatical differences between them. For instance, the word *to* can be followed by the pro-form *it* or *that* as a substitute for the complement in the case of (1b), but not in the case of (1a):

(2) a. *John is eager to change the wording, but Mary is not eager to that.
b. John is opposed to changing the wording, but Mary is not opposed to that.

Furthermore, the string that follows *to* may be subject to ellipsis in the case of (1a), but this is not possible in the case of (1b):

(3) a. John is eager to change the wording but Mary is not eager to.
*b. John is opposed to changing the wording but Mary is not opposed to.

One way to account for such differences is to make a syntactic distinction between two types of *to*. The *to* of (1a) may be termed an infinitival marker, to use a term from Quirk et al. (1985:1178, note a). In the syntactic analysis of the sentence, this *to* is

under the Aux node, to use a traditional term (corresponding to Infl in Chomsky 1981:18-19). The string that follows the Aux is then a VP in (1a). For its part, the *to* of (1b) may be viewed as a preposition. What follows the preposition in (1b) is then a gerund or a nominal clause, to take up a term from traditional grammar. A nominal clause may be represented as an NP dominating a sentence. Using traditional syntactic labels, the sentences of (1a–b) may be represented as in (4a) and (4b).

(4) a. $[[\text{John}]_{NP}$ is $[[\text{eager}]_{Adj}$ $[[\text{PRO}]_{NP}$ $[\text{to}]_{Aux}$ $[\text{change the wording}]_{VP}]_{S2}]_{AdjP}]_{S1}$
b. $[[\text{John}]_{NP}$ is $[[\text{opposed}]_{Adj}$ $[[\text{to}]_{Prep}$ $[[[\text{PRO}]_{NP}$ changing the wording$]_{S2}]_{NP}]_{PP}]_{AdjP}]_{S1}$

The grammatical differences are then accounted for in a fairly simple way. Sentence (1b) permits a pro-form of the type of *it* or *that* to follow the word *to* because *it* and *that* are normal pro-forms for NPs and what follows *to* in (1b) is an NP. By contrast, what follows *to* in (1a) is not an NP, and pro-forms for NPs are therefore excluded in that case. As for sentences of the type of (3a–b), they involve the ellipsis of a VP (cf. Huddleston & Pullum 2002:1526), and it may be observed that the string that follows the word *to* is a VP in the case of (4a), but not in the case of (4b), which means that VP Deletion or its interpretive analogue is admissible in the case of (1a), but not in the case of (1b).

There are therefore robust syntactic differences between the *to* infinitival pattern of (1a) and the *to -ing* pattern of (1b). However, in spite of such differences, some verbs, adjectives, and nouns have exhibited variation and change between the two patterns in recent centuries. The subject of this study concerns one particular adjective of this type, the adjective *accustomed*, and the focus is on variation and change affecting the argument structure of this adjective in structures involving subject control.

The adjective *accustomed* and its argument structure, with special reference to sentential complements involving subject control, has been investigated before in the literature. In particular, Göran Kjellmer's (1980) study of *accustomed* is a pioneering paper. More recently, the adjective has been discussed, for instance, by Rudanko (1999:9-10), Rudanko (2000:90-91), Vosberg (2003b:314-315), Rohdenburg (2006:154-155), Rudanko (2006), Vosberg (2006:239), and Rudanko (2007).

The general story regarding sentential complements of the adjective *accustomed* in recent centuries, as it emerges from earlier work, is fairly clear. In the eighteenth century, it selected *to* infinitive complements very frequently. By contrast, *to -ing* complements were extremely rare, or almost nonexistent. A similar predominance of *to* infinitive complements over *to -ing* complements is encountered in the nineteenth century, in both British and American English. However, there are some tokens of *to -ing* complements found in the nineteenth century, in both British and American English (Rudanko 2006). By contrast, it has also been shown in previous work that in current English the *to -ing* pattern has come to predominate over the *to* infinitive pattern with this adjective. The predominance is less pronounced in the more conservative text type of books, as shown by Rudanko (2007), but as far as the more agile text types of newspaper English

and spoken English are concerned, it is almost total today in both British and American English (Rudanko 2006).

It is the general purpose of the present study to provide a more detailed picture of the variation and change affecting the argument structure properties of the adjective *accustomed* in twentieth-century American English on the basis of the *TIME* Magazine Corpus (Davies 2007), developed by Mark Davies of Brigham Young University. This is a corpus of some 100 million words that spans the period from 1923 to 2006, and it is a particularly attractive corpus because it makes it possible to study the grammar of written and edited American English in the course of the twentieth century.

There are over 1,600 tokens of the word *accustomed* in the corpus. For the present study, three consecutive decades were investigated: the 1930s, 1940s, and 1950s. These were chosen after a pilot study that pointed to these decades as best shedding light on variation and change, and on principles explaining variation and change, in the complement selection properties of the adjective.

The specific purpose of the present study is to investigate two principles, one syntactic and the other semantic, that may have fostered or inhibited the change in the case of this particular adjective. The change forms part of a larger pattern of changes affecting the system of English predicate complementation, and the advance of the *to -ing* pattern at the expense of the *to* infinitive pattern is a change that has likewise affected a number of other matrix predicates involving control, including matrix verbs, in recent centuries, as has been noted in the literature (Denison 1998:266; Rudanko 1998a:7-24; Rudanko 1998b), with *object* being a case in point (Rudanko 2000:31-32). The change has not affected all matrix predicates selecting *to* infinitive complements involving control, and sometimes *to* infinitives have spread instead, as, for instance, in the case of *fail* (see Denison 1998:267; Rudanko 2000:116-123); but the tendency toward *to -ing* is a prominent part of what has recently been called the Great Complement Shift (Rohdenburg 2006). It may be hoped that the study of one particular adjective may also promote the study of factors involved in the argument selection properties of other adjectives, verbs, and nouns that have been affected by the change in recent centuries.

