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A COGNITIVE APPROACH TO THE *USED TO* CONSTRUCTION*

1 INTRODUCTION

This paper investigates the property and the function of the so-called semi-modal *used to*.[1] Firstly, this paper complements the previous studies on *used to* using the spoken and written data. Secondly, the present paper examines the possibility that *used to* is a stativizer like the perfect construction, focusing on the characteristics of the habituality and stativity that the *used to* construction expresses.[2] Thirdly, the *used to* construction is analyzed in terms of homogeneity. Finally, to support the present analysis, the diachronic development of *used to* is examined using the *Oxford English Dictionary* (*OED*).

Sentences with *used to* are presented in example (1).

(1) a. I used to play quite a lot of football. (BNC:AK6)
b. She used to show you a collection of photographs which she kept in her wallet as if they were family photographs. (BNC:AR2)

Used to has been described as ambiguous between auxiliary and main verb (Jørgensen 1988);[3] it denotes a past habit or state (Quirk et al. 1985); it is a "particularly

* I am grateful to Yukio Oba and Sadayuki Okada for giving me the opportunity to write this paper. All remaining errors are, of course, my own.

[1] Following Tagliamonte and Lawrence (2000) or Binnick (2005, 2006a), this paper is concerned with the *used to* construction that occurs with a verb. In other words, the data in this paper do not include the examples such as (i):

(i) We are used to this, to the extent that we become blase about it. (BNC: AHU)

In (i), *used to* takes the demonstrative *this*, not a verb.

[2] The term construction in this paper is used in the sense of Goldberg (2006), as follows:

> Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist. In addition, patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency. (Goldberg 2006: 5)

[3] Leech et al. (2009) regard *used to* as an aspect marker rather than a modality marker and do not examine it in their analyses of English semi-modals.

common in conversation" (Biber et al. 1999: 490); and it implies that the situation that had held for a past interval of time no longer obtains. It has also been pointed out that *used to* does not need temporal adverbs (Leech 1987:54), as seen in (2).[4]

(2) I used to put a mop on my head and pretend it was my hair. (BNC:ADG)

Definite temporal adverbs do not appear in sentence (2), and *used to* denotes "vague implications of the past" (Jespersen 1964:68).

This paper starts with an overview of how previous studies have handled the semi-modal *used to* in section 2. Section 3 introduces the theoretical assumptions that the present paper is based on. Section 4 examines the written corpus data to complement the study of Tagliamonte and Lawrence (2000). Section 5 analyzes the occurrences of verbs that combine with *used to*. Section 6 discusses the characteristics of the habituality and stativity that the *used to* construction marks. Section 7 proposes that *used to* behaves like a durational marker. Section 8 examines the diachronic development of *used to*. The final section, section 9, presents concluding remarks.

2 Previous Analyses

In this section, recent works on *used to*, like those of Tagliamonte and Lawrence (2000) and Binnick (2005, 2006a), are discussed, particularly, what characteristics of *used to* are found in the former and how the latter analyzes the aspectuality that *used to* expresses.

Let us first take an overview of the examination method employed by Tagliamonte and Lawrence (2000) on the behavior of *used to* in relation to *would* and the preterit which express habitual past meaning. They study how English habitual forms, *used to*, *would*, and the preterit, are quantitatively distributed and related to each other by examining informal conversational corpus data. They identify 4,867 tokens with habitual meaning: 19 percent of them include *used to*. They show the distribution of the morphological constructions according to habitual past meaning, examining seven internal factors, namely, grammatical person, sentence type, animacy, type of verb, presence of a temporal adverb, position in sequence, and duration. With respect to grammatical person, they show that *used to* is correlated with first person, preterit with second person, and *would* with third person. Moreover, with respect to animacy, they state that *used to* is rare with inanimate subjects and "there is very little expansion in use of *used to* with inanimate subjects" (Tagliamonte and Lawrence 2000:338).

Binnick (2005, 2006a) examines habitual aspect in English in relation to *used to*,

[4] This paper differentiates temporal adverbs from frame adverbials such as (i):
(i) a. When he was at Cardiff College of PE he used to get Gareth Edwards to play. (BNC:A90)
b. I used to be flattered when I was about thirteen. (BNC:ADG)
Frame adverbials such as *when* are often employed with *used to*.

and argues that English does not have habitual markers. With respect to *used to*, he maintains that it is "neither a past tense nor a marker of habituality" (Binnick 2005:366) because, as seen in sentence (3a) below, which is cited from Comrie (1976:28), it does not refer to a habit but a state. While sentence (3b) refers to a series of bounded states, (3a) refers to a single, continuous state.

(3) a. The temple of Diana used to stand at Ephesus.
b. The temple of Diana would stand at Ephesus (from time to time).
(Comrie 1976:28)

According to Binnick, in the normal interpretation, (3b) describes that different temples stood at Ephesus on various occasions (Binnick 2006a). Binnick attempts to capture the difference between the semantics of *used to* and that of habitual *would* in terms of the similarity between *used to* and the present perfect. First, he shows that both *used to* and the present perfect readily appear in absolute or initial position of a text or discourse. The simple past, on the other hand, prototypically requires a past-time temporal adverb in the discourse's initial position, as pointed out by Michaelis (1998:223).

(4) a. I went to Paris.
b. I've been to Paris.
(Michaelis 1998:223)

Sentence (4a) requires a past-time temporal adverb such as *in 1992* in order to appear in the discourse-initial position felicitously, while sentence (4b), which expresses the present perfect, is appropriate for occurring in discourse initially.

Second, neither *used to* nor the present perfect allows definite and past tense temporal adverbs:

(5) a. *I used to live in York in 1914.
b. *I've lived in York in 1914.
(Binnick 2005:350)

In (5b), the resulting reading is not allowed but an experiential or existential perfect reading is allowed.

Third, it is rare for *used to* and the present perfect to appear in the negative sentence. As regards the latter, although it is more readily negated in its existential reading, in its continuous and resultative readings, the present perfect is hard to be negated (Binnick 2006a).

Fourth, both *used to* and the present perfect tend to take animate and especially first-person subjects.

Finally, both *used to* and the present perfect tend to occur with eventive predicates more frequently than stative predicates. With respect to the present perfect,

non-resultative readings allow stative predicates more readily than resultative readings.[5]

From these observations, Binnick argues that the function of *used to* is similar to that of the present perfect and maintains that *used to* is an "anti-present-perfect" and "[t]he present perfect thus *includes* the present in what is essentially a period of the past. The *used to* construction, on the other hand, precisely *excludes* the present from a past period" (Binnick 2006a:42; italics in the original). In other words, *used to* separates a past state or series of events from the present situation.

This paper agrees with the findings of Tagliamonte and Lawrence (2000), while I point out that certain characteristics can be found in the investigation of written corpus data.[6]

As for Binnick's claim "a habit is not a state" (Binnick 2005:342), the present paper considers habituality and stativity from the different perspective. Binnick (2005) presents examples that attempt to confirm his claim: according to Binnick, (6a) would be acceptable if a habit was a state, because states would be true at a point in time, as seen in (6b), which is a stative sentence:

(6) a. *At noon, Sue used to eat bananas for lunch.
b. At noon, Sue was in Rome.

(Binnick 2005:343)

Binnick (2005) provides further evidence that "a habit is not a state" in terms of the following points: "Stative clauses typically do not advance narrative time," "States are typically nonagentive," and "States hold over intervals of time." Although Binnick's observations show that a habit is not exactly a state, they do not show that a habit does not share certain property of a state. In other words, it is possible to consider that there are some similarities between them, while a habit is not exactly the same as a state. While Binnick's analysis is appropriate in his framework, there is room for discussion on his analysis: if we adopt a non-rigid approach to categorization, it is possible to analyze habituality and stativity in terms of their commonalities. The following sections show that it is necessary to analyze habituality and stativity with such an approach for capturing the properties of *used to*.

[5] In the present paper, stative verbs are defined as follows: stative verbs are verbs that describe a state and they are not usually employed in the progressive aspect. Eventive verbs are verbs other than statives.

[6] I have surveyed the citations of *used to* from the spoken and written texts in the BNC and from the ABC NEWS transcript to confirm that the findings of Tagliamonte and Lawrence (2000) are correct. The results of the investigations of the spoken texts in the BNC and the ABC NEWS transcript are almost the same as the results given by them. The news transcript has been chosen for comparison because it is located between conversational data and written data in terms of text genre. As for the written texts in the BNC, their results are shown in Section 4.