Another objective of the present article is to illustrate how the new *TIME* Magazine Corpus can be used to study variation and change in the grammar of recent American English during a period of the twentieth century that has hardly been investigated in the corpus linguistics literature. In the present article, three decades of the corpus are examined, and even though the topics of the articles in the corpus are not the same in the three decades, it is possible to compare usage in them because the material comes from the same magazine and the text type is the same.

Sentential Complements of *Accustomed* in the 1930s

Beginning with the 1930s as the first decade under investigation, the *TIME* Magazine subcorpus comprises the issues between January 1, 1930, and December 31, 1939, and its size is 12.7 million words. The search string chosen for the present investigation was simply *accustomed*. An alternative would have been to look for *accustomed* in the

context of infinitives and *-ing* forms, but it is of some interest to learn the overall frequency of the adjective *accustomed* in the different decades. Using the simple search string also guards against any mistakes in tagging, and it is optimal from the point of view of recall. The search string is also appropriate from the point of view of precision because the number of tokens retrieved is not excessive.

There were altogether 285 tokens of *accustomed* retrieved by the search string, which represents a frequency of 22.4 per million words. Of the 285 tokens, 117 are relevant to this study in that in them *accustomed* is used as an adjective that selects a sentential complement in a construction that involves subject control. This represents a frequency of 9.2 per million words.

In regard to the over one hundred tokens that are not directly relevant to this investigation, there are rather rare tokens of the word *accustomed* where the word is a form of the verb *accustom*. The verb *accustom* is not frequent in the language, but the investigator needs to be aware of such uses. For instance, consider (5). (The date in parentheses indicates the date of publication in the *TIME* Magazine Corpus.)

(5) In Marquette, Mich. Polish-born Bishop Joseph Casimir Plagens had by last week accustomed Italian, French, German and Polish Catholics to hearing him orate and converse fluently in their languages. (1936)

There are also uses of the adjective *accustomed* that are not directly relevant to the present investigation. For example, *accustomed* may be found as a premodifier inside an NP, as in (6):

(6) A moment later the House, settling back into something nearer its accustomed docility, passed the bill. (1937)

Premodification structures of the type of (6) are frequent in the material, but they can be set aside in the study of the complementation patterns of adjectives. The adjective *accustomed* may also be found with *to* NP complements, as in (7).

(7) By last week, when they met again, United Fruit's directors were quite accustomed to shocks. (1933)

In (7) the complement of *accustomed* is nonsentential, and the construction is not directly relevant here, given the focus of the present study on sentential complements involving subject control. However, in (7) the *to* is undoubtedly a preposition, and as was shown in the bracketed strings of (4a–b), the lower clause in (1b) was considered a nominal clause preceded by the preposition *to.* It is of interest to note the affinity of the pattern of (1b) to another pattern in the material.

With these exclusions made, there are altogether 117 tokens of the adjective *accustomed* selecting sentential complements involving subject control in the material. Table 1 gives information on the frequencies of the two patterns.

Table 1. *To* Infinitive and *to -ing* Complements of *Accustomed* in the 1930s

	Raw Frequency	Normalized Frequency
to infinitive	67	5.3
to -ing	50	3.9
Total	117	

In this period, *to* infinitive clauses are still more frequent than *to -ing* clauses as complements of *accustomed.* However, *to -ing* complements are not far behind *to* infinitives in frequency, and the corpus represents a database where both types of complements are fairly frequent. Given what we know about the earlier and later history of the complements of the adjective *accustomed,* it is possible to say that the 1930s were a time when there was a large amount of variation affecting its sentential complements.

The sentences in (8a–b) and (9a–b) provide two preliminary illustrations of both types:

(8) a. In Andalusia businessmen and lawyers are accustomed to take life easily. (1931)
b. When he ran across an item he wanted, he was accustomed to buy the whole collection containing it. (1935)

(9) a. Long have New Yorkers been accustomed to seeing each summer begin with some such headline as DITMARS SAILS TO HUNT BUSHMASTER, and with DITMARS BACK; NO BUSHMASTER. (1934)
b. Hollywood, accustomed to making the manager a dummy figure and further controlling play property. (1937)

At a time of great variation between the two patterns, it is probably impossible to find a factor or a set of factors that might invariably predict the form of the complement in the 1930s. It is nevertheless of interest to probe at least one or two factors that may have affected the choice of complement in the case of *accustomed*. Here, two are considered, one syntactic, the other semantic.

The syntactic factor considered is the role of extractions, a factor that has already been investigated in the literature. Uwe Vosberg, in particular, has provided a helpful formulation of the way extractions affect the choice between infinitival and *-ing* clause complement options when a head may select both:

> The Extraction Principle
>
> In the case of infinitival or gerundial complement options, the infinitive will tend to be favoured in environments where a complement of the subordinate clause is extracted (by topicalization, relativization, comparativization, or interrogation etc.) from its original position and crosses clause boundaries. (Vosberg 2003b:308)

Before applying the principle, it should be noted that the principle makes reference to the extraction of a "complement of the subordinate clause." However, extractions in English are not restricted to extractions of complements. Instead, adjuncts are likewise often extracted. In earlier work (Rudanko 2006, 2007), I have proposed that the Extraction Principle should be broadened accordingly to allow for the extraction of adjuncts,[1] assuming that there is no a priori reason to distinguish the two types of extractions with respect to their impact on complement choice.

To reflect this broader view of extractions, the following modified version of the Extraction Principle is adopted here:

> The Extraction Principle, Modified
>
> In the case of infinitival or gerundial complement options, the infinitive will tend to be favored in environments where a constituent of the subordinate clause is extracted (by topicalization, relativization, comparativization, interrogation, etc.) from its original position and crosses clause boundaries.

Though the broader view of extractions is adopted here, the distinction between extractions of complements and extractions of adjuncts is nevertheless borne in mind in the discussion that follows.

The Extraction Principle, in both its original and its modified versions, can be linked to a difference between infinitival and *-ing* clauses with respect to sententiality and complexity. While *-ing* clauses are sentential complements, they are less sentential than infinitival complements, as originally discussed in detail by Ross (1973). It is therefore also possible to say that the infinitival complements are more explicitly sentential than *-ing* complements. This property can then be linked to a principle formulated by Rohdenburg (1996), the Complexity Principle, for which he provides independent motivation:

> The Complexity Principle
>
> In the case of more or less explicit grammatical options the more explicit one(s) will tend to be favoured in cognitively more complex environments. (Rohdenburg 1996:151)

An extraction context is a cognitively more complex environment than a canonical, nonextraction context. The tendency for a more explicitly sentential complement to be favored over a less explicitly sentential complement in such a context therefore follows from Rohdenburg's Complexity Principle.

Regarding the frequency of extractions with *accustomed*, Rudanko (2006) suggests that they might be expected to occur with a frequency of approximately 10 percent. In the present material, the frequency of extractions is in fact higher than that benchmark figure. There are altogether sixteen sentences involving an extraction in the material.

Table 2. *To* Infinitive and *to -ing* Complements in Canonical and Extraction Contexts in the 1930s

	to Infinitive		*to -ing*	
	Raw Frequency	Normalized Frequency	Raw Frequency	Normalized Frequency
Canonical	52	4.1	49	3.9
Extraction	15	1.2	1	
Total	67		50	

Table 2 gives information about the two types of complements in such extraction contexts. The term *canonical* is used to refer to nonextraction contexts.

In view of the figures in Table 2, it seems clear that the Extraction Principle is indeed a relevant factor. When the chi-square test is used, with the Yates correction factor, the chi-square value is 8.43, and the results are significant at the $p < .01$ level ($df = 1$).

The solitary token of a *to -ing* complement is given in (10), and in (11a–c) there are three illustrations of *to* infinitive complements:

(10) Dozens of faces of Russians we were accustomed to seeing were missing. (1937)

(11) a. Such advertisements socialite Japanese matrons have long been accustomed to read in magazines of the highest class. (1930)

b. The efforts of William Colombe's children to control the follies of an old man whom they have been accustomed to revere and over whom they have no authority is [*sic*] more tragic than the old man's maundering decline. (1932)

c. At week's end the gaunt, feverish-eyed dean gave the 15-minute religious talk he has been accustomed to deliver on the radio. (1938)

The figures in Table 2 are based on a broad interpretation of extractions, including the extraction of adjuncts. The majority of the extractions involve the extraction of complements, and the illustrations in (11a–c) are all of this type, with (11a) illustrating Topicalization and (11b–c) illustrating Relativization, the latter being the most frequent extraction context in the case of complements.

However, among the fifteen tokens of extractions in *to* infinitive contexts, there are also six extractions applying to adjuncts. Three of the six are provided below:

(12) a. Not alone were bank clearings missing from important indices by which businessmen are accustomed to gauge the state of business. (1933)

b. Over the tundra of that vast region he was accustomed to make two trips a year by dog-team, carrying the Gospel. (1936)

c. The narrator exhibiting the series of disguises by which he was accustomed to fool hotel detectives. (1938)

Again, Relativization is the most frequently occurring type of extraction context; (12a) and (12c) serve as illustrations. Topicalization is likewise encountered, illustrated by (12b).[2] Overall, extractions appear to be an important factor affecting the choice of sentential complement with *accustomed* in American newspaper English in the 1930s.

The other factor to be examined here is of a semantic nature. I was originally led to search for a semantic distinction between the two types of complements by what has been called Bolinger's Principle, according to which a "difference in syntactic form always spells a difference in meaning" (Bolinger 1968:127). It is also worth observing that in his dictionary, the great Dutch grammarian H. Poutsma made a comment comparing the two types of complement:

> The infinitive construction is, presumably, rather more common than the gerund construction, and appears to be used to the exclusion of the latter when mere recurrency of an action or state, without any notion of a habit or custom, is in question. (Poutsma, s.v. *accustomed*)

To judge by the illustrations of usage found in the work, the dictionary was presumably written slightly later than the second edition of his grammar, published in 1929; it can probably be assumed that it was written in the 1930s, that is, the decade of the present material. This coincidence makes his comment all the more interesting.