3 Theoretical Assumptions

To begin with, this paper is based on the tenets of Cognitive Grammar (Langacker 1987, 1991, 1999, 2008).[7] Cognitive Grammar assumes that the nature of language is a symbolic structure constituted of form and meaning and maintains that lexicon and grammar form a continuum. According to this theory, the grammar of a language is characterized as "a structured inventory of conventional linguistic units" (Langacker 1987:57). In the prototype theory, which is an important notion in the present analysis, categorization is dynamic in the sense that a category consists of prototypical members to peripheral ones and if certain element has a similarity or a commonality with some members, it can be included in the category as a new member. Also, certain category shows different degrees of membership. The present paper argues that the properties of habituality and stativity should be discussed in terms of the prototype theory and that they have the commonality of the indication of the continual situation.

Secondly, this paper is also based on grammaticalization theory, in which grammaticalization refers to the change of lexical items and constructions into grammatical markers, and into more grammaticalized markers (Hopper and Traugott 2003:18). According to Brinton and Traugott (2005), grammaticalization is defined as "the change whereby in certain linguistic contexts speakers use parts of a construction with a grammatical function. Over time the resulting grammatical item may become more grammatical by acquiring more grammatical functions and expanding its host-classes" (Brinton and Traugott 2005:99). This approach is compatible with a usage-based approach: it is suggested that both generalizations and item specific knowledge are registered. It is assumed that constructions, particularly grammatical constructions with high discourse frequency, show multifunctionality (Haspelmath 1998).

Finally, this paper argues that *used to* forms a construction in the sense of Goldberg (1995, 2006). By combining grammaticalization theory with Cognitive Grammar, Construction Grammar and a corpus-based approach, valuable insights into studies on *used to* will be provided (Hilpert 2008).

4 Written Corpus Data

This section examines the written corpus data from the British National Corpus (BNC) to complement the study of Tagliamonte and Lawrence (2000), and identifies 3,528 tokens of *used to*. The written texts of the BNC contain 9 domains: Applied Science (223 tokens), Arts (550 tokens), Belief and Thought (228 tokens), Commerce

[7] One may think that the notion of Langacker's "construction" is different from that of Goldberg's. As seen in the definition of a construction in note 2, she no longer restricts a construction to a "not strictly predictable pairing of form and function." As she states, she allows that "facts about the actual use of linguistic expressions such as frequencies and individual patterns that are fully compositional are recorded alongside more traditional linguistic generalizations" (Goldberg 2009:98-99).

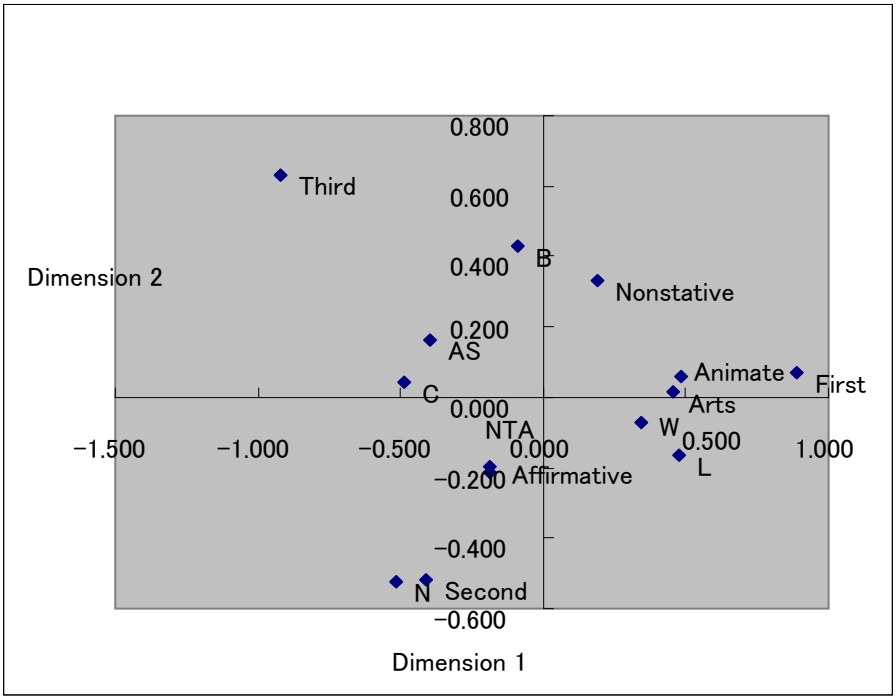
and Finance (266 tokens), Imaginative (550 tokens), Leisure (550 tokens), Natural and Pure Science (63 tokens), Social Science (550 tokens), and World Affairs (548 tokens).