Building on Poutsma's original insight that there might be a semantic distinction between the two constructions, I have made the comment that with a *to -ing* complement the adjective "conveys the sense of 'be used to', with the complement of the adjective expressing a regular situation" (Rudanko 2006:39). As for *to* infinitive complements,

> The sense of the adjective may be close to that of 'tend', with the complement of the adjective expressing a regular practice. There may thus be more of a sense of choice on the part of the referent of the matrix subject in the case of the *to* infinitive complement than in the case of the *to -ing* complement. (Rudanko 2006:39-40)[3]

As a point of terminology, the practice adopted here is to designate a subject that involves a sense of choice as [+Choice] and a subject that involves lack of choice as [–Choice]. The same labels are applied to the predicates that assign the readings in question.

The referent of the higher subject is the same as the referent of the lower subject for both *to* infinitive and *to -ing* complements of *accustomed* since both are patterns of subject control. The lower subject gets its semantic role from the predicate of the lower clause, that is, the complement of *accustomed*, and it is the predicate of the lower clause that encodes the way that the situation expressed by the lower clause is represented. From the point of view of the [+/–Choice] distinction, it is therefore helpful to focus here on the semantic role of the lower subject. When spelled out, the proposal made in Rudanko (2006) amounts to the

hypothesis that a [+Choice] lower subject tends to go together with a *to* infinitive complement and a [–Choice] lower subject tends to go together with a *to -ing* complement.

It is natural to link a [+Choice] lower subject with an agentive semantic role. Such an association is appropriate because choice implies the exercise of volition and a volitional act. It is also appropriate because the concept of "volitional engagement in the event or state" may be viewed as an important feature of what has been termed the "Agent-Proto-Role" (Dowty 1991:572).[4]

Some illustrations may be cited here to clarify further the nature of an agentive and [+Choice] lower predicate and of an nonagentive and [–Choice] lower subject. Consider (13a–c):

(13) a. The whole American people is becoming accustomed to eat Italian food. (1930)
b. King Albert, beloved by his French-speaking subjects, is accustomed to ignore many a Flemish jeer. (1932)
c. Patriotic audiences, accustomed to stand and sing it [The Soldiers' Song] as the Free State's national anthem, demanded explanations. (1932)

The predicates of the lower clauses in (13a–c) are *eat Italian food, ignore many a Flemish jeer,* and *sing it as the Free State's national anthem.* In each case these predicates encode an event or a situation in such a way that the subjects of the predicates are agentive and [+Choice]. The subjects in question are represented by their predicates as displaying "volitional engagement in the event or state" in question, to hark back to Dowty's concise way of putting it.

There are various linguistic tests that tend to work well with agentive and [+Choice] subjects and their predicates and may be viewed as diagnostics. For instance, the admissibility of imperatives is one test that is relevant here. Regarding the nature of an imperative, it is worth quoting a remark by John R. Taylor:

> Prototypically, an imperative instructs a person to do something, and is therefore only acceptable if a person has a choice between carrying out the instruction or not. (Taylor 2003:31)

When this test is applied to the lower predicates of (13a–c), it is observed that imperatives are readily conceivable with them, as in *Eat Italian food! Ignore Flemish jeers!* and *Stand and sing it!*

By contrast, a low degree of agentivity goes together with the Patient or Undergoer role. Consider (14a–b):

(14) a. The eight directors were not men accustomed to be thus summarily disposed of. (1930)
b. In London last week correspondents noticed that Comrade Litvinov, once accustomed to being snubbed by Statesman Stimson at Geneva,

now hobnobs in friendly fashion with Snubber Stimson's successor, Secretary of State Cordell Hull. (1933)

The predicate of the lower clause of (14a) is *be thus summarily disposed of* and that of (14b) is *being snubbed.* The understood subjects of these clauses represent the objects, prepositional or direct, of the corresponding active predicates *dispose of someone* and *snub someone*, and they have the semantic role of Patient or Undergoer, expressing a low degree of agentivity. They are [–Choice]. When the sentences are in the passive form, as in the lower clauses of (14a–b), the NPs in question still retain the same semantic roles and they are [–Choice]. Imperatives are less likely with the predicates in question, as witness *?Be disposed of!* or *?Be snubbed!*

Not all lower subjects are as easy to characterize as either [+Choice] or [–Choice] as those in (13a–c) and (14a–b). The notion of agentivity and the [+/–Choice] distinction should be seen as gradient in nature, as indeed pointed out by Hundt (2004) in the case of agentivity. Consider the sentences of (15a–b), (16a–b), and (17a–b):

(15) a. Last week artful John, a lawyer accustomed to receive the largest fees charged in the Empire, made short work of such whippersnappers. (1932)
b. Tourists sailing on nearly-empty steamers in the off season have become accustomed to receiving luxury accommodations for the minimum fare. (1930)

(16) a. People who are accustomed to think of New York's Bishop William Thomas Manning as an extremely formal, frigidly aristocratic little prelate would have been amazed to behold him last Sunday morning. (1932)
b. Her fellow countrymen . . . are not accustomed to thinking of her as internationally-minded. (1931)

(17) a. Law-abiding Swedes are accustomed to see their own royal family shop, go to the theatre, drive about town completely unprotected. (1935)
b. Accustomed to seeing their idols shattered, prizefight reporters concealed their amazement by enthusiasm. (1936)

The lower subjects of (15a–b) have the Benefactive role; those of (16a–b) and (17a–b) are Experiencers. Noun phrases with such semantic roles are sometimes less easily classified as embodying either [+Choice] or [–Choice] interpretations, and when making a decision, it is important to pay attention not only to the verb of the clause but also to the whole predication in question. However, when assessing interpretations, there is an emphasis placed here on the presence or absence of "volitional engagement in the event or state" on the part of the referent of the lower subject. It is therefore still possible to say that the lower subjects of (15a–b) are [–Choice], those of (16a–b) are [+Choice], and those of (17a–b) are again [–Choice]. Imperatives with the senses that the predications of *receive* and *see* have in the contexts of (15a–b) and (17a–b), respectively, are unlikely, as in *?Receive luxury accommodation!*[5]

The construction *think of somebody/something as somebody/something*, seen in (16a), is glossed as 'consider somebody/something in a particular way' in the *Oxford Advanced Learner's Dictionary of Current English* (2005), and it does involve a degree of control and agentivity, as suggested by the manner phrase in the gloss. The subject is therefore considered [+Choice]. Imperatives of the type *Think of something/somebody as something!* are also easily found, as in *If you want to be soft, think of yourself as a rose* (1931), from the *TIME* Magazine Corpus.

The illustrations in (14a–b), (15a–b), (16a–b), and (17a–b) show that both *to* infinitive and *to -ing* complements of *accustomed* may be associated with [–Choice] and [+Choice] interpretations of lower subjects. Therefore, there cannot be any absolute rule linking one type of complement to one type of interpretation. However, if the statement quoted above from Rudanko (2006) is valid, the prediction is that *to* infinitive complements would tend to be linked to [+Choice] interpretations of lower subjects, and *to -ing* complements would tend to go with [–Choice] interpretations of such subjects.

Since extraction was found above to be a significant factor affecting the incidence of *to* infinitives and *to -ing* complements with *accustomed*, it seems appropriate to exclude the sixteen tokens exhibiting extraction from the present tallies. Note that the sentences with extraction invariably, except for one token, involve lower subjects that are agentive and [+Choice], and, therefore, if they had been included, they would have considerably raised the number of *to* infinitives with [+Choice] subjects.

With the 16 extraction cases excluded from the 117 tokens, there remain 101 tokens. When they are examined from the point of the [+/–Choice] property of the lower subject, the results given in Table 3 are obtained. When the chi-square test is used, with the Yates correction factor, the value is 4.78, and the results are significant at the .05 level of significance ($df = 1$). This is less significant than the impact of extraction but still worth noting.

There is thus no hard and fast rule that can be based on the [+/–Choice] distinction, but there are discernible tendencies for the *to* infinitive complement to be relatively infrequent in nonagentive contexts and for the *to -ing* complement to be disproportionately frequent in such contexts. Such contexts may thus be viewed as a semantic niche that favored the spread of the *to -ing* complement in American newsmagazine English in the 1930s.

Sentential Complements of *Accustomed* in the 1940s

The size of the subcorpus for the 1940s is 15.5 million words. The simple search string *accustomed* retrieves 217 tokens. This represents a frequency of 14.0 per million words for all uses of the word, which shows a decline from 22.4 in the previous decade.

The majority of the 217 tokens are irrelevant, in ways that are similar to irrelevant tokens in the 1930s. The adjective is often found with *to* NP complements, and it is also found in the prenominal position, where the question of its argument structure does not arise. When the irrelevant tokens are set aside, 76 tokens remain. This represents a frequency of 4.9, which is considerably lower than the corresponding frequency of 9.2 per million words in the previous decade. The frequencies of the two types of complement are given in Table 4.

Table 3. *To* Infinitive and *to -ing* Complements with [+Choice] and [–Choice] Lower Predicates in the 1930s, Excluding Extraction Contexts

	to Infinitive		*to -ing*	
	Raw Frequency	Normalized Frequency	Raw Frequency	Normalized Frequency
[+Choice]	43	3.4	30	2.4
[–Choice]	9	0.7	19	1.5
Total	52		49	

The sentences in (18) include an initial illustration of each complement type:

(18) a. Norwegian peasants scrape so little from their rocky slopes that Norway is accustomed to import more than half its food supply. (1940)
b. Accustomed to selling a year's product sight unseen on the strength of a few high-powered productions, big names, and a barrage of adjectives, it was faced with the vagaries of competitive sales. (1941)

The quantitative findings in Table 4, when compared to the findings of Table 1, indicate that there has been a dramatic decline in the frequency of *to* infinitives in relation to *to -ing* complements. While *to* infinitives are more frequent than *to -ing* complements in the 1930s, in the 1940s the latter are more than twice as frequent as the former. The change in favor of the *to -ing* pattern has been rapid. Furthermore, fifteen of the twenty-three *to* infinitives in the 1940s are from the first half of the decade and only eight are from the second half, which may be indicative of the speed of change in the 1940s.

Turning to the two explanatory principles identified above, it is observed that there are seven extractions in the data from the 1940s, assuming the broader view of the Extraction Principle presented above. In two of the seven the complement is of the *to* infinitive type; but in the remaining five it is of the *to -ing* type. This means that the *to -ing* complement has become so well entrenched that the Extraction Principle no longer adequately explains the choice of complement in extraction contexts. At the same time, the overall proportion of extractions is slightly lower than in the previous decade. The difference is not statistically significant but may still represent a residual effect from the Extraction Principle, in that the *to -ing* complement may still be slightly resistant to extraction.