Table 1 displays the frequencies for 7 linguistic features (grammatical person, sentence type, animacy, type of verb, and presence of a temporal adverb) with respect to texts:

	First	Third	Second	Affirmative	Animate	Nonstative	No Temporal Adverb
Applied Science	29(13)	82(36)	1(0.4)	223(100)	112(50)	125(56)	219(98)
Arts	184(33)	91(17)	6(1)	546(99)	461(84)	385 (70)	527(96)
Belief and Thought	54(24)	84(37)	4(2)	228(100)	142(62)	171(75)	222(97)
Commerce and Finance	26(10)	91(34)	3(1)	265(99)	120(45)	136(51)	256(96)
Imaginative	189(34)	123(22)	15(3)	546(99)	482(88)	380(69)	531(97)
Leisure	185(34)	74(13)	7(1)	547(99)	424(77)	351(64)	530(96)
Natural and Pure Science	6(10)	15(24)	1(2)	62(98)	22(35)	23(37)	61(97)
Social Science	189(34)	102(19)	12(2)	547(99)	441(80)	387(70)	535 (97)
World Affairs	141(26)	83(15)	5(1)	545(99)	416(76)	391(71)	535(98)
Sum	1003(28)	745(21)	54(1.5)	3509(99)	2620(74)	2349(67)	3416(97)

Table 1. Frequency counts of *used to* in the Written Corpus Data from the BNC

To visualize the association between linguistic features and text types, the data are tested through correspondence analysis. Correspondence analysis of these data gives us the graphical display shown in Figure 1:



AS: Applied Science, B: Belief and Thought, C: Commerce and Finance,

I: Imaginative, L: Leisure, N: Natural and Pure Science, NTA: No Temporal Adverb,

S: Social Science, W: World Affairs

Figure 1. Correspondence analysis of *used to* data

Figure 1 shows that the linguistic features First Person and Animate are located near Arts, Leisure and World Affairs, while Natural and Pure Science is located near Second. The results suggest that the appearance of the subjects in *used to* is affected by a difference between textual types. This finding complements the study of Tagliamonte and Lawrence (2000:336), which shows that *used to* is correlated with first-person subjects, through close examination of the spoken corpus data.[8]

[8] Schulz (2008) examines the distribution of *would* and *used to* in two varieties of British English spoken in Westmorland and Nottinghamshire and points out the difference of the degree of grammaticalization between the two. With respect to animacy, she shows that human subjects slightly favor *used to* in Westmorland. While the present paper presents the results in which human subjects strongly favor *used to*, I cannot identify what the difference between the two is attribute to.

5 THE VERBS THAT COMBINE WITH *USED TO*

This section investigates what characteristics we observe in the occurrences of verbs that combine with *used to*. While nearly every verb can be combined with *used to*, certain tendencies can be found regarding the combination of a verb with *used to*. Table 2 shows that the occurrences of verbs that combine with *used to* in the spoken and written texts of the BNC.

Verb	Spoken	Written	Sum
go	661 (24%)	252 (7%)	913 (14%)
have	605 (22%)	244 (7%)	849 (13%)
do	357 (13%)	199 (6%)	556 (9%)
come	327 (12%)	141 (4%)	468 (7%)
say	215 (8%)	360 (10%)	575 (10%)
take	157 (6%)	139 (4%)	296 (5%)
call	156 (6%)	200 (6%)	356 (6%)
make	128 (5%)	128 (4%)	256 (4%)
think	45 (2%)	137 (4%)	182 (3%)
walk	38 (1%)	29 (1%)	67 (1%)
talk	22 (0.8%)	39 (1%)	61 (1%)
speak	16 (0.6%)	6 (0.2%)	22 (0.3%)
citations	2,790	3,528	6,318

(Percentages represent the number of usages as a percent of the total usages.)