Below are the two *to* infinitives involving extraction and two of the five *to -ing* forms:

(19) a. Sin and guilt are not merely words and empty symbols that pastors in pulpits are accustomed to preach. (1946)
b. The air is blue with insistent voices . . . analyzing behavior as "normal" which in the past we were accustomed to associate with the gutter. (1948)

Table 4. *To* Infinitive and *to -ing* Complements of *Accustomed* in the 1940s

	Raw Frequency	Normalized Frequency
to infinitive	23	1.5
to -ing	53	3.4
Total	76	

(20) a. Madrid's enthusiasm was real, not the synthetic show that Madrilenos are accustomed to giving for Franco. (1947)
b. This was not the kind of advice they were accustomed to hearing from anyone, let alone a Republican governor. (1948)

In (19a–b) and (20a–b), the extracted constituent is a complement in each case, but there are also two extractions of adjuncts. Both of these have a *to -ing* complement. (21) is an illustration:

(21) This means they want as much of their meat as possible in tins, which is not the way the U.S. is accustomed to packing it. (1941)

Overall, while extractions are not a significant factor favoring *to* infinitives anymore, their nature and their frequency may still serve as indicators of the degree of entrenchment of the *to -ing* pattern.

The semantic principle identified in the previous section was that while no categorical rule can be established linking *to* infinitives and *to -ing* complements to [+Choice] and [–Choice] lower predicates, there is a significant tendency in those data for [+Choice] lower subjects to go with *to* infinitive complements and for [–Choice] lower subjects to go with *to -ing* complements. In the present material, there is again no hard and fast rule, and each type of complement can be found in each type of context. The examples below provide an illustration of each type:

(22) a. James Caesar Petrillo, tough, grey little boss of the powerful, closed-shop American Federation of Musicians, has long been accustomed to tell employers what's what. (1941) (*to* infinitive, [+Choice])
b. The world that heard these words had not expected, nor was it accustomed to hear such language, such human hopes, invoked by its leaders, and at such a time. (1943) (*to* infinitive, [–Choice])
c. The almost tax-exempt lower-income groups who are the new rich of the war effort are not accustomed to putting their money into life insurance. (1942) (*to -ing*, [+Choice])
d. So Mme. Tabouis wrote an angry letter telling Blum that she "was not accustomed to being caressed and beaten by the same hand, and didn't want to ecorated." (1948) (*to -ing*, [–Choice])

Table 5. *To* Infinitive and *to -ing* Complements of *Accustomed* with [+Choice] and [–Choice] Lower Predicates in the 1940s, Excluding Extraction Contexts

	to Infinitive		*to -ing*	
	Raw Frequency	Normalized Frequency	Raw Frequency	Normalized Frequency
[+Choice]	19	1.2	39	2.5
[–Choice]	2	0.1	9	0.6
Total	21		48	

Calculating the totals on the same basis as in the previous section results in the figures in Table 5.[6] It is clear from Table 5 that the proportion of [+Choice] lower predicates has increased overall, and while the *to -ing* complement still predominates in its niche of [–Choice] lower predicates, the *to -ing* pattern now also clearly dominates with [+Choice] lower predicates, which, as seen in Table 3, is the stronghold of *to* infinitives in the 1930s. Indeed, it is with this latter type of lower predicate that a spectacular change has occurred in favor of the *to -ing* pattern.

Overall, the present section points to the decade of the 1940s as a period of rapid change in the argument structure properties of the adjective *accustomed* in the text type of American newsmagazine English. The 1940s was a time of great turbulence and increasing transatlantic contacts because of America's entry into World War II and its postwar role in the world. The period of World War II has been featured in work on phonological change in American English (Labov 1966:354-355), and the present study links the 1940s to rapid grammatical change affecting the argument structure properties of the adjective *accustomed*, inviting further research into grammatical change in American English during this period.

Sentential Complements of *Accustomed* in the 1950s

In the 1950s, the adjective *accustomed* continues to be relatively frequent in the language of this corpus. The same simple search string *accustomed* yielded 226 tokens for the 1950s subcorpus. This subcorpus is 16.8 million words in size, and the normalized frequency of the word, compared to the 1940s, has gone down very slightly, to 13.5 per million. The majority of the tokens are irrelevant, for reasons similar to those discussed above for the 1930s. Of the 226 tokens, 78 relevant tokens were found. This raw frequency means that the normalized frequency of *accustomed* in the relevant pattern has gone down slightly from the 1940s, to 4.6 per million words.

The incidence of the two types of complement is given in Table 6. As captured in Table 6, the proportion of *to* infinitives in relation to *to -ing* complements has declined further from the 1940s, and the former are now only a fraction of the total of sentential complements involving subject control. Examples (23a–b) and (24a–b) include two illustrations of each:

(23) a. He was accustomed to amuse his soldiers by crumbling stones in his hand. (1951)
b. We have long been accustomed to think of the U.S. as occupying an unchallenged and unchallengeable position. (1958)
(24) a. Murphy, whose derby and oldtime bartender's mustache give him a look of a man long accustomed to surmounting evil. (1951)
b. In subways, on buses and commuting trains, straphangers accustomed to hiding behind the pages of newspapers peered uncomfortably across the aisles. (1953)

The preponderance of the *to -ing* pattern is almost total, but it is still of interest to examine the two factors identified above as having had an impact on variation in the first decade of the corpus. Two of the seven *to* infinitives display extraction:

(25) a. In their notebooks, which police found when they broke the Soviet spy ring in Canada in 1946, Soviet espionage agents were accustomed to make a brisk notation in Russian after the names of the traitorous scientists who furnished them information. (1950)
b. His sarong-clad countrymen offered him hibiscus blossoms and accorded him the full-length prostrate kowtow he had been accustomed to receive before. (1957)