Table 2. Occurrences of some verbs in the BNC

Table 2 shows that in the spoken texts the verbs *go*, *have*, *do* and *come* often combine with *used to*, while in the written texts the verb *say* often combines with *used to*.[9] The value of the chi-square test for the verb *say* is statistically significant in the contrast between spoken and written texts ($P<0.05$).

6 HABITUALITY AND STATIVITY

It is generally assumed that English has habitual aspect as a separate category and it refers to a situation that is extended over a long period of time (Comrie 1976; Freed 1979; Dahl 1985; Leech 1987; Brinton 1987, 1988), or a series of events, viewed as a whole (Lyons 1977; Leech 1987; Langacker 1997; Tagliamonte and Lawrence 2000). Further, a habit has been considered to compose a state (Vendler 1967; Lyons 1977). In contrast, Binnick (2005:342) argues that "a habit is not a state" and that *used to* is

[9] The numbers of Table 1 also contain the verbs that appear in passive constructions, for example, *used to be called*. As for the verb *have*, the numbers of Table 1 do not include the one composing the perfect.

not a marker of habituality. In order to examine whether *used to* is a marker of habituality, consider the implicature that *used to* implies "some past situation no longer obtains." [10]

As has often been pointed out, *would*, which expresses past habitual meaning, is different from *used to* in that the latter implies the situation described is no longer true. In sentence (7a), it is implied that, at present, the subject is no longer very lonely and does not cry everyday. Sentence (7b) implies that, at present, "my daughter" does not work for the TSB bank, and, in this case, she works in the shop now.

(7) a. When I first came my husband did not want me to go out to work. It is true there was a lot of housework but I used to be very lonely. Everyday I used to cry. (BNC:A6V)
b. My daughter works in the shop. And she used to work for the TSB bank. (BNC:K4V)

As discussed by Comrie (1985), Harrison (2002), and Binnick (2005, 2006a), this implicature is not the inherent meaning of *used to* because it is cancelable, as seen in sentences (8a) and (8b) below.

(8) a. Erik used to be a member of the Volapük League, and he still is. (Harrison 2002, Binnick 2005:345)
b. This quantity 6.022 x 1023 is known as Avogadro's constant, L. It used to be known (and still is in some quarters) as Avogadro's number. (BNC: HSD)

Binnick considers that *used to* triggers "a conventional implicature: an implication dependent on context" (Binnick 2006a). This paper agrees with this remark and considers that, unless there is an explicit denial, the function of *used to* is a leading element that contrasts the past situation with the present one. This idea is confirmed by the fact that *but now* or *and now* are frequently found in the following type of sentence:

(9) a. I used to just like comfortable clothes but now I'm more into dressing up. (BNC: ADR)
b. I used to worry about nuclear power, and now I worry about pollution and dead dolphins — when I'm not worrying about money. (BNC:G1D)

[10] As Langacker (1997) discusses, whether the situation is bounded or unbounded depends on construal. Radden and Dirven (2007) considers that *used to* marks habitual situations and state that "[h]abitual situations are multiplex. They are typically composed of individual events that are seen in their entirety and synthesised into a single situation" (Radden and Dirven 2007:193). The present paper is along the lines with the analyses of Langacker (1997) and Radden and Dirven (2007).

With this in mind, the expandability of the situation is now considered.[11]

As discussed above, it has been pointed out that the implicature that "the situation described is no longer true" is not the inherent meaning of *used to* because of its cancelability. Compare sentence (8a), repeated as (10) below, with sentences (11) through (15).

(10) Erik used to be a member of the Volapük League, and he still is. (= 8a)

(11) a. She smoked back then and I think she still does.
b. *They had an argument and I think they still do.
(Michaelis 2004:5)

(12) a. Sue went home at noon.
b. Sue was home at noon.

(13) In fact, she is still home now.
(Michaelis 2006:230-231)

(14) a. I've truly loved John. In fact, I still do.
b. I've hated John with all my heart. Actually, I still hate him.