Among the seventy-one tokens of *to -ing* complement, there are only three sentences involving extraction:

(26) a. "Someone had played a dirty trick" by building a fire in a normally cold kitchen wood range on which she was accustomed to sitting. (1954)
b. A gleaming new car instead of the rattletraps they're accustomed to seeing. (1954)
c. The effect of these and other changes was to make Russian Swan Lake a looser, more romantic interpretation than Western observers are accustomed to seeing. (1959)

The low number of extractions overall in the 1950s makes it difficult to draw any strong conclusion. However, it is still suggestive, given the huge preponderance of *to -ing* complements over *to* infinitives overall, that of the five tokens of extraction, two have the complement in the *to* infinitive form and only three in the *to -ing* form. No statistical claim can be based on such low numbers, but they may indicate some residual influence of the Extraction Principle. Furthermore, while extractions can be found out of *to -ing* complements, there may still be some hesitation attaching to such extractions. This is suggested by the relatively low proportion of extractions among the 71 *to -ing* complements compared to the proportion of extractions with *to* infinitives in the 1930s. However, this is only suggestive and invites further work if and when larger corpora of the text type from the 1950s become available.

Table 6. *To* Infinitive and *to -ing* Complements of *Accustomed* in the 1950s

	Raw Frequency	Normalized Frequency
to infinitive	7	0.4
to -ing	71	4.2
Total	78	

As for the semantic factor associating the *to* -infinitive pattern with the encoding of a sense of choice and the *to -ing* pattern with lack of choice on the part of the referent of the lower subject, the numbers of *to* infinitives are too low for any definitive conclusions. However, it is observed that all of them, with the single exception of one of the two tokens involving extraction, given as (25b), display a [+Choice] subject.

Of more interest is the interpretation of the seventy-one *to -ing* complements. Of them, sixty-eight are in canonical contexts.[7] Seventeen have [–Choice] readings, showing that the *to -ing* pattern has preserved its dominance in its original semantic niche. However, there are fifty-one complements with [+Choice] lower subjects. This compares to five *to* infinitives with [+Choice] subjects (in canonical contexts). In other words, the huge majority of [+Choice] cases are now of the *to -ing* type.

The sentences in (27) contain two illustrations of each type of *to -ing* complement:

(27) a. (The giveaway clue: he was obviously accustomed to wearing clothes since his arms and face were tanned, but his body was white.) (1954)
b. The 50 members of the cast, most of them accustomed to doing comic opera before half-filled houses, go home gaily. (1956)
c. Winthrop W. Aldrich is not accustomed to having anyone tell him how to run his business. (1950)
d. Accustomed to receiving their magazines on the same day as many U.S. readers, they are just as quick to let us know when they don't. (1956)

The semantic principle identified above as applying to usage in the 1930s of the *TIME* Magazine Corpus seems to have lost its power to favor *to* infinitives. Instead, the *to -ing* pattern now clearly predominates with both [–Choice] and [+Choice] lower subjects.

Overall, the dominance of the *to -ing* pattern is nearly total in the material from the 1950s, and the tokens of the *to* infinitive pattern are remnants of a pattern that has largely been lost with *accustomed* in this text type of American English.

Summary and Discussion

To sum up the present investigation, the sentential complements of the adjective *accustomed* involving subject control offer a fascinating area of the core grammar of English for the student of grammatical variation and change. Both the *to* infinitive and *to -ing* constructions involve subject control with the adjective, but there are robust

syntactic differences between them, highlighting the theoretical interest in examining the variation between them. In taking up the complements of the adjective in the 1930s, 1940s, and 1950s, this study has focused on a period of only thirty years, but these three decades still reveal a major change.

The 1930s was clearly a decade of robust variation between the two patterns of sentential complementation, with the *to -ing* pattern having emerged as a serious competitor of the once-predominant *to* infinitive pattern. This investigation focuses on two factors that may be viewed as explanatory principles bearing on the variation, either delaying or promoting the further spread of the emerging *to -ing* pattern. One explanatory principle is the Extraction Principle. The definition adopted encompasses the extraction of complements and of adjuncts, and the principle does indeed play a significant role in the variation between the two types of complements in the *TIME* Magazine material from the 1930s, in that in such contexts *to* infinitives are favored as predicted by the principle. The other explanatory principle is semantic. A distinction is made between [+/–Choice] contexts, depending on the way in which the situation is encoded by the lower clause selected by the adjective *accustomed*. The question investigated is whether it is possible to associate each of the two types of complement with a particular type of lower subject and encoded context, either [+Choice] or [–Choice]. No categorical association can be established, but *to -ing* complements are linked to [–Choice] contexts, whereas *to* infinitives tend to go with [+Choice] contexts.

The two explanatory principles show that what might have appeared to be free variation between the two types of sentential complement is to some extent rule-governed variation in the 1930s. Turning to the later decades, the investigation reveals a radical change in the argument structure of *accustomed*. *To* infinitives are more frequent than *to -ing* complements in the 1930s, but in the 1940s *to -ing* complements have become more frequent than *to* infinitives, by a ratio of more that two to one, and in the 1950s the ratio is about ten to one in favor of the *to -ing* pattern. The change in the ratios does not mean that *to -ing* complements have become significantly more frequent than in the 1930s in absolute terms; on the contrary, the normalized frequencies of the *to -ing* pattern fluctuate within a fairly narrow range during this period, from 3.9 per million words in the 1930s to 3.4 in the 1940s to 4.0 in the 1950s. Instead, the dramatic change in the ratios of the two types of complement has more to do with the decline of the *to* infinitive pattern with the adjective, for the normalized frequency of the pattern decreases from 5.3 per million words in the 1930s to 1.5 in the 1940s and to only 0.4 in the 1950s.