(15) a. *I have eaten breakfast. In fact, I'm still eating breakfast.
b. *I have written this memo. Actually, I'm still writing it.
(Olga 2006:135)

Sentences (10) and (11a) express stative predications, and the situations denoted by them extend to the present, while in sentence (11b), which expresses eventive predications, the situations denoted by them do not extend to the present. Likewise, by (13), the inference that is provided by (12b) can be suspended but not the one that is provided by (12a). This is true of the present perfect. In sentences (14a) and (14b), which include stative predicates, the situations denoted can extend to the present, while those in sentences (15a) and (15b), which include eventive predicates, cannot. As pointed out by Michaelis (2006:231), these observations suggest that "states are unconfined by the reference times for which they are asserted."

Looking back at (10), it includes the stative predicate *be a member of*. One might consider that the expandability to the present is due to the stative predicate. Consider the following examples:

(16) a. I used to have an argument with my father about what causes a cold. He thought that if you went out in the bitter cold with just a T-shirt on you couldn't catch cold," Gore said.
(www.cnn.com/1999/ALLPOLITICS/stories/12/01/nhp.gore/index.html)[12]
b. They used to have arguments after dinner.
c. They used to have arguments after dinner and I think they still do.

[11] The term "expandability" in this paper refers to the possibility that the situation described continues to the present.

[12] While (16a) is cited from the web, its source does not affect the discussion.

Sentences (16a) and (16b) show that the eventive predicate *have (an) argument(s)* can appear with *used to*. In (16c), the situation denoted by this predicate extends to the present. One may think that this observation suggests that *used to* is a stativizer like the perfect construction if the situation denoted by the stative predicate can extend to the present.[13] In other words, following the analyses of Herweg (1991) and Michaelis (2006), "the perfect is a stativizing construction," *used to* can also be treated as a stativizing construction, given that the function of the perfect is similar to that of *used to*. Let us investigate the possibility that *used to* is a stativizing construction. If *used to* is a stativizer like the perfect constructions when it takes eventive predicates, we would have to hypothesize that the stativization of a predicate does not apply when *used to* takes stative predicates.

There are two problems in the analysis of *used to* as a stativizer: one is that while we saw that *used to* does not usually occur with definite and past tense temporal adverbs in section 2, *used to* can combine with some past-time adverbials such as *in the 1980s*, *back then* and *at that time*, in contrast to present perfect, as in (17):

(17) a. I used to play the piano in the 1980s.
b. I used to live there back then.
c. A lot of Japanese people used to live there at that time.

The other is that we cannot ignore the fact that *used to* frequently co-occurs with stative verbs. In other words, stativizing constructions such as the English Progressive are simply not generally compatible with stative verbs, unless coercion takes place (Michaelis 2004). If *used to* were a stativizer, coercion phenomena would be considered.

In the following section, it is proposed that the *used to* construction is better analyzed in terms of homogeneity and behaves like a durational marker.

7 *USED TO* AS A DURATIONAL MARKER

This section first argues that *used to* behaves like a durational marker such as *for*-adverbials and that one of the functions of the *used to* construction is to evoke homogeneity.[14] The idea that *used to* behaves like a durational marker means that *used to* adds the endpoint in the past to the situation. Second, the present paper views statives and habituals as follows:

[13] Michaelis also treats the progressive as a stativizing construction, which is called an "imperfectivizing" device by Langacker (Boogaart and Janssen 2007:816).

[14] I owe the former idea to Laura Michaelis.

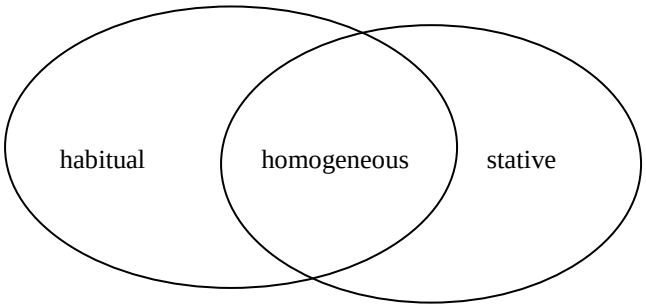


Figure 2. habituality and stativity

Figure 2 shows that habituality shares homogeneity with stativity. The present paper argues that the habituality and stativity that *used to* expresses are affected not only by the predicate but also by the subject of the sentence.

Let us next show how the above proposals handle the properties of *used to*. Consider (18) again:

(18) The temple of Diana used to stand at Ephesus. (=3a)

In (18), the subject is inanimate and the verb is stative. In this example, *used to* shows that the temple of Diana stood at Ephesus in certain period of time in the past, which is compatible with the meaning of the durational marker *for* in terms of boundedness. This interpretation can be due to the inanimate subject and the stative verb of the sentence. As is sometimes pointed out, states and activities can co-occur with the durational marker *for*, as in (19):[15]

(19) a. John lives here for two years.
b. Ken runs for an hour.

The verbs *live* and *run* in (19a, b) refer to a state and an activity, respectively. *For*-adverbials tell us the time spans of John's living and Ken's running. In other words, the situations in (19) are bounded by *for*-adverbials. The similar phenomena occur in the case of *used to*. Let us look at the following example:

(20) John used to live in Berkeley.

In (20), *used to* adds some endpoint to the situation of John's living in Berkeley which is in the past. In other words, the given situation is bounded by *used to*.

The present analysis can account for the data provided by the previous studies. Let

[15] Some stative verbs cannot co-occur with the durational adverbial as in (i):
(i) *She knew the song for an hour.

us consider the following examples:

(21) a. *I used to live in York in 1914. (=5a)
b. I used to live in York in the 1970s.
c. In 1914, I used to live in York.
(Tagliamonte and Lawrence 2000:341)

The present analysis accounts for (21) as follows: since *used to* evokes certain duration, it is not compatible with the meaning of the temporal adverbial like *in 1914*, which expresses a point of time. In contrast, in (21b), the sentence is acceptable because *in the 1970s* evokes temporal duration. (21c) is acceptable because *in 1914* is outside the scope of *used to*.

The interpretation of the sentence is sometimes ambiguous between habitual and stative:

(22) School used to begin at nine. (Visser 1963-1973:1413)

The interpretation of (22) depends on the types of the subject and the predicate: in (22), the subject is inanimate and a bare nominal, where the predicate is eventive or aspectual. It follows that habituality is closely related to stativity and sometimes their boundary is not clear. In other words, since habituality shares homogeneity with stativity, sometimes it is hard to divide habituality and stativity.

In sum, this section has proposed that *used to* can be treated as a durational marker and that *used to* is better analyzed in terms of homogeneity. [16]

8 THE GRAMMATICALIZATION OF *USED TO*

In section 7, the present analysis has treated *used to* as a durational marker. To support this analysis, this section examines the grammaticalization of *used to*. It has been pointed out that *used to* undergoes grammaticalization like other semi-modals. Let us now examine how *used to* is grammaticalized, using the data from the *Oxford English Dictionary* (*OED*). [17] Bybee et al (1994:155-156) point out that the *used to* construction was prevalent during the sixteenth century. Figure 3 presents the

[16] The types of subjects that appear with the expression *in the habit of* in the BNC (in written and spoken data) were examined. The results are that 97% of the total examples are human subjects and 3% are inanimate, which might be categorized as the noun of an institution or a society, as follows:

(i) Therefore the university was in the habit of leaving the choice of professor to the bishop. (BNC:A68)

(ii) I was aware that building societies are in the habit of launching new products from time to time, primarily to attract new investors. (BNC:G29)

[17] While one may point out that larger database such as ICAME, LION, etc. should be used, it is sufficient to use the *OED* in this study because our purpose of the use of the *OED* is to complement the synchronic data. The study that uses larger database of the diachronic corpus awaits future research.

frequency counts of citations including the semi-modal *used to* (1,459 citations from 1601 to 2000) and indicates that the progression of *used to* becomes stable after 1600.[18] Mair and Leech (2006:328) show the rise in the use of *used to* using the LOB (Lancaster-Oslo/Bergen) Corpus, the F-LOB (Freiburg Lancaster-Oslo/Bergen) Corpus, the Brown Corpus, and the Frown (Freiburg-Brown) Corpus. It turns out that this section also complements their study examining *used to* appearing in the *OED*.[19]