While the overall numbers of *to -ing* complements do not increase much, if at all, during the three decades under consideration, such complements seem to appear in extraction contexts in the 1940s and 1950s somewhat more freely than in the 1930s, though perhaps not quite as freely as *to* infinitives in such contexts in the 1930s. *To -ing* complements are also readily used in [+Choice] contexts in the material from the 1940s and 1950s, which further testifies to their entrenchment.

The present study is focused on *accustomed*, and it raises the question of whether other adjectives in English selecting sentential complements involving subject control may have followed a similar trajectory of change in recent English and whether the explanatory principles employed here can be applied in these cases as well. Some

preliminary discussion of several adjectives that are potentially relevant in this context is provided in Rudanko (1999:7-22), including, for instance, the adjectives *committed* and *prone*, which allow considerable variation between *to* infinitive and *to -ing* complements in current English. Questions to be explored in further work include whether or not the semantic principle formulated here on the basis of *accustomed* for interpreting *to* infinitives and *to -ing* complements might be extended to other matrix predicates that have gone through or entered a period of transition. An additional question raised by the present study is whether a period of rapid change might have coincided with the war years for other adjectives beside *accustomed* and, more generally, whether other grammatical changes might have been taking place at an accelerated pace during the rise in transatlantic contacts of the war years.

It is only the advent of large electronic corpora such as the *TIME* Magazine Corpus that makes it possible to explore such questions in a more comprehensive and systematic way. The scholarly community owes a debt of gratitude to Davies and others who have developed such large corpora and made them publicly available. It can only be hoped that the present article demonstrates some of the possibilities that are offered by large electronic corpora in the study of the core grammar of English and of the recent history of English.

Notes

1. Vosberg (2003a) has an even more restrictive view of the Extraction Principle when he refers to "environments where the object of the dependent verb is extracted," since the notion of complement is broader than that of object. As a consequence, the modification or broadening of the principle proposed here represents a bigger change in relation to Vosberg (2003a) than to Vosberg (2003b). On the other hand, as pointed out by an anonymous referee, the broader interpretation of extractions is also hinted at or mentioned in Vosberg (2003c:523), Vosberg (2006:63-67), and Rohdenburg (2006).
2. It may be observed that some sentences involving extraction may be easier to process than others. Of all the extraction structures illustrated, it appears that it is the Topicalization of an adjunct out of a complement of *accustomed* that is the easiest to process. Sentence (12b) is an example. There is no doubt that the initial adjunct of (12b) is linked to a gap in the complement of *accustomed*. However, the sentence is easier to process than the corresponding sentence (11a), where a complement has been extracted out of a complement of *accustomed*. Put differently, there is more of a sense of dislocation in the case of (11b) than in (12b). By contrast, the extractions involving Relativization, whether of complements or adjuncts, all involve a fairly strong sense of dislocation. One factor involved is probably that, in general, adjuncts are easier to move around than complements. These remarks about comparing the two types of extraction, while left at an informal level here, invite further work on a potential difference between extraction rules from the point of view of processing.
3. I am grateful to Ian Gurney, personal communication, for commenting on the distinction.
4. Further support for the association of a [+Choice] lower subject and an agentive semantic role is easy to find. As early as 1967, Jeffrey Gruber observed that an "agentive verb is one whose subject refers to an animate object which is thought of as the willful source or agent of the activity described in the sentence" (Gruber 1967:943). Ray Jackendoff set up an elaborate schema of two tiers, a "*thematic tier* dealing with motion and location, and an *action tier*

dealing with Actor-Patient relations" (Jackendoff 1990:126), and when he summed up his discussion of the notion of agent, he identified "three semi-autonomous parts." These were "doer of action," "volitional Actor," and "extrinsic instigator" (Jackendoff 1990:129). More recently, Marianne Hundt (2004:49) invoked "volition, control, and responsibility" as the defining characteristics of agentivity.

5. On viewing *see* as a nonagentive verb in uses that are similar to those discussed in the text, see Gruber (1967:943), who contrasts it with the verb *look*, which is typically agentive. Compare also Taylor's (2003:30-31) comments on *see* and *look* from the point of view of the notion of choice.
6. As in the section on the 1930s, sentences involving extraction are excluded from the table. This decision was made for the sake of consistency. All sentences involving extraction have [+Choice] lower predicates, with one exception, which is sentence (21b), which has a *to -ing* complement. If the seven sentences with extraction had been included in Table 6, the number of [+Choice] *to* infinitives would have been twenty-one (instead of nineteen), that of [+Choice] *to -ing* complements forty-three (instead of thirty-nine), and that of [–Choice] *to -ing* complements ten (instead of nine). In other words, if these tokens were taken into account, the frequency of the *to -ing* pattern with [+Choice] lower predicates would go up even further.
7. Setting extractions aside in the study of the [+/–Choice] lower subjects preserves consistency with earlier sections, but it may be added that because the number of extractions is so low in the 1950s, including them here would make no difference to the point in the text.

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