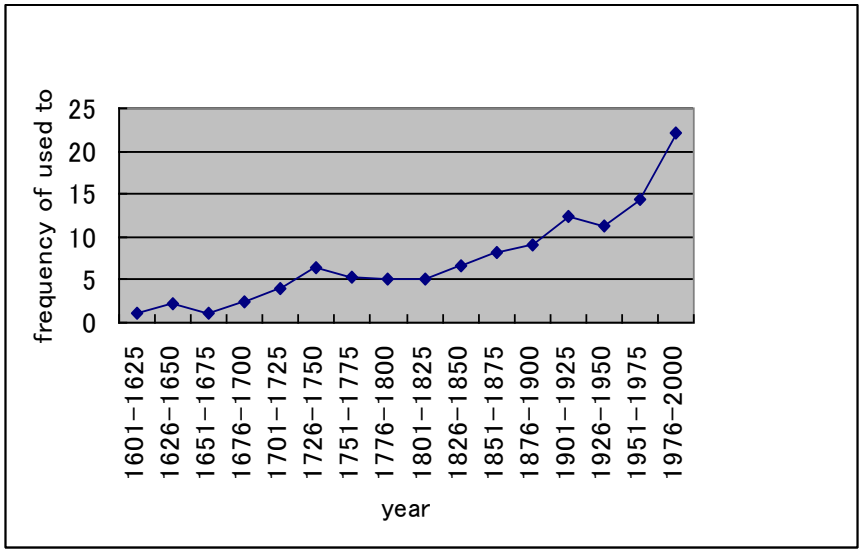


Figure 3. *Used to* Frequency as *n* per 10,000 Citations

Figure 3 shows the gradual increase of the use of *used to* and it is consistent with the results of Mair and Leech (2006). In this respect, the present study supports their analysis. Table 3 shows that *used to* often appears with the verbs *call* or *be called* (156 citations (11%)) and *say* or *be said* (111 citations (8%)) in the *OED*, as in (23) and (24).

[18] Following Hopper and Traugott (2003), the present paper considers that shifts in textual frequency are important factors for incipient grammaticalization.

[19] As pointed out by Mair (2004), the citations in the *OED* depend on editors' decisions and may not be evenly covered during the periods in the history. However the *OED* is a useful tool because it contains huge amount of data.

Verb	Occurrences
call	156 (11%)
say	111 (8%)
go	57 (4%)
have	34 (2%)
do	28 (2%)
come	21 (1%)
think	19 (1%)
make	19 (1%)
take	18 (1%)
speak	9 (0.6%)
talk	7 (0.5%)
walk	4 (0.3%)
Sum	483 (33%)

Table 3. Occurrences of occurrences some verbs in the *OED*

(23) a. She was sister to the Reverend River Jones, chanter of Christ Church Cathedral at Oxford, and Johnson used to call her the chantress.
(Boswell. *Johnson* 312: *OED*, s. v. chantress)

b. He always used to say, Well, how is mamma's little sunshine to-day?
(*Harper's Mag*. CII. 798/2: *OED*, s. v. sunshine, *n*.)

(24) a. They used to be called grand-piano books. Now they're known as coffee-table books: 'too big for a bookshelf, full of beautiful pictures, costing a lot.'
(*Sunday Times Mag*. 24 Nov. 23: *OED*, s. v. coffee, *n*.)

b. It is exactly what he used to say in the old Limehouse days, though his Limehousing now is of a different kind.
(Glasgow *Herald* 20 Mar. 7: *OED*, s. v. Limehouse, *v*)

The present analysis considers that the fact that *used to* frequently occurs with the verbs *call* or *say* is due to the usefulness of *used to* as a durational marker. In other words, *used to* as a durational marker implies that the situation that had held for a past interval of time no longer obtains. While the simple past tense can also deliver the above implication, *used to* is more compacted and informed than the simple past tense.

9 Conclusion

The present paper has investigated the property and the function of the *used to* construction. Firstly, by presenting written corpus data, the present analysis has complemented the previous studies on *used to* in a more suitable way. Secondly, it has been claimed that *used to* behaves like a durational marker. This idea enables us to understand the behaviors of *used to* more thoroughly. Thirdly, it has been argued that the habituality and stativity that *used to* expresses is better analyzed in terms of homogeneity. Finally, the diachronic development of *used to* has been examined using *OED* and the gradual rise of the use of *used to* has been presented.

Finally, the present approach integrates the tenets of Cognitive Grammar, grammaticalization theory, and a corpus-based analysis, which enable us to understand the behaviors of *used to* more thoroughly.

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